418-3-0022

173482

NOTARIZED CERTIFICATE

I, CHARLES V. HYATT, having been duly sworn and being of legal age hereby state:

1. I am the person authorized by Protex Industries, Inc. ("Protex") to respond to the Environmental Protection Agency's ("EPA's") Lowry Section 6 Request for Information (the "Request").

2. I was not employed by Protex during the 1965-1980 time period at issue in the Request. Therefore, the response to the Request is not based upon first-hand knowledge but instead was prepared based upon a review of relevant documents and questioning of employees. I have made a good faith effort to locate and review the documents, information, and sources relevant to the Request.

3. I hereby certify that to the best of my knowledge the attached response to EPA's Request is complete and contains information and documents responsive to the Request.

ADMINISTRATIVE RECORD FILE NUMBER 29.03.418

Charles V. Hyatt
(Signature)
CONTROLLER
PROTEX INDUSTRIES INC.

Subscribed and sworn to me this 5th day of June, 1987.

Sherry F. Yehnert
Notary Public

My commission expires: February 18, 1989

My address is: 1448 Madison #1
Denver, CO 80206

(SEAL)

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

173482

LWR128

0940 FL

EXHIBIT 1

418-3-0023

No. 10887

AMOUNT

[illegible].74

PROTEX INDUSTRIES INC.

NON-NEGOTIABLE

[illegible]-00076 [illegible]

DATE	REFERENCE	GROSS AMOUNT	DISCOUNT	PREVIOUS BALANCE	BALANCE	REMARKS
[illegible]						[illegible] P

173483

THIS CHECK IS TENDERED IN PAYMENT OF ITEMS LISTED

PROTEX INDUSTRIES INC.
1331 WEST EVANS
DENVER, COLORADO [illegible]

PLEASE DETACH THIS STATEMENT BEFORE DEPOSITING CHECK

[illegible]STRATIVE REC[illegible]
FILE NUMBER
29.03.418

NOTICE: if the film image is less clear than this notice, it is due to the quality of the document being filmed

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LWR128

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Want to learn more about your Competit
What you don't know CAN hurt you
KnowX.com Find Out
PROTEX INDUSTR

Ultimate Business Finder

Donna Toeroek
Client ID:
09-06

Corporate Detail Record

Wednesday, November 01, 2000

Click here to return to your summary

Search Tips
Database Info
Coverage Area
Cost for Search

Name:	**PROTEX INDUSTRIES INC.**
Filing State:	CO
Corporate ID Number:	19871157890
Type:	DOMESTIC PROFIT (IN COLORADO)
Status:	IN GOOD STANDING
Date of Incorporation:	05-08-1928

Address Type:	REG. AGENT ADDRESS
Name:	WESTFALL, DAVID S
Address:	316 6TH AVE OURAY, CO 81427

Address Type:	UNKNOWN ADDRESS TYPE
Address:	5555 W JEWELL AVE OURAY, CO 81427

Officer Name:	HORN BRIAN
Title:	DIRECTOR
Address:	8797 W CORNELL #3 LAKEWOOD, CO 80227

Officer Name:	WESTFALL KRISTI R
Title:	DIRECTOR
Address:	BOX 212 OURAY, CO 81427

Officer Name:	WESTFALL KRISTI R
Title:	SECRETARY
Address:	BOX 212 OURAY, CO 81427

Officer Name:	WESTFALL DAVID S
Title:	DIRECTOR
Address:	BOX 212 OURAY, CO 81427

Officer Name:	HORN BRIAN
Title:	VICE PRESIDENT
Address:	8797 W CORNELL #3 LAKEWOOD, CO 80227

Officer Name:	WESTFALL DAVID S
Title:	PRESIDENT
Address:	BOX 212 OURAY, CO 81427

Officer Name:	WESTFALL, DAVID S
Title:	REG AGENT
Address:	316 6TH AVE OURAY, CO 81427

THIS DATA IS FOR INFORMATIONAL PURPOSES ONLY. CERTIFICATION CAN ONLY BE OBTAINED THROUGH THE OFFICIAL GOVERNMENT AGENCY.

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Toeroek Associates, Inc.
6870 West 52nd Avenue, Suite 220, Arvada, CO 80002-3901

TELEPHONE CONVERSATION RECORD

Enforcement Support Services 2
Contract Number 68-W-99-050
Work Assignment # 009

Call Initiated By:	Ann Wei
Conversation With:	Colorado SOS
Date and Time of Call:	11/1/00 – 1:30pm

Summary of Conversation:

Contacted Colorado SOS to obtain corporate status information on Protex Industries. According to the COSOS, Protex Industries filed Articles of Dissolution on August 24, 2000, and requested name protection status for 120 days.

Action Items and Due Dates:

Forward information to EPA, and request what further action is required.

Distribution: Project File

McALLISTER & MURPHY, P.C.

ATTORNEYS AT LAW

1120 Lincoln Street, Suite 1600
Denver, Colorado 80203-2141
Telephone (303) 830-0566
Telecopier (303) 839-8424

Robert T. McAllister
Patrick T. Murphy
Barry Boughman
Kathryn Haight
Bradly J. Holmes

COPY

August 2, 1999

Received
Office of Enforcement

AUG 03 1999

Compliance & Env. Justice

Carol J. Pokorny, 8ENF-T
U.S. Environmental Protection Agency
Technical Enforcement Program
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Re: Protex Industries, Inc., First Request for Information Regarding the Weld County Waste Disposal, Inc. Facility Located at 4982 County Road #35 in Weld County, CO

Dear Ms. Pokorny:

Pursuant to correspondence dated June 23, 1999, enclosed is the Information Request regarding the above-captioned matter.

Yours truly,

McALLISTER & MURPHY, P.C.

Robert T. McAllister

Robert T. McAllister

RTM/sk
enclosure
cc: client

FIRST REQUEST FOR INFORMATION

Weld County Waste Disposal Site
4982 County Road #35
Weld County, Colorado

Received
Office of Enforcement

AUG 03 1999

Compliance & Env. Justice

INFORMATION REQUEST

From the mid-1970s until 1980, Transporters may have picked up waste materials from business in Colorado and transported them to Weld County Disposal, Inc. near Ft. Lupton, in Weld County, CO. (Please refer to the Site map in Enclosure 1.) EPA is seeking information relating to the quantity and type of wastes that were sent to the Facility by your company, either by using a Transporter or by use of company vehicles. We ask that you research your files for all information that may be relevant to this request and respond to the following questions.

1. Provide the name, address, and phone number of the person who is responding to this request for information. if you are an attorney responding on behalf of a client, provide this information for yourself and your client.

ANSWER: **Robert T. McAllister, McAllister & Murphy, P.C., 1120 Lincoln Street, Suite 1600, Denver, Colorado 80203, 303-830-0566.**

2. Provide the name, current address, and phone number of all persons consulted in the preparation of the answers to these questions.

ANSWER: **Kristi Westfall, P.O. Box 212, Ouray, Colorado 81427, 970-325-4911.**

3. Provide the name, title, address, telephone number, and FAX number of the person to whom future correspondence regarding this matter should be directed, if other than the person identified in question #1.

ANSWER: **Robert T. McAllister, Attorney, McAllister & Murphy, 1120 Lincoln, Suite 1600, Denver, Colorado 80203, 303-830-0566, (fax) 303-839-8424.**

4. For each and every question contained herein, identify and provide accurate copies of all documents you used to prepare your responses to these questions or any other documents which are relevant to the questions.

ANSWER: **None.**

5. Identify all persons, including yourself, as well as current and past employees,

who have knowledge, information, or documents concerning:

a. Respondent's business operations during the period 1976-1979;

ANSWER: Don Wilson.

b. Respondent's transactions, if any, with any Transporter (refer to definition section); and

ANSWER: None.

c. Any disposal of wastes from Respondent's operations at the Site.

ANSWER: None known.

6. Describe all arrangements Respondent may have had with each of the following persons or businesses between 1976 and 1979.

Waste Transport Co.	James I. Martin
Waste Transport Company	Guy Harvey
Milt Adams a/k/a Milton A. Adams	Les Phillips
Richard Ackerman	Billy Watts
Jay Knutson	Kenneth Kyle
Weld County (Waste) Disposal	Billy Cannon
John T. Martin	

ANSWER: None known.

7. Did Respondent make any arrangement with a Transporter to treat, store, dispose of or transport for disposal of any materials, hazardous materials, or byproducts resulting from Respondent's operations?

ANSWER: No.

If the answer to this question is affirmative:

a. Identify the Transporter;

b. Please describe the nature of the arrangement and the specific materials provided (including, but not limited to type of material, quantity by volume and weight, chemical content, physical state, and other physical characteristics relevant to whether the material is hazardous).

c. Please indicate whether the choice of disposal location was made by Respondent or by the Transporter.

d. Please describe your intended purpose for transferring the materials to the Transporter?

ANSWER: **Not Applicable.**

8. If the answer to question 7 above is affirmative, but Respondent asserts that none of the materials provided to the Transporter were hazardous, please provide a detailed description of Respondent's operations, including, but not limited to, types of ingredients, lubricants, solvents, cleaning agents, products, byproducts and waste materials. Contemporaneous business documents would provide the best evidence supporting such a description.

ANSWER: **Not Applicable.**

9. Did Respondent dispose of any materials, hazardous materials, or byproducts at the Site between 1976 and 1979?

If the answer to this question is affirmative:

a. Please describe specifically the materials disposed of by Respondent, including, but not limited to type of material, quantity by volume and weight, chemical content, physical state, and other physical characteristics relevant to whether the material is hazardous; and

ANSWER: **None known.**

b. Please describe your intended purpose for bringing these materials to the Site.

ANSWER: **None known.**

10. If the answer to question 9 is affirmative and Respondent observed the operations at the Site during the relevant time period or has any other information pertaining to the Site, please recount those observations and/or provide such information in a detailed narrative account.

ANSWER: **Not Applicable.**

11. If you or your company is a corporation, identify the parent corporation and all

subsidiaries of Respondent.

ANSWER: Protex Industries, Inc. was a corporation in 1976-1979 but has since been dissolved and is no longer in existence.

12. State each and every name under which you or your business may have conducted business between 1976 and 1979.

ANSWER: Protex Industries, Inc.

13. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

ANSWER: Unknown.

14. For each and every question contained herein, if information or documents responsive to this Information Request are not in your possession, custody or control, then identify the persons from whom such information or documents may be obtained.

ANSWER: Unknown.

ENCLOSURE 3

NOTARIZED CERTIFICATE

I, Kristi R. Westfall, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by Protex Industries Inc. to respond to the Environmental Protection Agency's (EPA's) First Request for Information concerning the Weld County Waste Disposal Site in Weld County, CO.

2. I have made a complete and thorough review of all documents, information, and sources relevant to the First Request for Information.

3. I hereby certify that the attached response to EPA's First Request for Information is complete and contains all information and documents responsive to the request.

Kristi R. Westfall
(Signature)

Kristi R. Westfall
(Print Name)

Secretary
(Title)

Subscribed and sworn to me this 23rd day of July, 1999.

NOTARY PUBLIC [SEAL] JEANNE M. BOOTS STATE OF COLORADO

Jeanne M. Boots
Notary Public

My Commission Expires 5/24/2001

My address is Ouray, CO 81427

Z 297 449 619

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Protex Industries, Inc.
c/o David S. Westfall
5555 West Jewell Ave.
Lakewood, CO 80226

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	JUN 23 1999

PS Form **3800**, April 1995

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- ☐ Complete items 1 and/or 2 for additional services. Complete items 3, 4a, and 4b.
- ☐ Print your name and address on the reverse of this form so that we can return this card to you.
- ☐ Attach this form to the front of the mailpiece, or on the back if space does not permit.
- ☐ Write *"Return Receipt Requested"* on the mailpiece below the article number.
- ☐ The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

3. Article Addressed to:

Protex Industries, Inc.
c/o David S. Westfall
5555 West Jewell Ave.
Lakewood, CO 80226

4a. Article Number: Z 297 449 619

4b. Service Type
☐ Registered ☐ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature *(Addressee or Agent)*

PS Form **3811**, December 1994 102595-99-B-0223 Domestic Return Receipt

JUN 23 1999

Thank you for using Return Receipt Service.

T1-000004255

300 UNION BOULEVARD, SUITE 600, LAKEWOOD, CO 80228

TECHLAW INC.

PHONE: (303) 763-7188
FAX: (303) 763-4896

July 6, 1999

Alan Ceeling
5445 DTC Parkway
Suite 900
Englewood, Colorado 80111

RE: Transmittal of Protex Industries, Inc. Documentation
Weld County Waste Disposal Site

Dear Mr. Ceeling:

Ms. Carol Pokorny of the U.S. Environmental Protection Agency requested me to send you the enclosed documentation pertaining to Protex Industries, Inc. and Weld County Waste Disposal Site. If you have any questions, please contact Ms. Pokorny at (303) 312-6970.

Sincerely,

Lisa Contreras-Hendler

Lisa Contreras-Hendler
Staff Consultant

Enclosure

cc: Carol Pokorny, USEPA

IF: D050-009

1483403 - R8 SDMS

178989

PART A—COMPANY INFORMATION

Part A must be completed by each recipient of this Request.

1. Company Name: Sundstrand Corporation
   Mailing Address: P.O. Box 7003
   4751 Harrison Ave., Rockford, IL 61125-7003
   Telephone Number: (815) 226-6000

2. Name and Title of Person Completing Request: William R. Coole
   Mailing Address: P.O. Box 7003
   4751 Harrison Ave., Rockford, IL 61125-7003
   Telephone Number: (815) 226-6000

3. Name and Title of Contact for Further Information: Edward J. McGrath - Holme Roberts & Owen
   Mailing Address: 1700 Broadway, Suite 1800, Denver, CO 80290
   Telephone Number: (303) 861-7000

4. Colorado Authorized Agent for Service of Process: Corporation Company
   Mailing Address: 1700 Broadway
   Denver, CO 80290

5. List for the period 1965 to the present, all names under which you operated, including the names of any predecessor or successor in interest, describe the form of business organization of each name listed (e.g., corporation, partnership, joint venture, sole proprietorship, etc.), and identify the state in which each was/is organized.

BUSINESS NAME	TIME PERIOD	FORM OF BUSINESS	STATE OF ORGANIZATION
Sundstrand Corporation	1965-1966	Corporation	State of Illinois
	1966-1980	Corporation	State of Delaware

ADMINISTRATIVE RECORD
SF FILE NUMBER
29.03.497

6. List each insurance company or other person that provided casualty or pollution liability insurance coverage, including but not limited to any Comprehensive General Liability coverage, Environmental Impairment coverage, Insurance Services Office coverage, Umbrella coverage, or any other indemnification or defense agreement, that provides to you or any other person or entity identified in response to question 5 a right of indemnification or defense in any action involving hazardous substances. This question applies only to policies or agreements that are or were in effect at any time during the period 1965 to the present. Submit copies of all insurance policies or agreements identified.

INSURANCE COMPANY	POLICY NUMBER	TIME PERIOD OF COVERAGE

Based on United States v. Charles George Trucking Co., Inc., 624 F. Supp. 1185, 1188 (D. Mass. 1986), information about insurance coverage is outside of the scope of statutory authority for this request.

1/2

497 3 0009

7. Identify all person(s) employed by you either currently or previously who have personal knowledge of your waste disposal practices during the period 1965 through 1980.

NAME	TITLE	EMPLOYMENT DATES	ADDRESS	TELEPHONE NUMBER

See insert separate page

8. Identify all persons interviewed by you or from whom statements were taken at any time for any purpose concerning their personal knowledge of your waste disposal practices during the period 1965 through 1980, list the date on which the interview or statement was made, and for each person identified summarize the substance of the interview or statement.

NAME	TITLE	ADDRESS	TELEPHONE NUMBER	DATE

Any interviews were conducted by Holme Roberts & Owen, which was retained by Sundstrand for the purpose of providing legal advice and for the purpose of representing Sundstrand in anticipation of litigation over Lowry landfilll.

9. Describe the types of documents generated or maintained by you concerning your waste generation, storage, treatment, disposal, recycling, or transportation operations during the period 1965 to the present, including a description of the information included in each type of document and the identity of the person who was the custodian of the documents. If documents relevant to this Request are no longer available, state the reason the documents are unavailable.

See insert separate page

10. List separately by street address each facility you or any predecessor in interest owned or operated during the period 1965 through 1980.

ADDRESS	TIME PERIOD

The facilities to which the requests are directed and which are located in Colorado are:

Sundstrand Advanced Technology Group--Aviation Operations
2480 West 70th Avenue, Denver, CO 80221

Sundstrand Fluid Handling Division
14845 West 64th Avenue, Arvada, CO 80004

COMPLETE PART B FOR EACH FACILITY IDENTIFIED ABOVE.

1483568 - R8 SDMS
179154

497-3-0175

ADMINISTRATIVE REC...
SF FILE NUMBER
29.03.497

LOWRY LANDFILL INFORMATION REQUEST

PART C—PRODUCT, SERVICE AND OPERATIONAL INFORMATION

Part C must be completed for each product, service or operation listed on Part B. Submit all documents upon which your responses are based.

COMPANY NAME: Sundstrand Corporation

FACILITY ADDRESS: 2480 West 70th Avenue Denver, CO 80030

PRODUCT/SERVICE/OPERATION: Aerospace Hardware Component Parts

1. Describe the process used or followed in producing this product or performing this operation or service.

(a) Machining, including grinding, turning, milling, polishing, tumbling, deburring, impact welding, abrasive blasting, heat treating, electric discharge machining, electro chemical machining, solvent degreasing, testing and inspection. (b) Metal finishing, including electroplating, anodizing, metal cleaning, derusting, chemical filming. (c) Testing (OTTO)

2. List the quantity of this product manufactured, processed, treated, recycled, or handled for each year from 1965 through 1980.

YEAR	ANNUAL QUANTITY

This information is not within the scope of information that can be requested pursuant to section 104 of CERCLA.

3. List each raw material used or processed to produce this product or perform this operation or service, and state the average annual quantity used or processed for the period 1965 through 1980. If this operation or service involved recycling, identify the source of the raw material, i.e., manufacturer, supplier, or generator.

RAW MATERIAL	TIME PERIOD	AVERAGE ANNUAL QUANTITY	SOURCE

This information is not within the scope of information that can be requested pursuant to section 104 of CERCLA.

4. List each byproduct generated when producing this product or performing this operation or service, and state the average annual quantity of each byproduct manufactured, processed, treated, recycled, or handled for the period 1965 through 1980.

BYPRODUCT	TIME PERIOD	AVERAGE ANNUAL QUANTITY
None		

5. List by name each waste material, including but not limited to any and all waste product, waste raw material, or waste byproduct, and state the average annual quantity of each waste material manufactured, processed, treated, recycled, or handled for the period 1965 through 1980. Exclude trash as an identified waste material only if you segregated and handled separately industrial or process wastes from general rubbish.

	WASTE MATERIAL	TIME PERIOD	AVERAGE ANNUAL QUANTITY
a. Machining	1. Coolants	1965-80	See Attachment A
"	2. Cutting/Quench Oils	1965-80	See Attachment A
"	3. Solvents	1965-80	See Attachment A
"	4. Metal Chips (turnings)	1965-80	Not available
"	5. Heat Treat Salts	1965-80	Not available
"	6. ECM Waste	1965-80	Not available
"	7. Laboratory wastes	1965-80	Not available
b. Metal finishing	Spent plating baths and plating rinses	1965-80	Not available
c. Testing (OTTO)	OTTO fuel	1965-80	Not available

COMPLETE PART D FOR EACH WASTE MATERIAL LISTED ABOVE.

1885016

OF CHEMICAL WASTE MANAGEMENT, INC. AND OTHER WASTE MANAGEMENT, INC. COMPANY

WASTE PROFILE SHEET CODE

GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers; if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

Chemical Waste Management, Inc.
Transporation Division
900 Wewatta Street
Denver, CO 80204

PRIVILEGED

188620

1. GENERATOR NAME: Protex Industries, Inc.
2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY): COD 007091200
   Protex Industries, Inc.
   1331 W. Evans Ave.
   Denver, CO 80223

   ADMINISTRATIVE REQUIREMENT
   OF FILE NUMBER
   29-02-918
3. COMPANY CONTACTS:

GENERAL	Craig T. Wilson	TITLE	Asst. Mgr.	PHONE	935-3566
		TITLE		PHONE	
TECHNICAL	Khaleel Makki	TITLE	Chief Chemist	PHONE	935-3566 Ext.248
	Jack Kenney	TITLE	Research Chemist	PHONE	935-3566 Ext.247

4. WASTE NAME: Modified Aromatic Amine (Drum #'s: 280-281, 282, 283, 192, 193, 194, 195, 19
5. PROCESS GENERATING WASTE: Off Spec Material
6. WASTE CHARACTERISTICS
   A. PHASES/LAYERS: BILAYERED ☒ MULTILAYERED ☐ NONE ☐
   B. PHYSICAL STATE AT 70°F: SOLID ☐ SEMI-SOLID ☒ LIQUID ☐ POWDER ☐ OTHER: _____
   C. SOLIDS: TOTAL (%): .100% TOTAL DISSOLVED (ppm or %): _____
   D. SPECIFIC WEIGHT (AS # PER UNIT): 9 #/gal.
   E. pH: _____ (Show the following as range of %)

AS:	H_2SO_4	0 - %	H_3PO_4	0 - %
	HCl	0 - %	NaOH	0 - %
	HF	0 - %	NH_4OH	0 - %
	HNO_3	0 - %	$Ca(OH)_2$	0 - %
OTHER:		- %		- %
		- %		- %

   F. FLASH POINT: 350° F COC °F (CLOSED CUP TEST ONLY)
   G. VAPOR PRESSURE (in mm of Hg at 25°C): NA
   H. BTU PER #: NA ASH CONTENT NA %
   I. CHARACTERISTIC COLOR: Red Brown DISTINCTIVE ODOR: Pungent Odor
   J. HALOGENATED? No % SULFONATED? No %
   K. ALPHA RADIATION AS pCi/l: NA

1987 WSI-SOIA (Rev. 11-5-80)
1980 WASTE MANAGEMENT, INC.

1/3 38/89

4/8-2 00 16 AD
-A0001

7. WASTE COMPOSITION

A. ORGANIC COMPONENTS (WITH RANGES — INDICATE WHETHER % OR ppm)

100% Amines	—	PRIVILEGED	—
	—		—
	—		—

(ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR ANY OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? _____ IF SO, PLEASE NOTE ABOVE.

B. HEAVY METALS (WITH ppm RANGES):

TOTAL None	TOTAL LEACHABLE	TOTAL	TOTAL LEACHABLE
Ag		Hg	
As		Ni	
Ba		Pb	
Cd		Se	
Cr		Zn	
Cu		Other (ATTACH ADDITIONAL PAGES)	

ADMINISTRATIVE RECORD
29-02-912

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" — AT 40 CFR, PART 261, APPENDIX II — SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE.)

C. INORGANIC COMPONENTS (WITH % RANGES): None OTHER None

TOTAL CYANIDE	— %		— %
FREE CYANIDE	— %		— %
SULFIDE AS:	— %		— %
BISULFITE AS:	— %		— %
SULFITE AS:	— %		— %

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? No _____ IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? No
IF SO, INDICATE WHETHER IT CONTAINS:

- ☐ ORGANOPHOSPHATES — CONTAINING SULFUR ☐ YES ☐ NO
- ☐ CARBAMATES
- ☐ CHLORINATED HYDROCARBONS

8. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

(1) TOXICITY RATING: INHALATION 1 DERMAL 1 ORAL 2

(2) HAZARD IDENTIFICATION SYSTEM:

B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED WITH HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE. [illegible] allergic. Responses: It is carcinogenic. Avoid bringing it in contact with strong Epoxy Resins or Acids. (May Polymerize)

2/3 39/89

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? _____ (SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

(1) CORRECT SHIPPING DESCRIPTION: Hazardous Waste Liquid

(2) HAZARD CLASS(ES): ORM-E

(3) MATERIAL ID. NO.(S): 9181 DOT

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? _____ (SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

(1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:

_____

_____

_____

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? No (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

(1) THE USEPA HAZARDOUS WASTE NUMBER(S): None

(2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? No (SEE 40 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? No IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: _____

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? Yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: January, 1982 Technical Information was also provided by Manufacturer

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? _____ IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS.

ANTICIPATED VOLUME IS: 1 Drum/Yr.

PRIVILEGED

GALLONS ☐ TONS ☐ CUBIC YARDS ☐ DRUMS ☒ OTHER ☐ _____

PER: DAY ☐ WEEK ☐ MONTH ☐ YEAR ☐ → ONE TIME ☐

TRANSPORTATION EQUIPMENT REQUIRED: Chemical Waste Management Truck

SERVICE/SCHEDULING REQUIREMENTS: _____

GENERATOR'S AUTHORIZED SIGNATORY: _____ TITLE _____ DATE _____

CONFIDENTIALITY AGREEMENT: _____

In consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By: _____ Name

_____ Title

1888378 - R8 SDMS

RECEIVED

OCT 17 2017

Office of Enforcement
Compliance & Environmental Justice

International Business Machines Corporation
1 North Castle Drive
Armonk, NY 10504
(914) 765-4517
kolson@us.ibm.com

October 10, 2017

VIA EMAIL & U.S. MAIL

U.S. Environmental Protection Agency
Region 8
Attn: Maureen O'Reilly (8ENF-RC)
1595 Wynkoop Street
Denver, CO 80202-1129

Re: Neuhauser Landfill Site Request for Information

Please find enclosed International Business Machine Corporation's (IBM's) response to the United States Environmental Protection Agency's (EPA's) Information Request for the Neuhauser Landfill Site, under CERCLA Section 104(e), dated August 23, 2017 (the "Request"). Thank you again for your agreement to extend IBM's deadline to respond to the Request to October 10, 2017.

IBM has conducted an extensive search of its records, and provides the enclosed responses and documentation in response to EPA's Request. IBM acknowledges its responsibility to notify EPA if it becomes aware of any additional information responsive to the Request and, in that event, IBM will supplement this response.

Please do not hesitate to contact me with any questions.

Regards,

Kevin G. W. Olson
Senior Attorney

Enclosures

RESPONSE OF INTERNATIONAL BUSINESS MACHINES CORPORATION TO THE INFORMATION REQUEST OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY RELATING TO THE NEUHAUSER LANDFILL SITE, WELD COUNTY, COLORADO

In response to the Information Request (collectively the Questions) of the United States Environmental Protection Agency (EPA) relating to the Neuhauser Landfill Site in Weld County, Colorado (the Site), International Business Machines Corporation (IBM) writes and responds pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601 *et seq.* (CERCLA). IBM acknowledges its responsibility to notify EPA if it becomes aware of any additional information responsive to the Questions and, in that event, IBM will supplement this response. All responses are made to the best of IBM's knowledge based on document searches, document reviews, and interviews.

In response to the Questions, IBM states as follows:

GENERAL OBJECTIONS

1. IBM objects to the Questions to the extent that they seek information subject to the attorney-client privilege, the attorney work-product doctrine, or any other applicable privilege, as well as documents and information which are proprietary, trade secrets, or confidential business information.
2. IBM objects to the Questions to the extent that they seek information beyond the scope of IBM's control, including information about entities and individuals beyond IBM's control.
3. IBM objects to the Questions to the extent they are overbroad.

QUESTIONS AND RESPONSES

Question No. 1:
Identify the person(s) answering these questions by providing their name, address and telephone number.

RESPONSE No. 1:

Kevin G. W. Olson
1 North Castle Drive
Armonk, New York 10504
(914) 765-4517

Thomas Morris
1 North Castle Drive
Armonk, New York 10504
(914) 765-4457

David G. Schultz
6300 Diagonal Hwy
Boulder, Colorado 80301
(303) 924-5278

Question No. 2:
Identify the person(s) whom you wish to receive all further communications from EPA related to the Site.

RESPONSE No. 2:

Thomas Morris and Kevin Olson (see contact information above).

Question No. 3:
For each and every question contained herein, identify all persons consulted in the preparation of the answer.

RESPONSE No. 3:

Kevin G. W. Olson, Senior Attorney, IBM Environmental Affairs – Response Nos. 1-8.

Thomas Morris, Program Manager, IBM Corporate Environmental Affairs – Response Nos. 1-8.

David Schultz, Site Chemical & Environmental Engineer, IBM Boulder – Response Nos. 3-8.

Question No. 4:
For each and every question contained herein, identify documents consulted, examined, or referred to in the preparation of the answer, or that contain information responsive to the question, and provide accurate copies of all such documents.

RESPONSE No. 4:

Subject to and without waiving the foregoing objections, IBM responds to Question 4 by reference to: (1) documents previously produced to the EPA by IBM on November 27, 1991, in response to EPA's Request for Information for Erie South Landfill Site, dated October 11, 1991 (the "1991 Production"); and (2) the enclosed EPA site inspection report, dated June 16, 1992.

Question No. 5:
Identify persons currently employed at IBM who have knowledge, information and/or documents about the generation, use, purchase, treatment, storage, disposal or other handling of materials at the Site.

RESPONSE No. 5:

IBM employees with responsibilities for retention and review of any documents that might be responsive to the Question are identified above in Response No. 1.

There are no current IBM employees with direct knowledge or information responsive to this Question. Subject to and without waiving the foregoing objections, IBM further responds to Question 5 by reference to Exhibit 1 of IBM's 1991 Production, which lists former IBM employees with knowledge relating to the Erie Landfill.

Question No. 6:
Provide copies of any technical or analytical reports generated by contractors hired by or on behalf of IBM after 1991 to evaluate the environmental conditions and/or impacts of materials IBM sent to the Site or to areas adjacent to the Site.

RESPONSE No. 6:

IBM has no documents responsive to this Question.

Question No. 7:
Identify any individuals and/or businesses IBM is aware of that sent materials to the Site between 1965 and 1975.

RESPONSE No. 7:

IBM has no first-hand knowledge of any individuals and/or businesses that sent materials to the Site between 1965 and 1975. However, records indicate that the following individuals and/or businesses are among those who may have sent materials to the location of the Erie Landfill during this era:

Customer(s)

- Sundstrand Corporation (Sundstrand Aviation)
- U.S. federal government (U.S. Air Force base in Cheyenne)
- Area municipalities (*e.g.*, Boulder, Lafayette, Louisville, Erie, Firestone, Frederick, Dacona)
- Shattuck Chemical

- Protex – photographs reported to show 55-gallon "Protex" drums at landfill in 1968 and 1969

Operator(s)

- Browning-Ferris Industries
- Encana Corporation – newspapers report Encana dug up, transported and reburied historic waste at location of Site in 2014

Question No. 8:

If you have any reason to believe that there may be persons able to provide a more detailed or complete response to any Question contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

RESPONSE No. 8:

IBM has no reason to believe such persons exist.

ENCLOSURE 2

NOTARIZED CERTIFICATE

I, Kevin G.W. Olson, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by IBM to respond to the Environmental Protection Agency's request for information concerning the Neuhauser Landfill Superfund site located in Weld County, Colorado.

2. I have made a complete and thorough review of all documents, information, and sources relevant to the request.

3. I hereby certify that the attached response to the EPA's request is complete and contains all information and documents responsive to the request.

(Signature)

Kevin G. W. Olson
(Name)

Senior Attorney
(Title)

(SEAL)

Subscribed and sworn to me this 10th day of October, 2017.
Notary Public Stacey E. Blaustein

My Commission Expires 11/4/2021

My address is 30 North Place
Chappaqua NY 10514

STACEY E. BLAUSTEIN
NOTARY PUBLIC, State of New York
No. 02BL4988329
Qualified in Westchester County
Commission Expires November 4, ~~1907~~ 2021

ARCS

Remedial Planning Activities At Selected Uncontrolled Hazardous Substance Disposal Sites In The Zone of Regions VI, VII and VIII

Environmental Protection Agency

Contract No. 68-W9-0053

044955

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COPY

SITE INSPECTION PRIORITIZATION

ERIE LANDFILL SITE
WELD COUNTY, COLORADO

Work Assignment No. 21-8JZZ

June 16, 1992

URS CONSULTANTS
MAKING TECHNOLOGY WORK™

SEC Donohue
Brown and Caldwell
Harza Environmental Services, Inc.
Shannon & Wilson, Inc.
Western Research Institute

SITE INSPECTION PRIORITIZATION

Erie Landfill Site
Weld County, Colorado

U.S. EPA Contract No. 68-W9-0053
Work Assignment No. 21-8JZZ

CERCLIS ID #COD980951735

Prepared By:
Kristin S. Cottle

URS Consultants, Inc.
5251 DTC Parkway, Suite 800
Englewood, CO 80111-2737

URS DOCUMENT CONTROL NO. 41881.26.63.A2879

Approved: _____ Date: 16 June 92
John I. Coats, Program Manager, URS

Approved: _____ Date: 6/16/92
Kevin Mackey, Project Manager, URS

Approved: _____ Date: 6/18/92
Pat Smith, Site Assessment Manager, EPA

This document has been prepared for the U.S. Environmental Protection Agency under Contract No. 68-W9-0053. The material contained herein is not to be disclosed to, discussed with, or made available to any person or persons for any reason without prior express approval of a responsible officer of the U.S. Environmental Protection Agency. In the interest of conserving natural resources, this document is printed on both sides, on recycled paper by section. This will facilitate section-by-section revision, if required, thereby minimizing costs and resource utilization.

DISTRIBUTION LIST

ENVIRONMENTAL PROTECTION AGENCY

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Pat Smith (4 copies)	Site Assessment Manager, ARCS, EPA Region VIII, WA #21-8JZZ

URS CONSULTANTS, INC.

Kevin Mackey	Site Manager, ARCS, EPA Region VIII, WA #21-8JZZ
Kathy Weinel	Quality Assurance Coordinator/Analytical Support Coordinator, EPA Region VIII, WA #21-8JZZ
File (3 copies)	ARCS File System, ARCS, EPA Regions VI, VII and VIII

SITE INSPECTION PRIORITIZATION (SIP)

Erie Landfill Site
Weld County, Colorado

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Figure 1 Radius of Influence Map
Figure 2 Site Map

TABLES

Table 1 Compositition and Quanity of IBM-Boulder Buried Waste
Table 2 Other Potentially Hazardous Substances Deposited at the Erie Landfill Site

1.0 INTRODUCTION

URS Consultants, Inc. (URS) has been tasked by the U.S. Environmental Protection Agency (EPA) under the Alternative Remedial Contracts Strategy (ARCS) Contract Number 68-W9-0053 to conduct a Site Inspection Prioritization (SIP) (Work Assignment Number 21-8JZZ) for the Erie Landfill Site (CERCLIS ID #COD980951735). The Site Inspection (SI) was conducted for this site, by the Colorado Department of Health, on March 19, 1991, and was completed on April 18, 1991 (State of Colorado Department of Health (CDH) 1991).

2.0 OBJECTIVES

The purpose of this SIP is to quantify data elements of the Hazard Ranking System (HRS) at the Erie Landfill Site and to provide sufficient documentation for the EPA to determine the environmental contamination in the Erie Landfill Site, thus determining the appropriate future course of action. The results of this SIP, and previous work preformed by the Colorado Department of Health, will enable the EPA to determine if the site is likely to score above 28.50 on the HRS and subsequently qualify for eventual listing on the National Priorities List (NPL). Detailed environmental pathway discussions are presented in the Sampling Activities Report, written by the Colorado Department of Health in August 1991, and will not be addressed by this SIP.

The specific objectives of this SIP are to review the International Business Machine of Boulder's (IBM-Boulder) Section 104(e) response to EPA's request for information pursuant to Section 104 of CERCLA for the Erie Landfill Site located in Weld County, Colorado. and to:

- Identify, quantify and characterize IBM-Boulder wastes deposited at the Erie Landfill Site in 1968 and 1969 (IBM-Boulder is an identified Potentially Responsible Party (PRP));

- List of substances which have definitely or potentially been deposited at the Erie Landfill Site by IBM-Boulder and other PRPs;

- Quantify waste using Tier A or B criteria; and

- Identify data gaps for other follow-up PRP Section 104(e) requests which could better quantify waste.

3.0 BACKGROUND

3.1 SITE LOCATION

The Erie Landfill Site is composed of 275 acres and is located in Weld County, Colorado, approximately 1 1/4 miles southeast of the town of Erie. The legal description for the Erie Landfill Site is Section 29, Township 1 N, Range 68 W, and the approximate site coordinates are 40° 01′ 40″ N Latitude and 105° 01′ 15″ W Longitude. To reach the site from I-25, take the Erie exit west to Weld City Road #5 and proceed south for one mile. The entrance to the site is located at the intersection of Weld County Road #5 and #6.

3.2 SITE DESCRIPTION

The Erie Landfill Site is located in the Denver Basin, which extends from Greeley to Colorado Springs, and is bordered on the west by the Rocky Mountains. The site lies on gentle westward sloping topography with a 1-5% gradient. The land use in the area is primarily agricultural. The town of Erie (population 1,258) is located approximately 1 1/4 miles northwest of the site (Figure 2) (U.S. Department of Commerce, Bureau of the Census, 1990). There are an estimated 400 wells located within a four-mile radius of the site, which tap three aquifers the alluvial, shallow Laramie bedrock, and Laramie-Fox Hills aquifers (CDH 1991). The town of Erie obtains drinking water from Erie Lake and Prince Lake No. 2. An estimated 110 town wells tap the alluvial aquifer for landscape watering. The Laramie-Fox Hills aquifer is utilized by residences outside of the town of Erie. The Laramie-Fox Hills aquifer is located approximately 350 to 400 feet below ground surface in the vicinity of the site, and there are an estimated 230 wells within a four-mile radius of the site (CDH 1991). Surface water flows west in three draws through the facility into Coal Creek, which flows into Boulder Creek within 15 miles downstream of the site (Figure 1).

There are three separate landfills at the Erie Landfill Site, which are addressed as one site by this report and by IBM-Boulder in the Section 104(e) response. Henceforth, the term "site" will be used when referring to the entire Erie Landfill Site, and landfill names will by used for specific landfill references. The landfill that accepted both municipal and hazardous waste in the past has been known both as the Erie Landfill and as the Pratt property (Figure 2). The Erie Landfill received waste from approximately 1965 to 1979, and was closed (under the direction of the Colorado Department of Health) and revegetated in 1984. The remaining properties are currently known as Laidlaw South Landfill, which was first operated in 1979, and Laidlaw North Landfill, which opened in 1984 (Figure 2). The Laidlaw South Landfill has also been called the Columbine

Landfill. The Laidlaw South property has intermediate cover on some areas but further municipal landfilling is planned (CDH 1991). The Laidlaw North property is partially closed with full closure plans set for 1993. The entire site is fenced and access is restricted with the exception of the easternmost segment of the Erie Landfill (Figure 2).

3.3 SITE HISTORY AND PREVIOUS WORK

There have been various land uses and transfers of ownership of the landfill properties. In 1964 the Pratt family entered into agreement with a Mr. John Neuhauser to fill in the south draw of the Erie Landfill parcel in order to level the area so that it could be eventually farmed. Mr. Neuhauser, along with a Mr. Carl Smith, formed a company called Sanitation Engineering, Inc. This company hauled solid waste from surrounding communities and also accepted industrial and chemical wastes at least in part from IBM-Boulder, "Cheyenne Air Force Base" and Sundstrand Aviation (IBM-Boulder 1991). It is unknown which U.S. Air Force base the term "Cheyenne Air Force Base" actually refers to as there is no listed U.S. Air Force base by this name (U.S. Air Force 1992a and 1992b).

On August 9, 1966, Boulder County personnel noted three pits at Erie Landfill; two were used for the disposition of chemicals, and the third was used for burning chemicals, including propellant. A September 1966 inspection, conducted by the CDH, noted that part of the site was being excavated in order to divert natural drainage around the facility. On July 17, 1968, a Certificate of Designation (CD) (a permit specifying proper operations) was issued to Mr. Neuhauser by the Weld Board of County Commissioners. On July 26, 1968, an uncontrolled chemical fire burned approximately 3,000 gallons of waste chemicals in the southwestern corner of the Erie Landfill. On October 30, 1968, the CD was suspended by Weld County for 33 days,

but was held in abeyance for a six-month probation period. Mr. Neuhauser sold his share of the company to his partner, Mr. Smith, in late 1968 (CDH 1990).

Although information is inconclusive, it is believed that Browning-Ferris Industries (BFI) operated all the Weld County Landfills, including the Erie Landfill, from 1969 to 1974 (CDH 1990). In June 1975 the Colorado Department of Health (CDH) inspected the landfill and noted the presence of oil/water waste. The February and April 1976 inspections indicated that approximately 1,500 gallons per week of oil/water waste were deposited at the base of the landfill. In October 1976, a Mr. Ralph Roweder (a BFI employee) purchased the contract to operate the Weld County Landfills. A February 7, 1978 memorandum from the Dacono Fire Department noted frequent fires at the Erie Landfill requiring from 10,000 to 100,000 gallons of water to extinguish (CDH 1990).

In June 1979, Colorado Landfill, Inc. (CLI) purchased the Erie Landfill. CLI was not interested in operating the old Erie Landfill, thus Weld County Commissioners revoked the Erie Landfill CD on June 6, 1979. During that same month, surface rights to the Columbine Mine No. 1 were sold to CLI, which added an additional 160 acres west-southwest of the original 35-acre Erie Landfill. CLI received a CD from Weld County to operate a sanitary landfill (authorized to accept municipal solid wastes only) on the new 160-acre parcel, which was designated as the Columbine Landfill (CDH 1990). The Columbine Landfill is currently known as the Laidlaw South Landfill (Figure 2).

A November 1981 CDH inspection noted oil, grease and ponded sludge at the northeast end of the site, probably due to the 500 gallons per week of car wash and grease trap wastes that the landfill was accepting. CDH reinspected the site in September 1982 and noted that during a 6-8

week period, 6,000-9,000 gallons per day of sand and grease trap waste sludges were being deposited at the Columbine Landfill. A CDH memorandum dated May 1983 stated that some of the trap wastes contained cyanide, and that exposed trash areas were noted at the Columbine Landfill. A May 1985 inspection noted a black liquid discharge into a pond at the west end of the Columbine Landfill. In December 1985, the Columbine Landfill was purchased by Western Disposal. In January 1988, Laidlaw Waste Systems, Inc. purchased the property, which became known as Laidlaw South (Figure 2). Laidlaw developed and implemented a closure and post-closure maintenance plan for the old 35-acre Erie Landfill parcel (CDH 1990).

Daniel Horst (of Landfill Systems) developed an operations plan for a landfill north of the Columbine Landfill. The 80-acre site, approved for municipal solid waste only, was annexed by the town of Erie on November 8, 1984. The property was sold to a GSX Corporation in August 1986. In November 1986, GSX was purchased by Laidlaw Waste Systems, Inc. and the property became known as Laidlaw North (Figure 2)(CDH 1990).

Two Preliminary Assessments (PAs) and two Site Inspections (SIs) have been performed by the CDH at the site. The 1984 PA stated that approximately 1,500 drums containing 84,000 gallons of solvents, organics, inorganics, acids and bases were deposited in the Erie Landfill, by IBM-Boulder from 1965 to 1969. The SI was performed at the site in June 1984. Several EPA target compounds and tentatively identified compounds (TICs) were detected in groundwater, including 1-butene (130 μg/l) and oxybismethane (310 and 370 μg/l). Two shallow monitoring wells (103A and 103B) were drilled on the north side of the Laidlaw North property in December 1984 and in March 1988, respectively. The CDH 1990 PA mentioned "high concentrations" of volatile organics, including 1,1 dichloroethane, methylene chloride, tetrachloroethene, 1,1,1-

trichloroethane, chloroethane, chloroform and trichlorofloromethane, which were detected in the December 1987 sampling of well 103A (CDH 1990).

CDH conducted the additional PA in November 1990. The groundwater pathway was the major pathway of concern addressed in the 1990 PA. The SI was conducted in two phases in the spring of 1991. Samples were analyzed for VOA, BNA, pesticides/PCBs and inorganics. Observed releases of benzene, 1-1 dichloroethane, dichlorofluoromethane, tetrahydrofuran and 2-fluoro-4-nitrophenol were detected in on-site monitoring wells. Higher concentrations of inorganic compounds were also detected in these wells, indicating degrading water quality compared to background monitoring wells. No observed releases were detected in domestic wells associated with the Laramie-Fox Hills Aquifer (CDH 1991).

IBM-Boulder contracted Dames and Moore in 1980 to assess the Erie Landfill, and again in 1990 to address the geohydrologic and water-quality conditions in the vicinity of the landfills. EPA sent a Section 104(e) request to IBM-Boulder in October 1991, requesting documentation of IBM-Boulder's disposal practices at the landfill complex. The waste characteristics section of this report addresses IBM-Boulder's November 1991 response (IBM-Boulder 1991).

3.4 SITE GEOLOGY

A detailed description of the site geology, hydrogeology and hydrology is provided in the Preliminary Assessment for the Columbine (Erie) Landfill, written by the Colorado Department of Health in 1990 (CDH 1990).

The site is on the northwestern flank of the Denver Basin. The soils on-site are comprised of calcareous silt, with some clay and very fine sands. The soil deposits were formed by wind and stream disposition and by weathering of the bedrock. The soil thickness ranges from approximately 2 to 21 feet due to irregular bedrock and land surfaces. Thus, the depth to bedrock also varies from 2 to 21 feet on site. The irregular bedrock surface somewhat parallels the surface topography (CDH 1990).

The Laramie Formation, which forms the bedrock under the site, is divided into upper and lower lithologic units. The upper unit is comprised of organic claystone with interbedded sands and the lower unit consists of fine-grained, moderate to well-cemented sandstone which grades to carbonaceous claystone. The sandstones occur at depths of 400 to 450 feet below ground surface and comprise the upper part of the Laramie-Fox Hills Aquifer (CDH 1990).

The coals of the Laramie Formation have been extensively mined in the area, as noted by the presence of the Columbine Mine No. 1 which underlies the Laidlaw South Landfill parcel (Figure 2). Overburden thickness above the mine ranges from 150 to 400 feet with the probable extracted coal seam thickness ranging from 0 to 15 feet. The mine was operated by the room and pillar extraction method. After the coal seams were exhausted, the pillars were typically removed. The area has never been evaluated to determine past or future mining potential (CDH 1991).

The Fox Hills Sandstone is beneath the Laramie Formation. The upper unit (Milliken Sandstone) is composed of fine to medium-grained, parallel, thick-bedded sandstone, thin siltstone and shale interbeds. The unit ranges in thickness from 40 to 90 feet. The Milliken Sandstone and the overlying lower sandstone unit of the Laramie Formation co[illegible]se the Laramie-Fox Hills

Aquifer. Pierre Shale beneath the Fox Hills Sandstone, consists of a 7,000- to 8,000-foot thick sequence of gray to brown, clayey marine shales (CDH 1990).

The site lies in a structurally complex area. Bedrock has been highly distorted through both folding and faulting, with faults that generally align in a northeasterly direction. Regionally, the bedrock dips one degree to the southeast (CDH 1990).

3.5 SITE HYDROGEOLOGY

The direction of regional groundwater flow in the Laramie-Fox Hills Aquifer is to the east-southeast. Groundwater is generally produced from the sandstone units at depths of 400 to 450 feet below ground surface. Exploratory drilling programs have identified two shallow groundwater systems at the site. The shallowest groundwater system is associated with the alluvial and colluvial soil materials in the topographic drainages. Recharge to the alluvial groundwater system occurs by direct infiltration of snowmelt and rainfall from topographically elevated areas. The saturated thickness of the shallow system is generally less than 5 feet and is perched at approximately 10 to 20 feet below the ground surface at the bedrock interface (CDH 1990).

The deep groundwater system found at the site is located within a saturated bedrock unit consisting of siltstone, sandstone and coal units. The depth to saturated bedrock ranges from 21 to greater than 82 feet below ground surface. Bedrock immediately above and below the saturated unit is dry. Because of the large difference in the potentiometric elevation between the local shallow bedrock groundwater systems and the regional Laramie-Fox Hills Aquifer, the low hydraulic conductivity of the upper Laramie Formation claystones, and the unsaturated

bedrock beneath the deep perched system, it has been concluded that the perched and regional groundwater systems are not hydraulically connected (CDH 1990).

3.6 SITE HYDROLOGY

The site lies on westward sloping topography with a 1-5% gradient. Locally, flat areas, between the draws, are often farmed. Drainages are oriented east-west and generally flow into Clear Creek within one-half mile to the west. There are three unnamed drainages, with an east-west trend, which are located in the vicinity of the site. The drainage that bisects Laidlaw North Landfill (Figure 2, Section 20), is referred to as the north draw. The drainage that bisects the Laidlaw South and Erie Landfill (Figure 2, Section 29) is referred to as the middle draw, and the drainage to the south of the site is referred to as the south draw (Figure 2, Section 29) (CDH 1990).

The middle and south draw are well-developed and join together in (Figure 2, Section 30). At that confluence, the draws are bermed and water ponds behind it. Downgradient from the berm, the stream bed is dry and there is no discharge to Coal Creek. The south draw has four additional berms (Figure 2, Section 29). Behind each berm, water is ponded and subsequently, that water supports wetland vegetation. The north draw is not bermed and it is generally dry except during storm events (CDH 1990).

Coal Creek is the only perennial stream located within two miles of the site (Figure 1). Surface water conditions are routinely monitored by Laidlaw Waste Systems, Inc. EPA priority pollutants have not been detected in samples and on average, water quality is equivalent at the

upstream and downstream monitoring stations. There is no indication of degraded surface water quality in Coal Creek from the landfill operation (CDH 1990).

3.7 SITE METEOROLOGY

The site receives moderate amounts of precipitation. The average annual precipitation is 16 inches per year while the mean annual lake evaporation is 38 inches per year, yielding a net precipitation value of negative 22 inches per year (U.S. Department of Commerce 1968). The corresponding HRS net precipitation factor value is one (Office of the Federal Register 1990). Additionally, the 2-year, 24-hour rainfall event for the site is two inches (Dunne and Leopold 1978).

4.0 SITE WASTE QUANTITY AND CHARACTERISTICS

4.1 IBM-BOULDER WASTE

IBM-Boulder first generated chemical waste in 1966. From October 7, 1966, to March 18, 1968, IBM-Boulder had a contract with Denver Clean-Up Service to haul chemical process wastes to a landfill in the Denver area. During the same period of time, Sanitation Engineering, Inc. hauled non-hazardous office trash to the Erie Landfill. On May 7, 1968, Sanitation Engineering, Inc. began disposing both IBM-Boulder trash and chemical waste in the Erie Landfill. Due to poor waste handling practices by Sanitation Engineering, Inc., IBM-Boulder terminated their contract in May 1969. IBM-Boulder then used local dumps to dispose of site trash and hired Conservation Chemical Company of Kansas City to haul and dispose of all site chemical waste.

The total volume of waste organics, inorganics, solvents, acids and bases disposed of at the Erie Landfill by IBM-Boulder from May 7, 1968 to May 1969 was reported by IBM-Boulder to be 88,520 gallons (IBM-Boulder 1991). Most of the waste was contained in 55-gallon drums and one- to five-gallon fireproof safety cans. Table 1, which follows, summarizes the composition of IBM-Boulder waste sent to the Erie Landfill, based on information provided by IBM-Boulder in the Section 104(e) response (IBM-Boulder 1991).

Table 1

Composition and Quantity of IBM-Boulder Buried Wastes
May 1968 - May 1969

TYPE	WASTE	GALLONS BURIED
MIXED SOLVENTS		
Composed of:	Cyclohexanone	27,000
	Toluene	21,500
	Methyl ethyl ketone	3,000
SLUDGE		
Approximately 75% composed of:	Ferric oxide	
	Ferrous oxide	
	Conductex SC (carbon black)	
Approximately 25% composed of:	Hycar 1432 (acrylonitrile rubber)	
	Epon 834 (epichlorohydrin/bisphenol)	
	Mondur CB-75 (polyisocyanate in ethyl acetate solution)	
	VAGH-1 (91% vinyl chloride, 6% vinyl alcohol, 3% vinyl acetate)	
	Duomeen TDO (N-tallow-trimethylene diamine dioleate)	
	Robane (squalane)	
	Freon TF (trichlorotrifluoroethane)	
	Multron R-16 (polyester resin)	
	Isopropyl alcohol	
	SLUDGE TOTAL	18,000
OTHER		
	Trichloroethane (including Chlorothene)	4,000
	Epoxy	4,000

Table 1
(Continued)
Composition and Quantity of IBM-Boulder Buried Wastes
May 1968 - May 1969

TYPE	WASTE	GALLONS BURIED
	Methylene chloride (contained in Lonco Sonic Solve No. 115 and M-17 solvent)	2,000
	Alcohols (primarily isopropyl alcohol and small quantities of ethyl, methyl, and propyl alcohols)	1,900
	Ferric chloride	1,700
	Sulfuric acid (Enplate Conditioner 470 and battery acid)	400
	Ammonium persulfate	250
	Cellosolve acetate (contained in AZ-111 Photo Resist)	100
	Trichloroethylene (contained in M-17 solvent)	75
	Tetrahydrofuran (contained in M-17 solvent)	75
	Nitric acid	50
	Sodium chloride	50
	Ethyl acetate (contained in Jaysol solvent)	10
	Methyl isobutyl ketone (contained in Jaysol solvent)	10
	Plating solution and Heat Treat waste composed of cyanide, chromic, oxides, copper, caustics, barium and nitrate salts	4,400
	IBM-BOULDER TOTAL	**88,520**

4.2 OTHER WASTE

Other potentially hazardous substances which have been sent to the site are included in Table 2, which follows. The list of substances were compiled from the CDH 1991 Sampling Activities Report and from the information included with the IBM-Boulder Section 104(e) submittal (CDH 1991 and IBM-Boulder 1991). As stated previously, waste was deposited in the Erie Landfill from the mid 1960s to 1979, at which time the Columbine (currently Laidlaw South) Landfill opened. All waste listed, which was deposited after 1980, was pre-approved by the Colorado Department of Health and/or Weld County as well as the landfill operator (IBM-Boulder 1991).

Table 2

Other Potentially Hazardous Substances Deposited at the Erie Landfill Site

SOURCE	WASTE	AMOUNT	YEAR	LANDFILL
"Cheyenne Air Force Base"	unknown	unknown	late 1960s	Erie
Sundstrand Aviation	Torpedo propellant	unknown	late 1960s	Erie
unknown	Protex (55-gal. drums)	unknown	1968-1969	Erie
unknown	Oil/water waste	1,500 g/wk (TVU)	1976	Erie
Shattuck Chemical (S.W. Shattuck Chemical Co., Inc.)	Soil contaminated with spent petroleum catalysts & heavy metals	32 truck loads (TVU)	1980	South
unknown	Car wash and grease trap waste	500 g/wk (TVU)	1981	South
unknown	Sand and grease trap sludges (1% solids) - cyanide-contaminated	6,000-9,000 g/d for 6-8 wks.	1982	South
Berthoud Fire Department	Soil contaminated with methanol and methylene chloride	"small" (TVU)	1983	South
Analytical Development Corporation	Pineapple green chop tops (contaminated with pesticides)	3,600 lbs.	1983	South
Continental Pipeline Company (CPL)	CPL jet fuel filters (below RCRA limits for leachate metals)	unknown	1983	South
unknown	Asbestos	900 bags/mt (TVU)	1983-1985	South
unknown (private citizen)	DDT (overpacked in 5-gal. can)	1 gal.	1984	South
unknown	Gas-contaminated soil and pads	20-30 gal.	1984	South
unknown	Mercury (Hg)-contaminated materials	1/2 - 1 tsp. (Hg)	1984	South
Lakeside & Southglen Malls	Asbestos	45 cu. yds.	1987	South

Erie=Erie Landfill
g/w=gallons per week
lbs.=pounds
cu. yds.=cubic yards
ppm=parts per million

South=Laidlaw South Landfill
g/d=gallon per day
bags/mt=bags per month
yds/d=yards per day
TVU=total volume unknown

gal.=gallon(s)
wks.=weeks
tsp.=teaspoon
con.=concentration

Table 2
(Continued)
Other Potentially Hazardous Substances
Deposited at the Erie Landfill Site

SOURCE	WASTE	AMOUNT	YEAR	LANDFILL
unknown	Flyash	865 cu. yds/d (TVU)	1987	South
Rothman Oil Company	Petroleum-contaminated soil (low con. of heavy metals)	350 cu. yds.	1987	South
AT&T	Gas & diesel-contaminated soil (average con. 100 ppm)	250 cu. yds.	1988	South
Laidlaw (Adams County facility)	Petroleum-contaminated soil	"large" (TVU)	1988	South
Gilpin School (Denver Public Schools)	Primatol-contaminated soil (<1ppm con. of Primatol)	500 cu. yds.	1988	South
Johnson Publishing Company	Empty 55-gal. drums contaminated with lithographic printing ink	unknown	1988	South
Custom Pumping Company	Solidified trap sludge & cement kiln dust	unknown	1989	South
IBM-Boulder	Toner barrels	unknown	1989	South
AT&T	Condensation Reflow Solder Machine with residual 3M Flourinert (non-hazardous)	unknown	1989	South
unknown	Asbestos	40 cu. yds.	1989	South
City of Broomfield	Wastewater grit	unknown	1989	South
George Oil Company	Petroleum-contaminated soil	"large"	1990	South
City of Longmont	Petroleum-contaminated soil	"large"	1990	South
HW Moore Equipment Co.	Petroleum-contaminated soil	8,000 cu. yds.	1990	South

Erie=Erie Landfill
g/w=gallons per week
lbs.=pounds
cu. yds.=cubic yards
ppm=parts per million

South=Laidlaw South Landfill
g/d=gallon per day
bags/mt=bags per month
yds/d=yards per day
TVU=total volume unknown

gal.=gallon(s)
wks.=weeks
tsp.=teaspoon
con.=concentration

4.3 DATA GAPS

The IBM-Boulder Section 104(e) response summarized in Table 1, identified the Tier A, hazardous constituent quantities of wastes deposited by IBM-Boulder at the Erie Landfill, totaling 88,520 gallons. Due to poor record keeping in the 1960s and 1970s, the complete nature, quantity and composition of hazardous wastes deposited by parties other than IBM-Boulder at the Erie Landfill is unknown. Table 4.2.1 lists Potentially Responsible Parties (PRPs) and most importantly, generators responsible for depositing waste at the site pre-1980, at which time waste was approved by the Colorado Department of Health and/or Weld County. Supplementary sources of information might include "Cheyenne Air Force Base" (if the specific base could be determined) and Sundstrand Aviation as additional generators responsible for depositing waste at the Erie Landfill in the late 1960s. Information received from Section 104(e) requests directed to "Cheyenne Air Force Base" and Sundstrand Aviation may help to further characterize the Tier A waste specifications of the site.

5.0 SUMMARY

In the late 1960s, the Erie Landfill accepted hazardous waste. During a one-year period of time, IBM-Boulder generated 88,520 gallons of waste, which was deposited at the Erie Landfill. During the same period of time it is documented that "Cheyenne Air Force Base" and Sundstrand Aviation also shipped waste to the Erie Landfill. After 1980, a variety of non-municipal wastes was accepted by the Columbine Landfill, currently known as Laidlaw South. Wastes such as asbestos and petroleum-contaminated soil were approved by the Colorado Department of Health and/or Weld County and deposited at the Columbine Landfill, after 1980. Waste quantity and composition information is not complete, and follow-up Section 104(e) requests to additional PRPs could provide further information needed for HRS specifics.

6.0 REFERENCES

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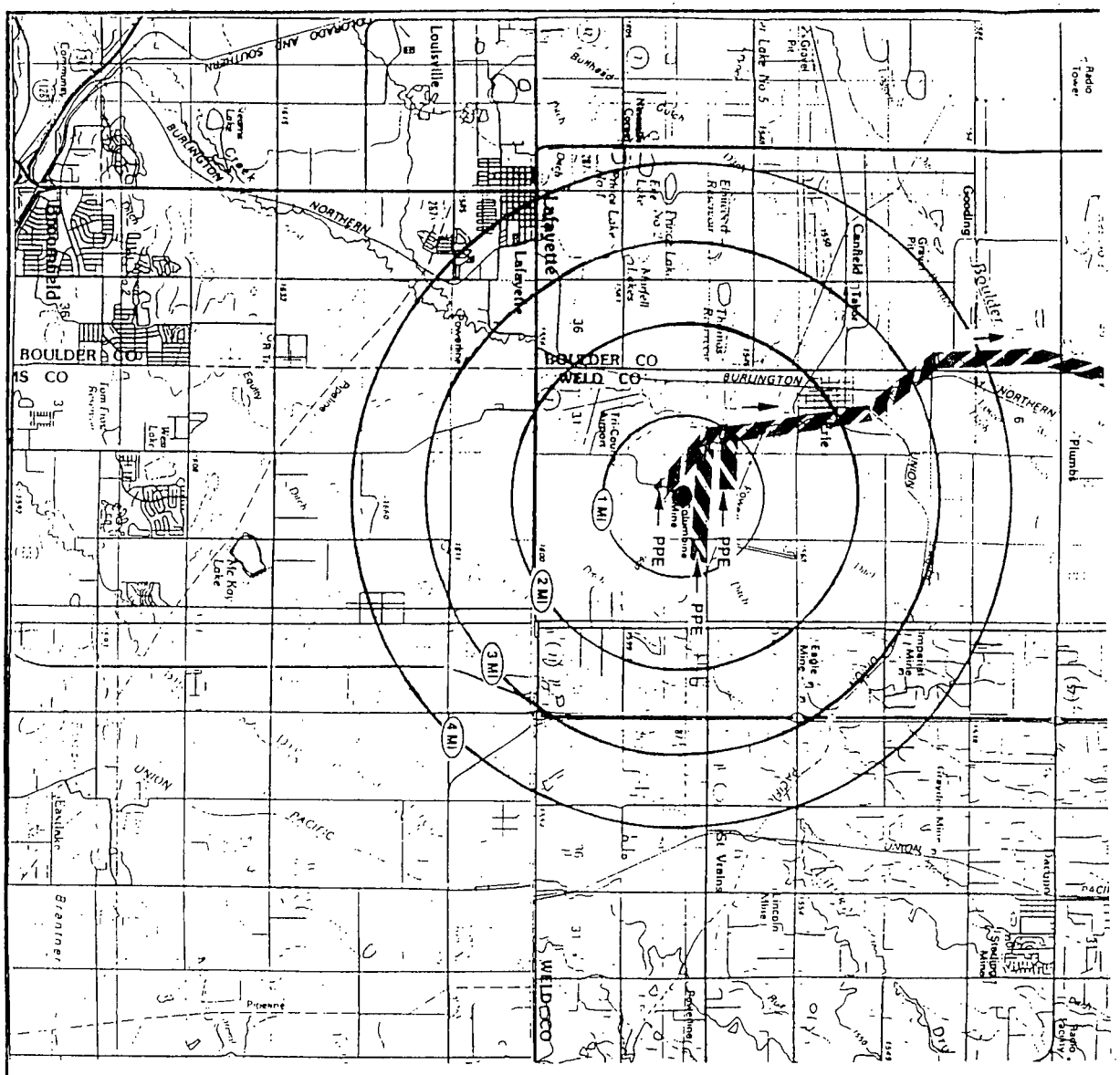
U.S. Geological Survey (USGS). 1983. 1:100 000-Scale Metric Topographic Map, Denver West, Colorado.

U.S. Geological Survey (USGS). 1984. 1:100 000-Scale Metric Topographic Map, Estes Park, Colorado.

U.S. Geological Survey (USGS). 1982. 1:100 000-Scale Metric Topographic Map, Greeley, Colorado.

7.0 FIGURES

Figure 1, Radius of Influence Map, and Figure 2, Site Map, are found on the following pages.



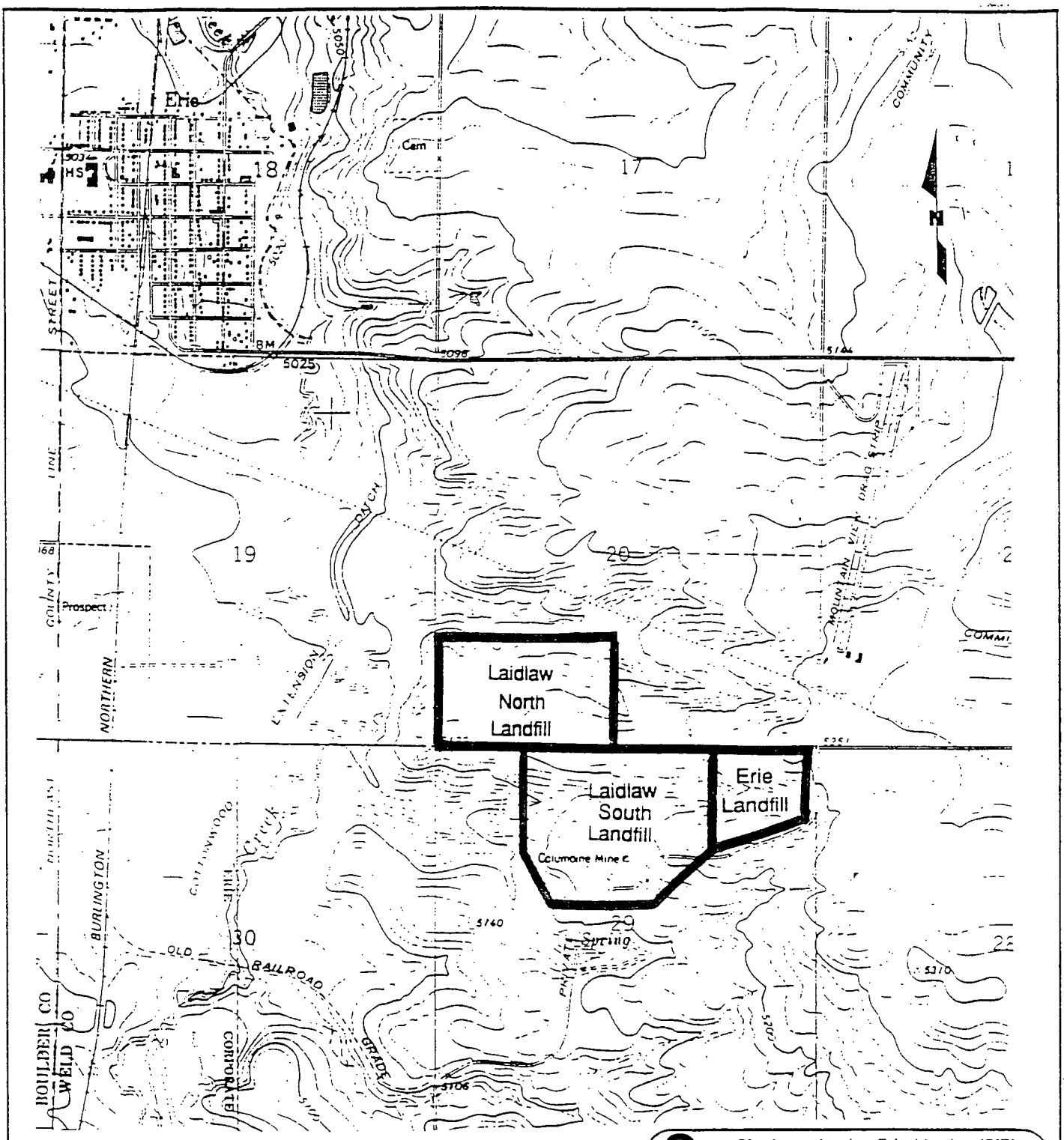
KILOMETERS 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

MILES 1 0 1 2 3 4 5 6 7 8 9 10

LEGEND

- ● - Site Location
- PPE - Probable Point of Entry
- → - Direction of Flow
- ▨ - Stream

FIGURE 2



Site Investigation Prioritization (SIP)

URS Job No. 41881.26

Erie Landfill Site
Weld County, Colorado

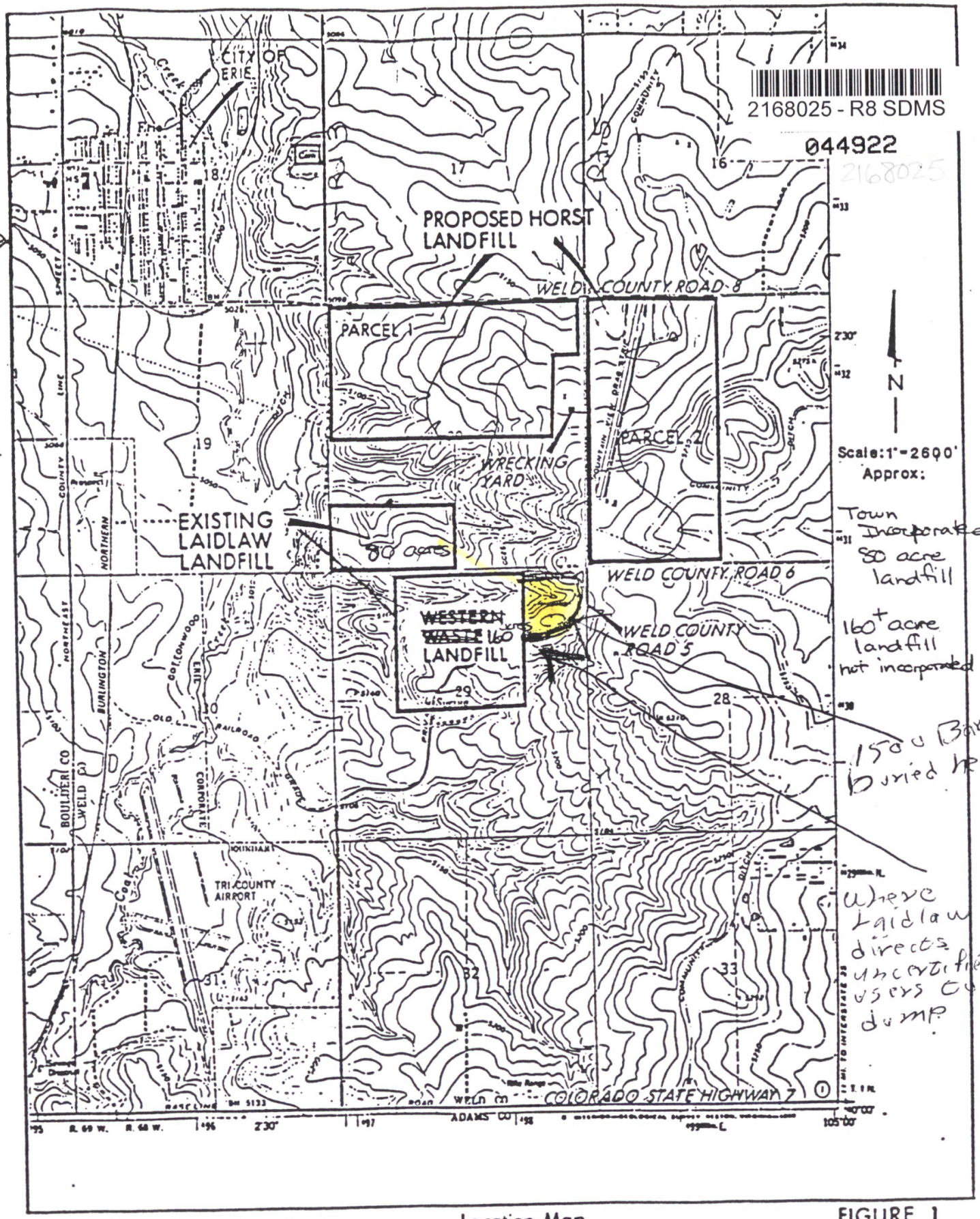
Site Map
Figure 2

June, 1992

URS CONSULTANTS

Source: USGS Topographic Map, Erie, Colorado, 1979

2168025 - R8 SDMS
044922
2168025



Harding Lawson Associates
Engineers, Geologists & Geophysicists

Location Map
Horst Landfill
Erie, Colorado

FIGURE 1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AT Jr.	17602,001.10		3/86		5/87

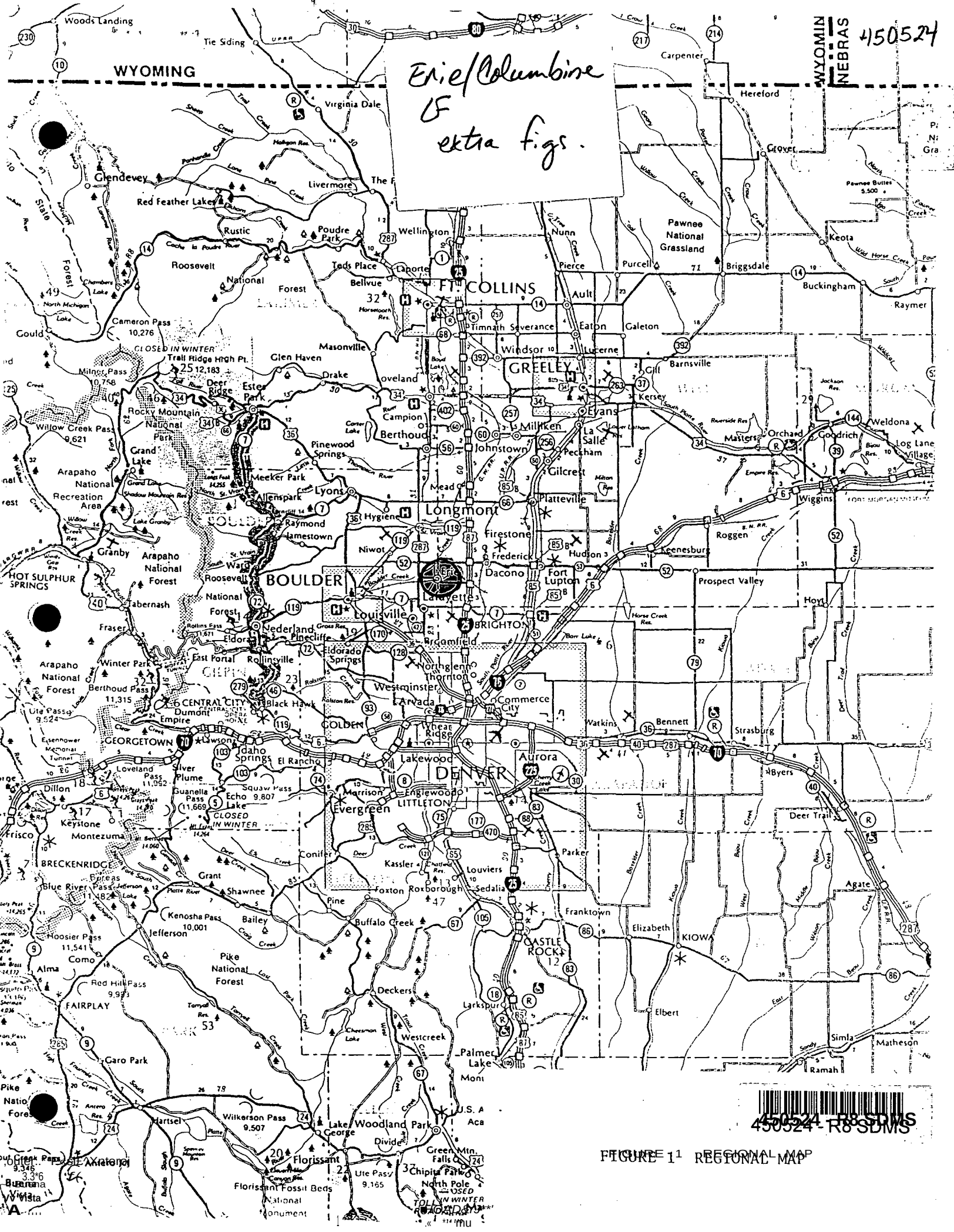
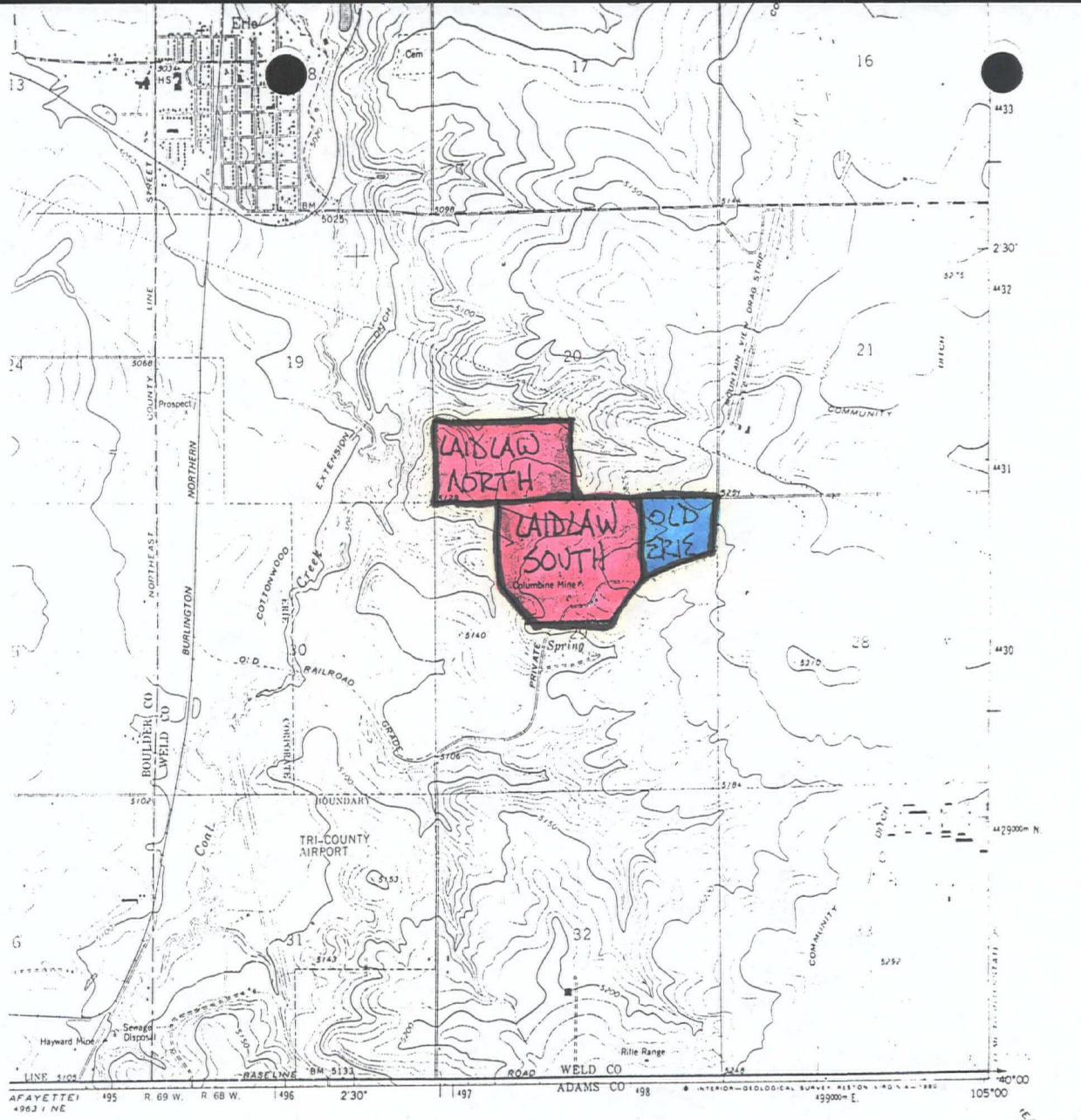


FIGURE 1 REGIONAL MAP



ALE 1:24 000

0 — 1 MILE

3000 4000 5000 6000 7000 FEET

0 — 1 KILOMETER

INTERVAL 10 FEET
IC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Heavy-duty — Light-duty

Medium-duty — Unimproved dirt

U.S. Route — State Route

COLORADO

QUADRANGLE LOCATION

NATIONAL MAP ACCURACY STANDARDS
ENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

To place on the predicted North American Datum 1983 move the projection lines 5 meters north and 48 meters east as shown by dashed corner ticks

ERIE, COLO.
N4000-W10500/7.5

1967
PHOTOREVISED 1979
DMA 4964 II SE - SERIES V877

FIGURE 2 SITE MAP

PN

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

RECEIVED
SEP 13 1990
HAZARDOUS MATERIALS AND WASTE MANAGEMENT

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:
Enter the name and address of the person or organization required to notify.

Name: Voluntary Notification Identifying Past
Street: Disposal Activity of IBM Corporation
City: State: Zip Code:

B Site Location:
Enter the common name (if known) and actual location of the site.

Name of Site: Erie, Colorado Sanitary Landfill South
Street: and East of town
City: Erie County: Boulder State: CO Zip Code:

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Boggio, Robert Engineer
Phone: IBM Corporation, P.O. Box 1900
Boulder, Colorado 80302 (303) 447-7764

D Dates of Waste Handling:
Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1965 To (Year): June, 1969

IBM contributed an estimated 84,000 gallons of chemical waste to the Erie Landfill. The material was disposed of in approximately 1,500 55 gallon drums.

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☒ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☒ Acids
7. ☒ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☒ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify)

Manufacturing of magnetic media and associated lab development activit

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 300 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous was listed in the regulations under Section 3001 of RCRA. Enter tl appropriate four-digit number in the boxes provided. A copy o the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site located.

FIGURE 3 EPA NOTIFICATION OF HAZARDOUS WASTE SITE

Form Approved
OMB No. 2000-0138
EPA Form 8900-1

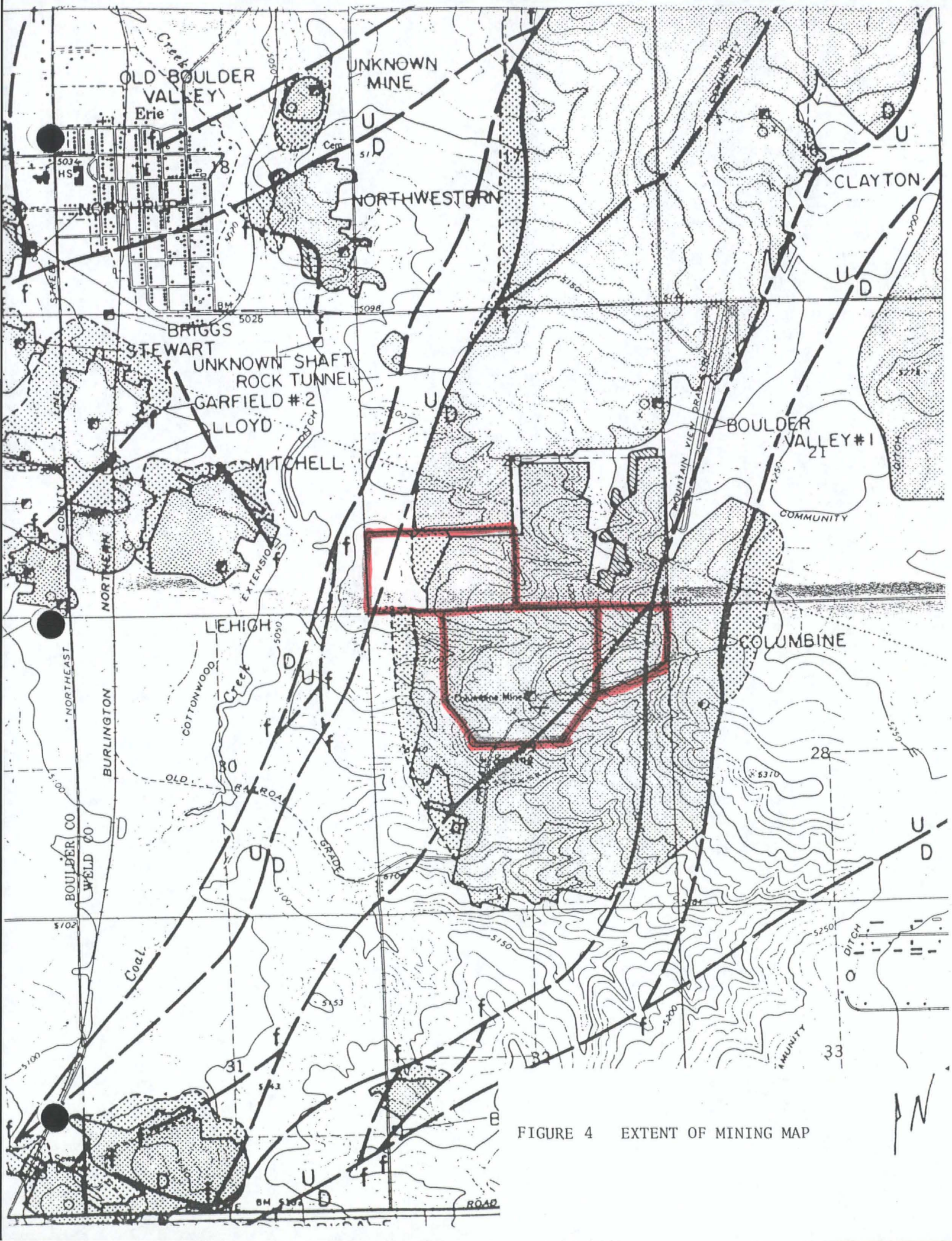


FIGURE 4 EXTENT OF MINING MAP

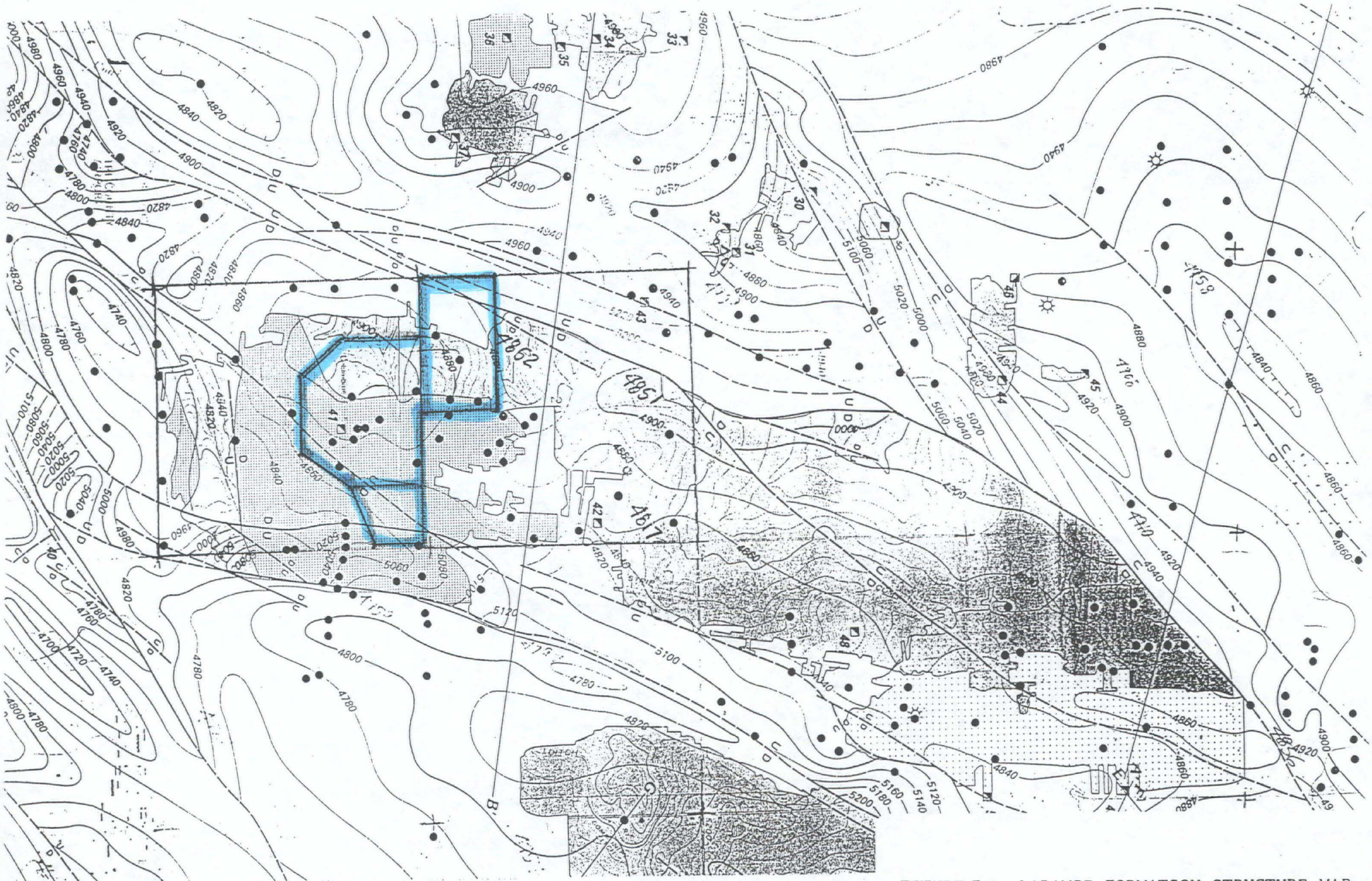


FIGURE 5 LARAMIE FORMATION STRUCTURE MAP

FIGURE 6 LARAMIE-FOX HILLS AQUIFER MAP

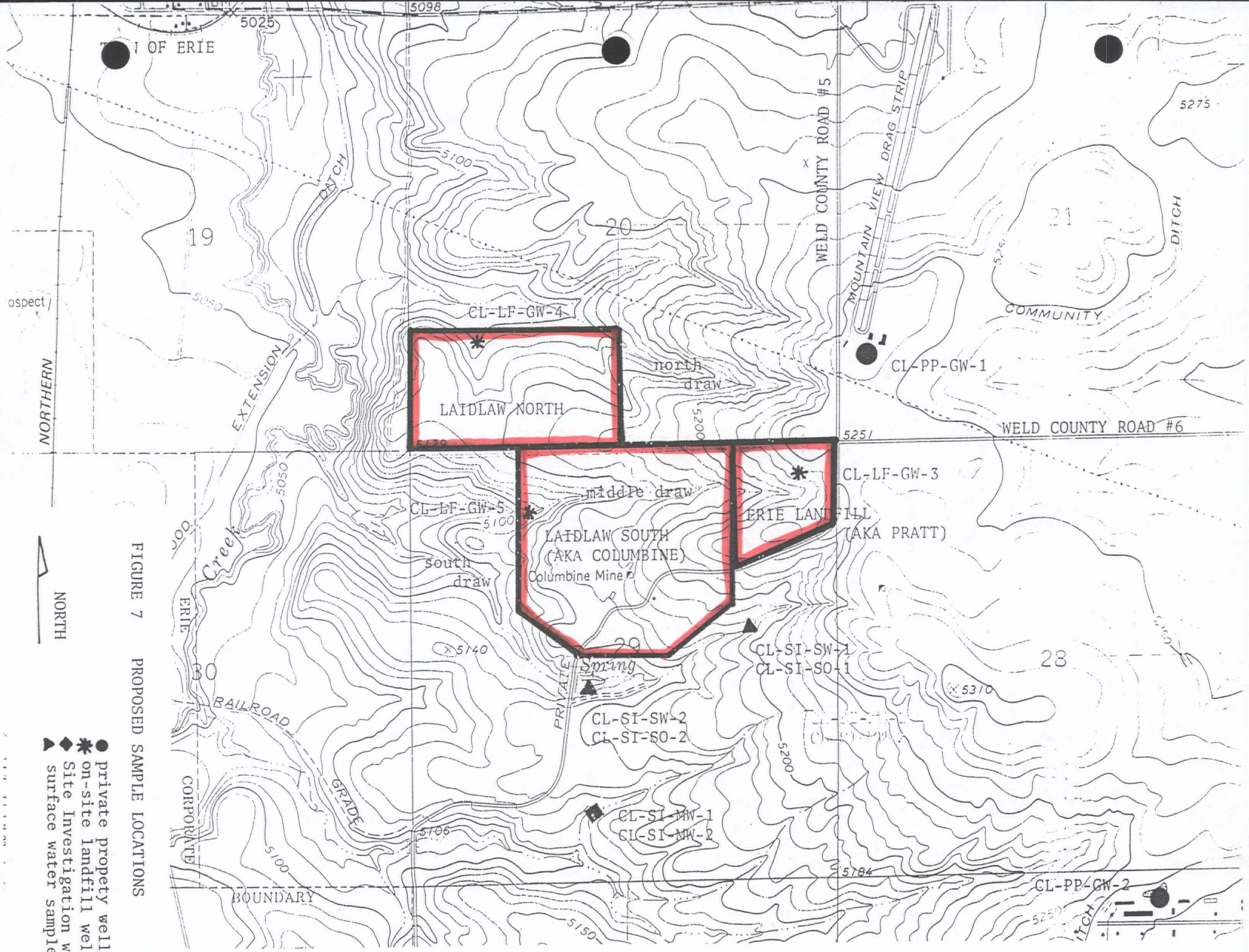


FIGURE 7 PROPOSED SAMPLE LOCATIONS

● private propety wells
✱ on-site landfill well
◆ Site Investigation we
▶ surface water sample

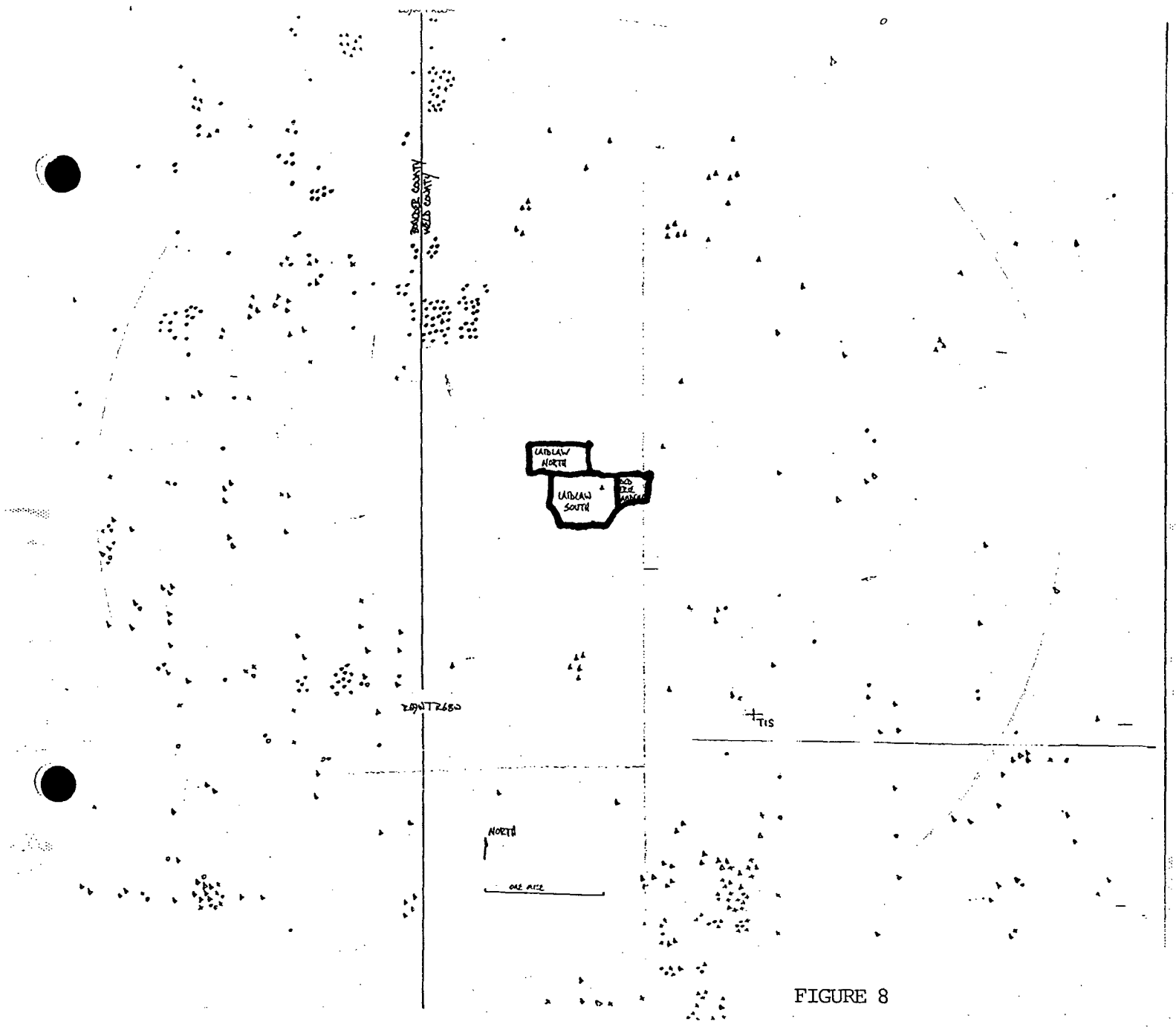


FIGURE 8

WELL LOCATED WITHIN A 4 MILE RADIUS OF THE SITE

O - WELLS < 100' DEEP
+ - WELLS ≥ 100' & < 300' DEEP
Δ - WELLS ≥ 300' DEEP

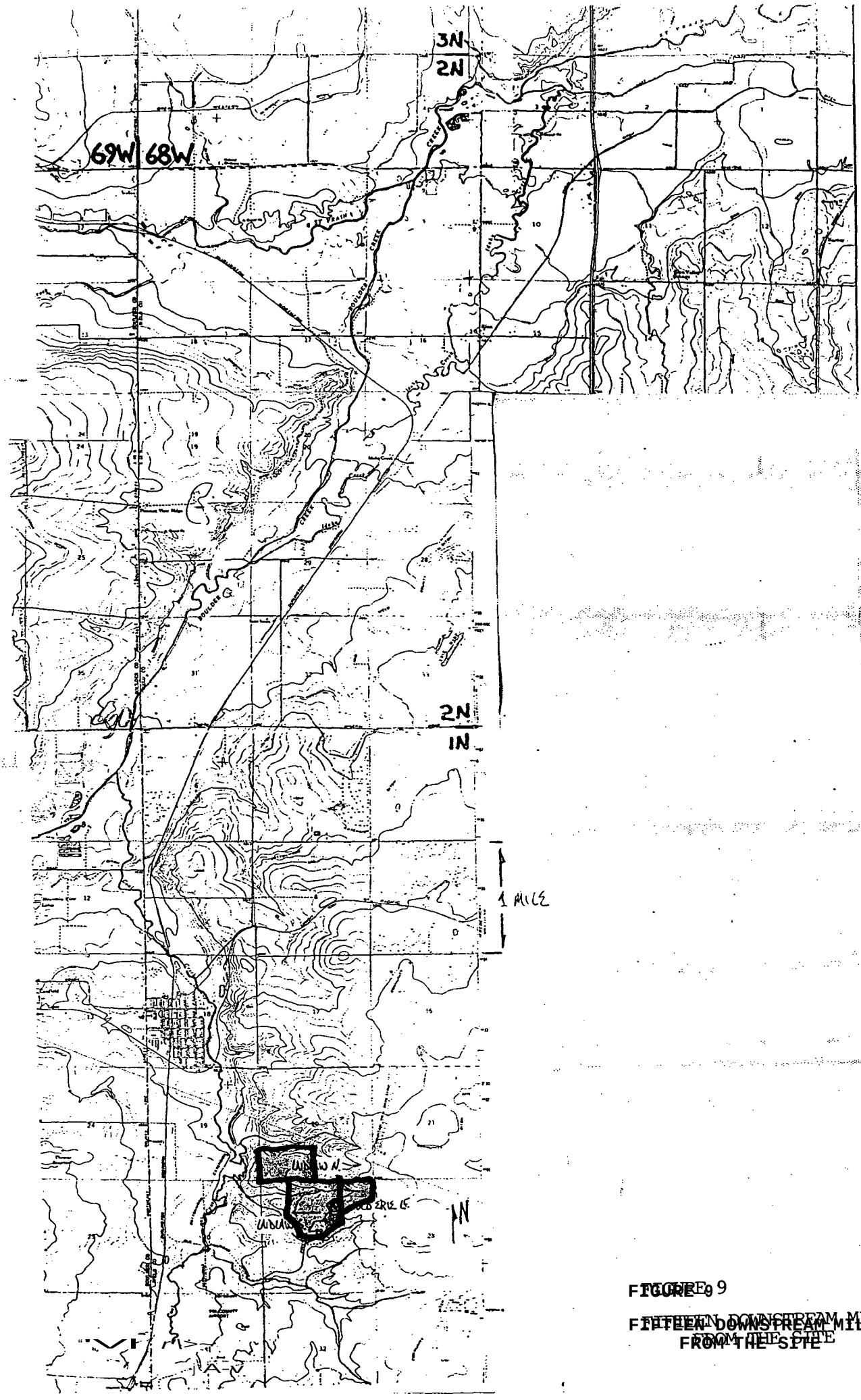


FIGURE 9

FIFTEEN DOWNSTREAM MILES
FROM THE SITE

FIGURE 2

SURFACE WATER MONITORING SYSTEM

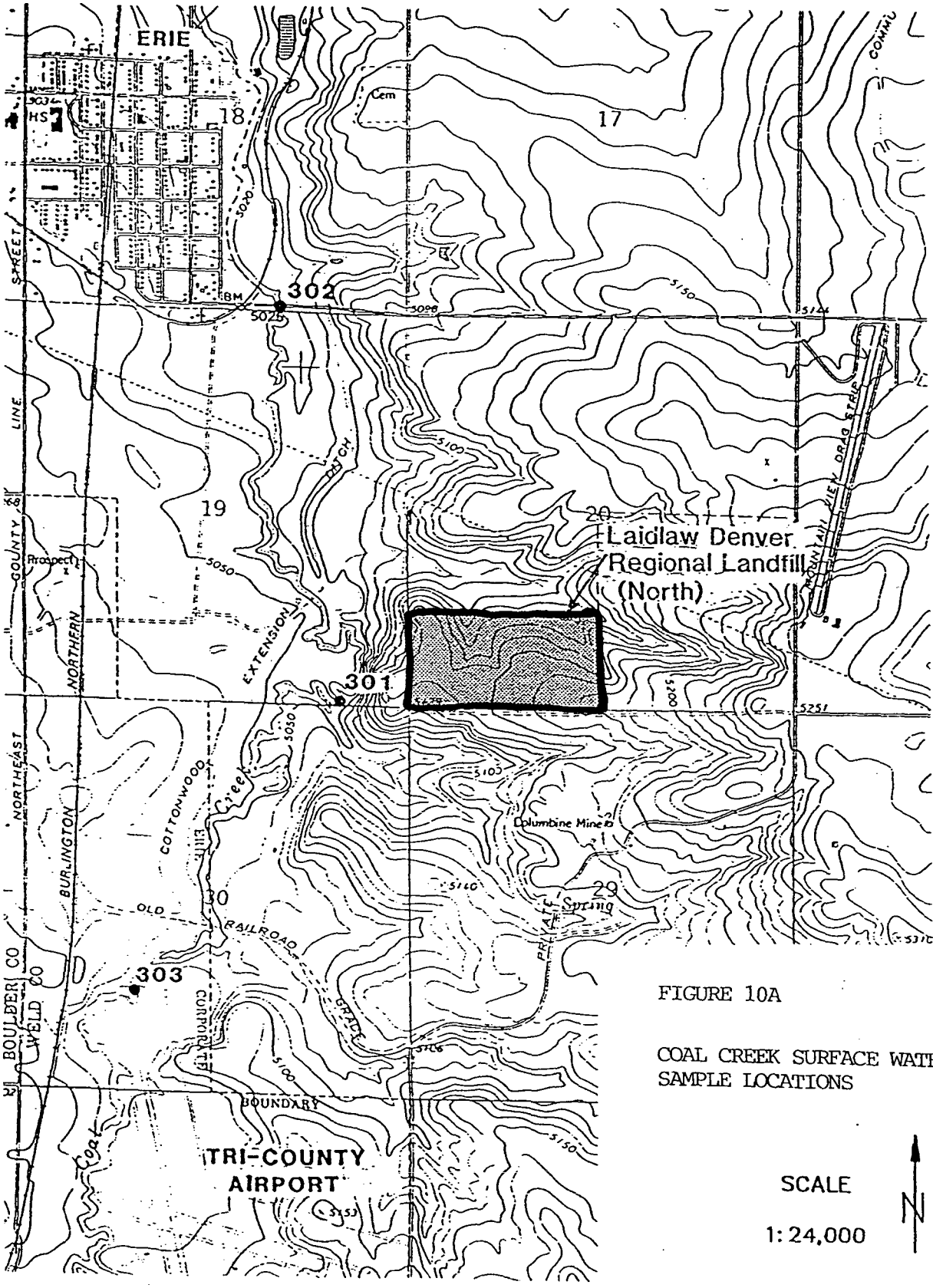


FIGURE 10A

COAL CREEK SURFACE WATER SAMPLE LOCATIONS

SCALE

1:24,000

N

DOTY & ASSOCIATES | 1201-14 | 09/07/90

FIGURE 16

TDS IN SURFACE WATER

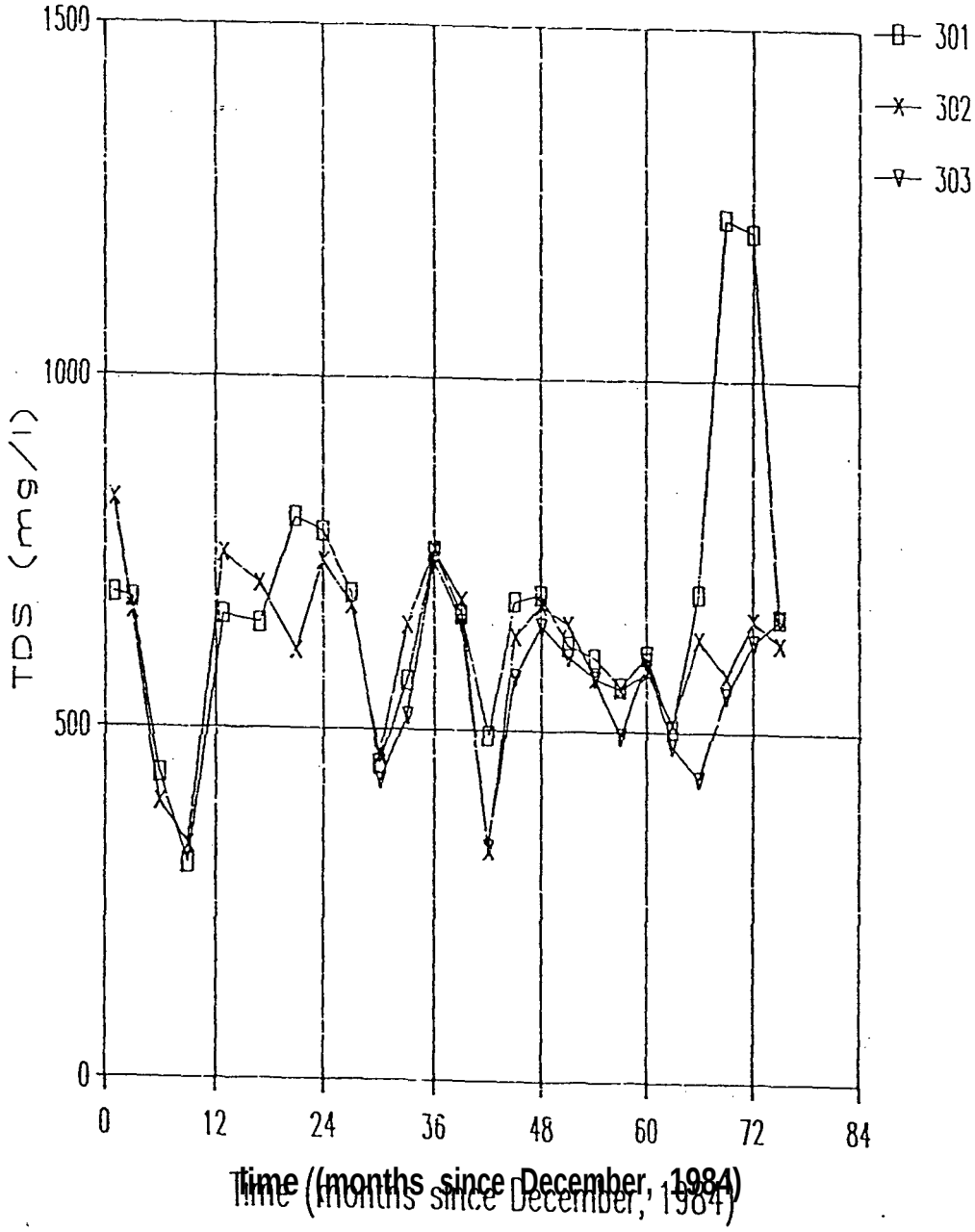
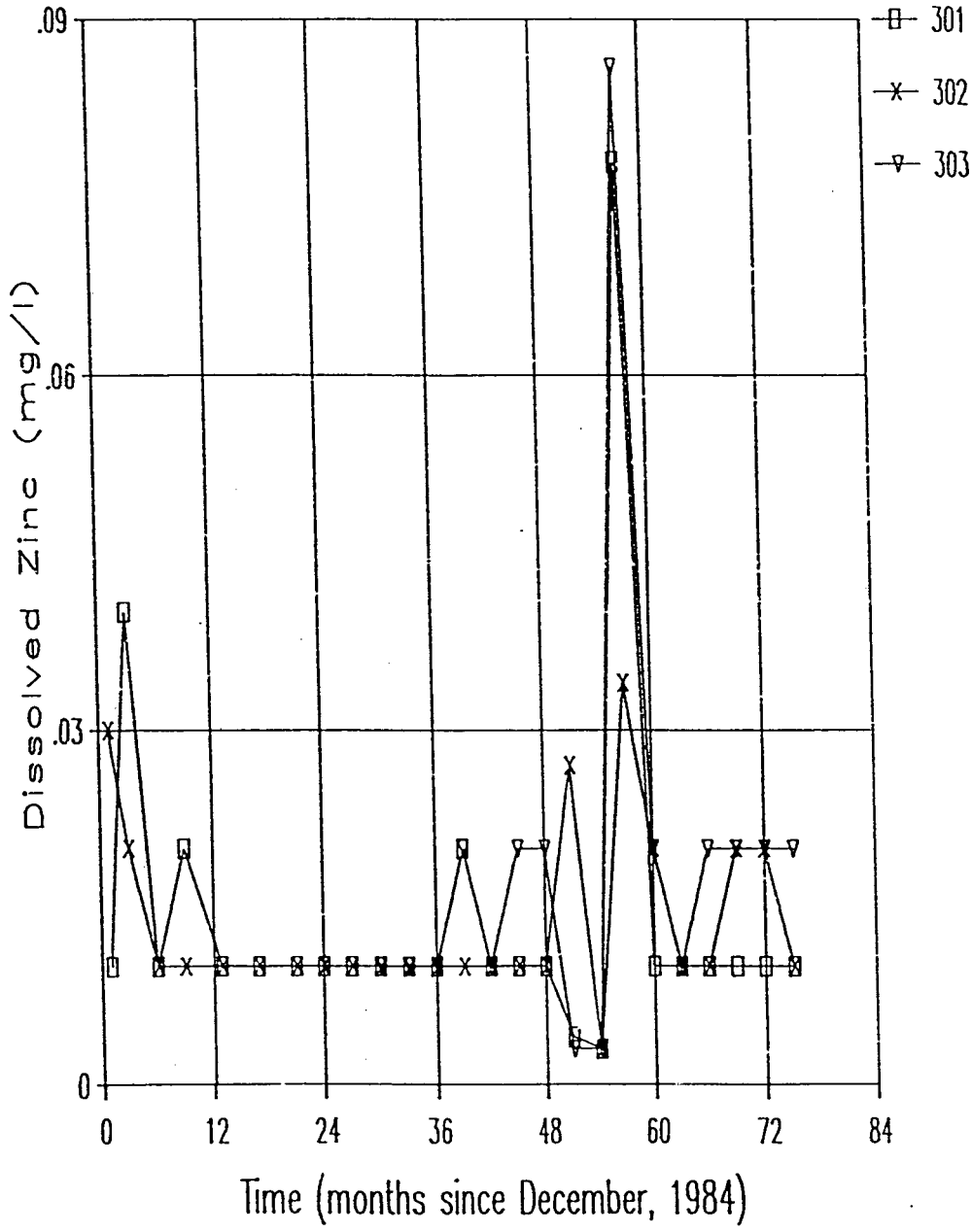


FIGURE 10B
COAL CREEK

DOTY & ASSOCIATES | 1201-177 | 06/16/91

FIGURE 17

ZINC IN SURFACE WATER



DOTY & ASSOCIATES | 1201-17 | 06/16/91

FIGURE 10C
COAL CREEK

FIGURE 18

NITRATE + NITRITE IN SURFACE WATER

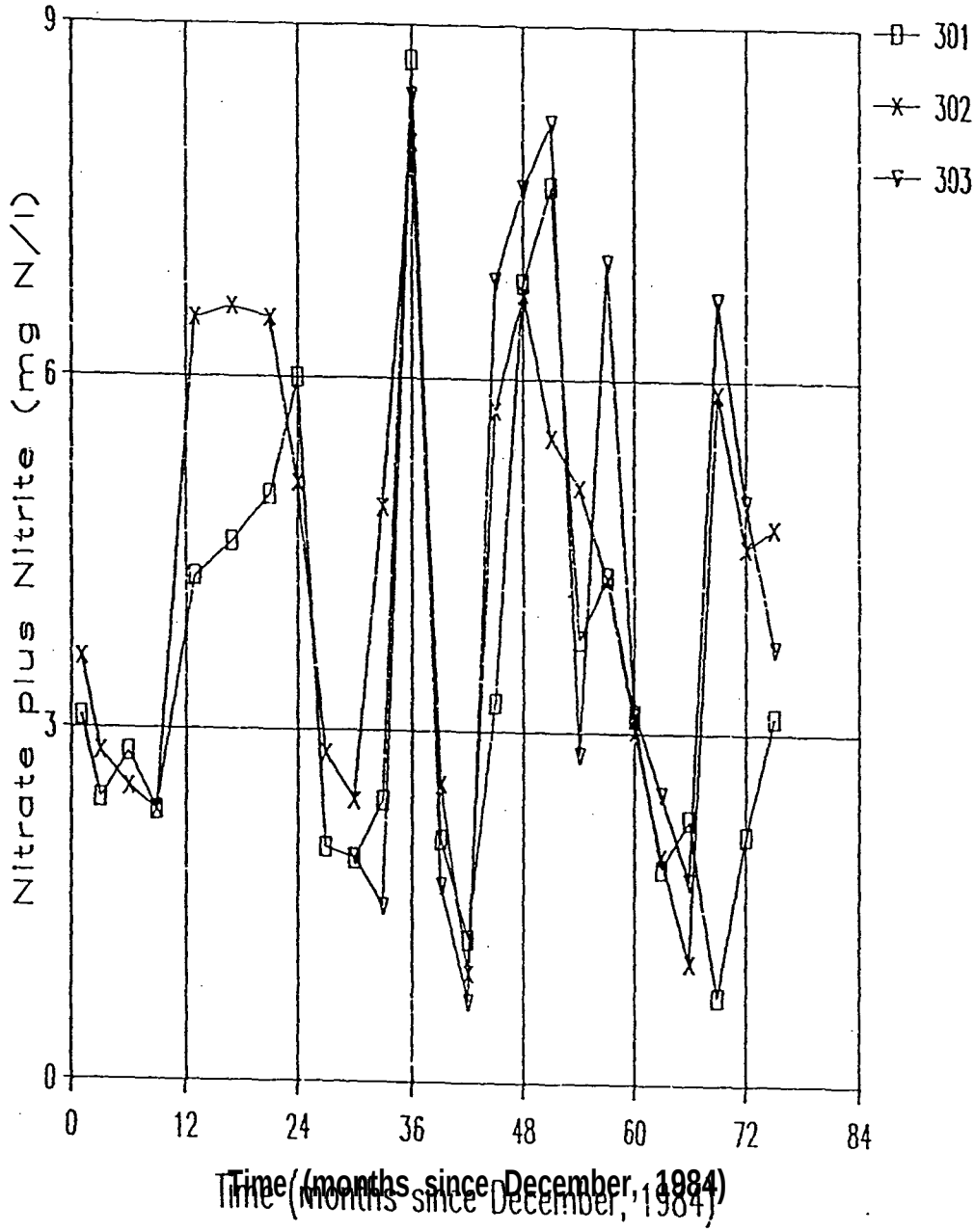


FIGURE 10D
COAL CREEK

DOTTY & ASSOCIATES | 1-201-17 | 06/19/91

FIGURE 19

TOC IN SURFACE WATER

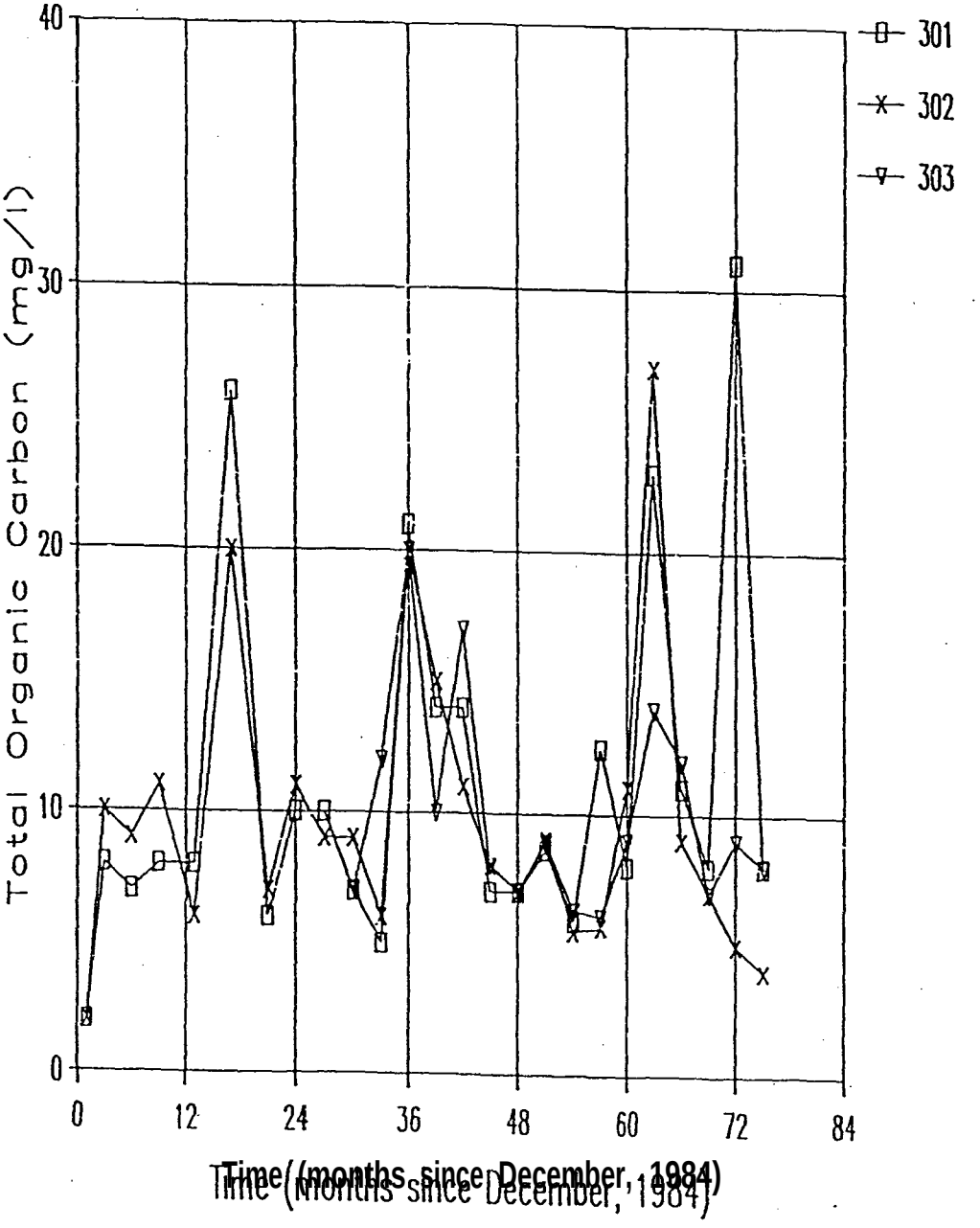


FIGURE 10E
COAL CREEK

DOTY & ASSOCIATES | 1201-17 | 06/16/91

FIGURE 20

TOD INN SURFACE WATER

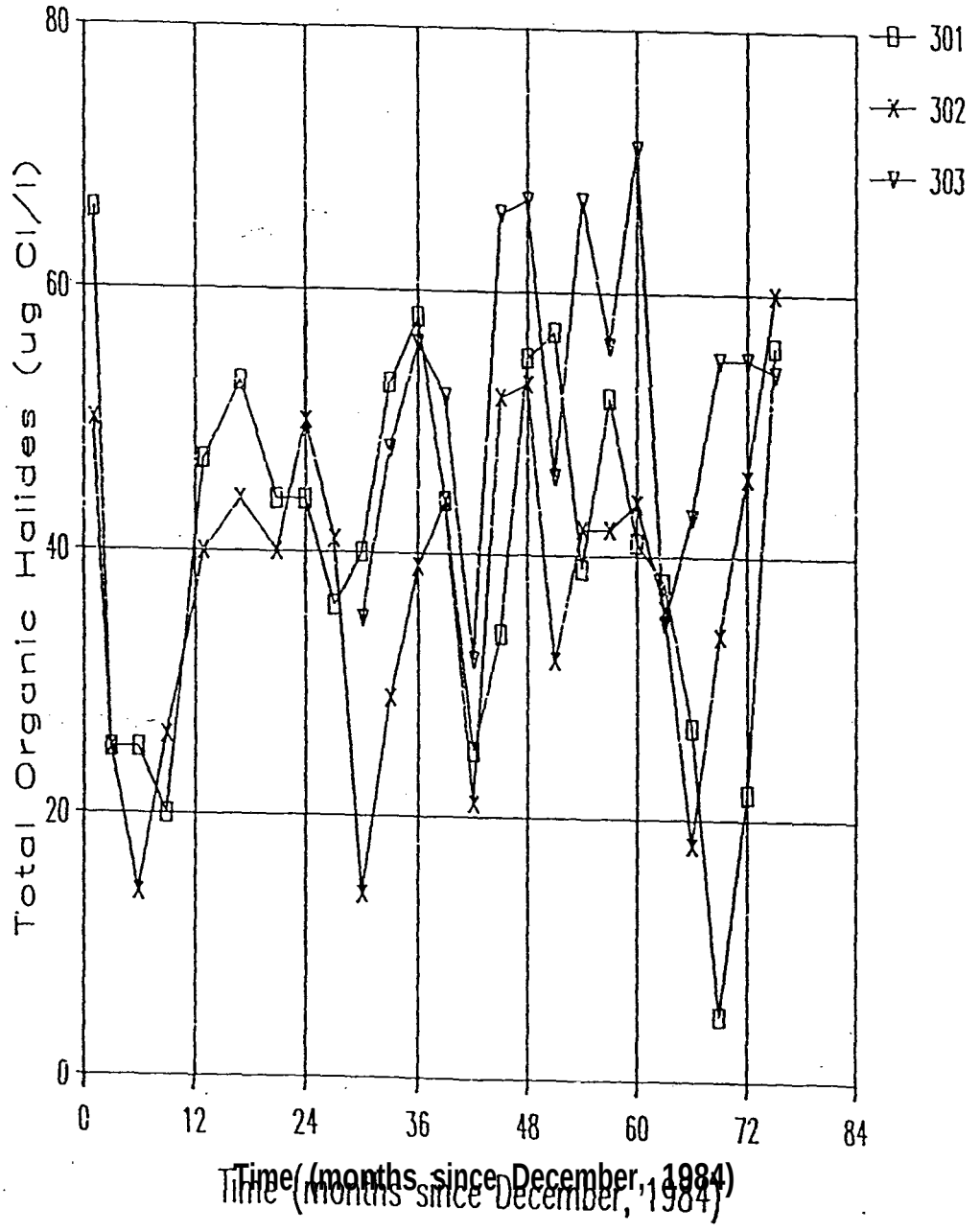


FIGURE 10F
COAL CREEK

DOTY & ASSOCIATES
1201-17
06/16/91

COAL CREEK

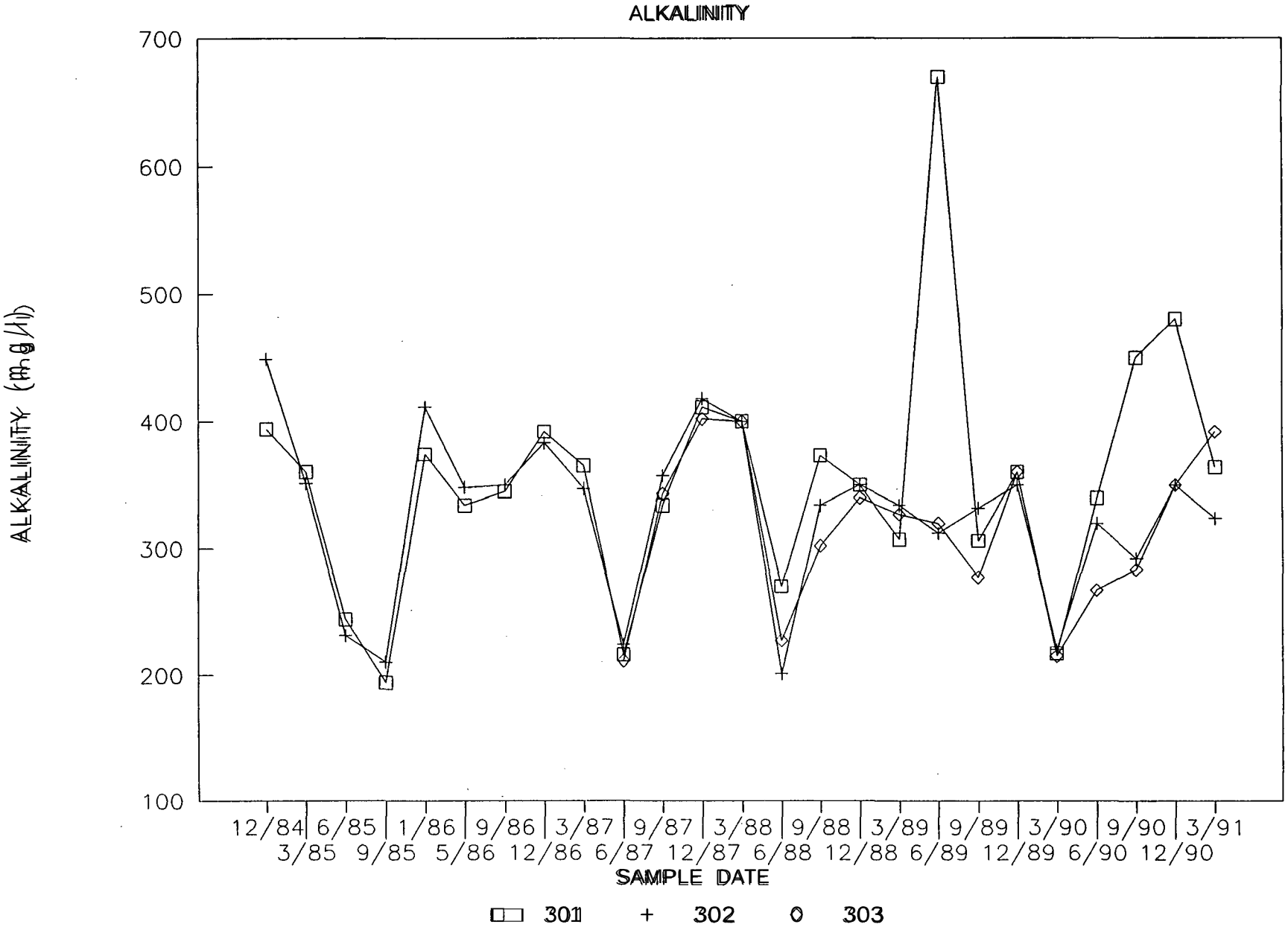


FIGURE 10C

COAL CREEK

CALCIUM

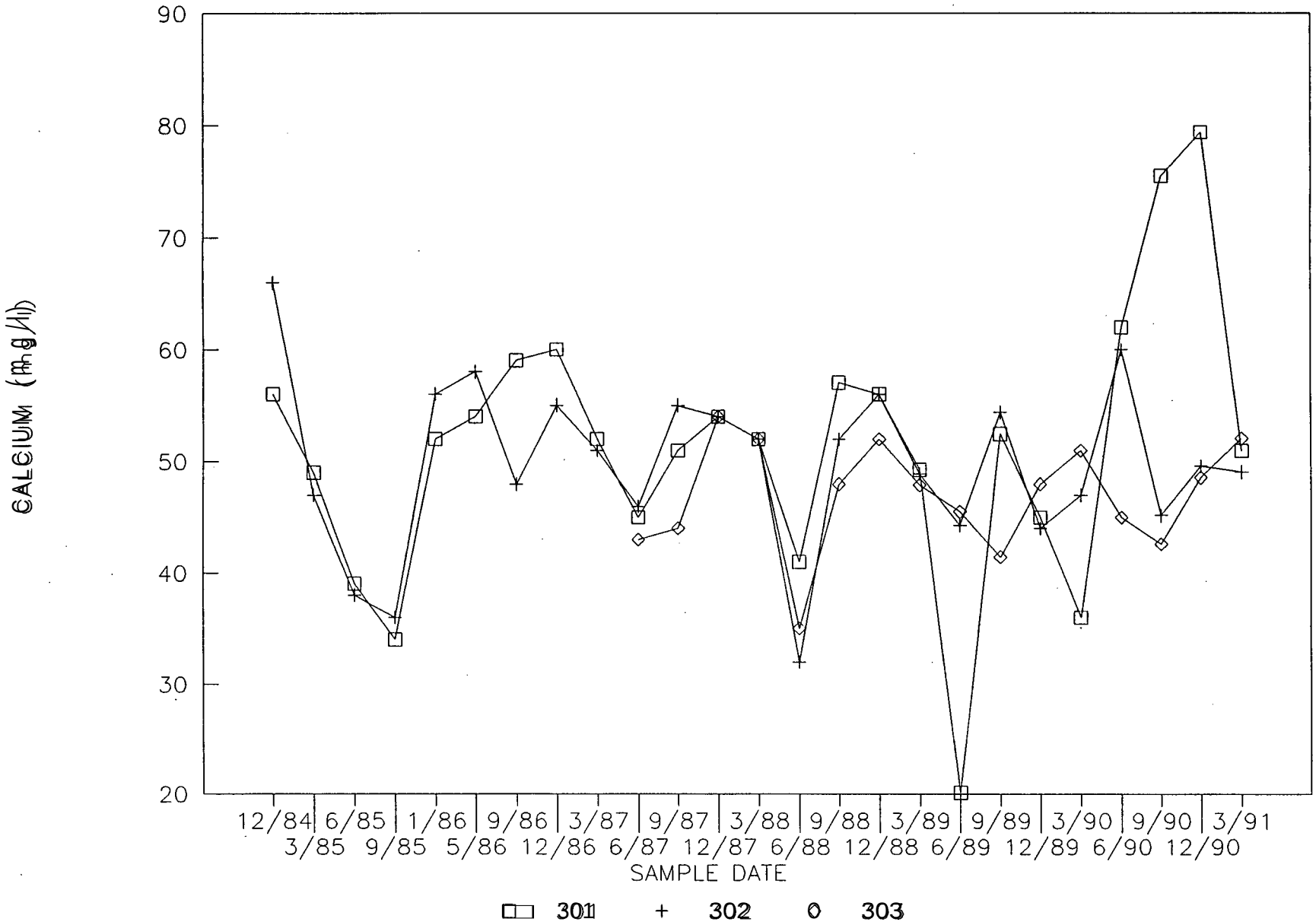


FIGURE 10H

COAL CREEK

CHLORIDE

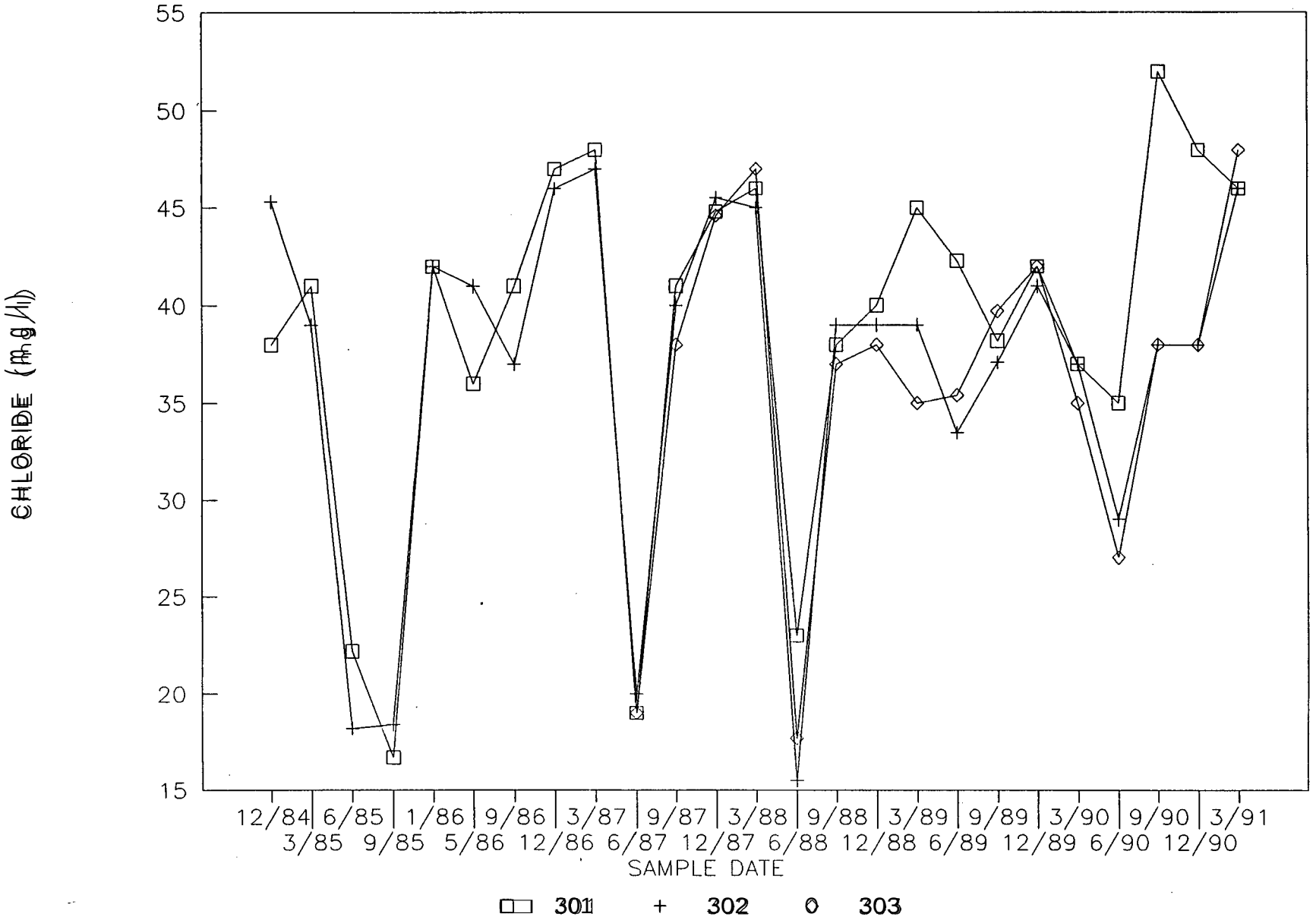


FIGURE 101

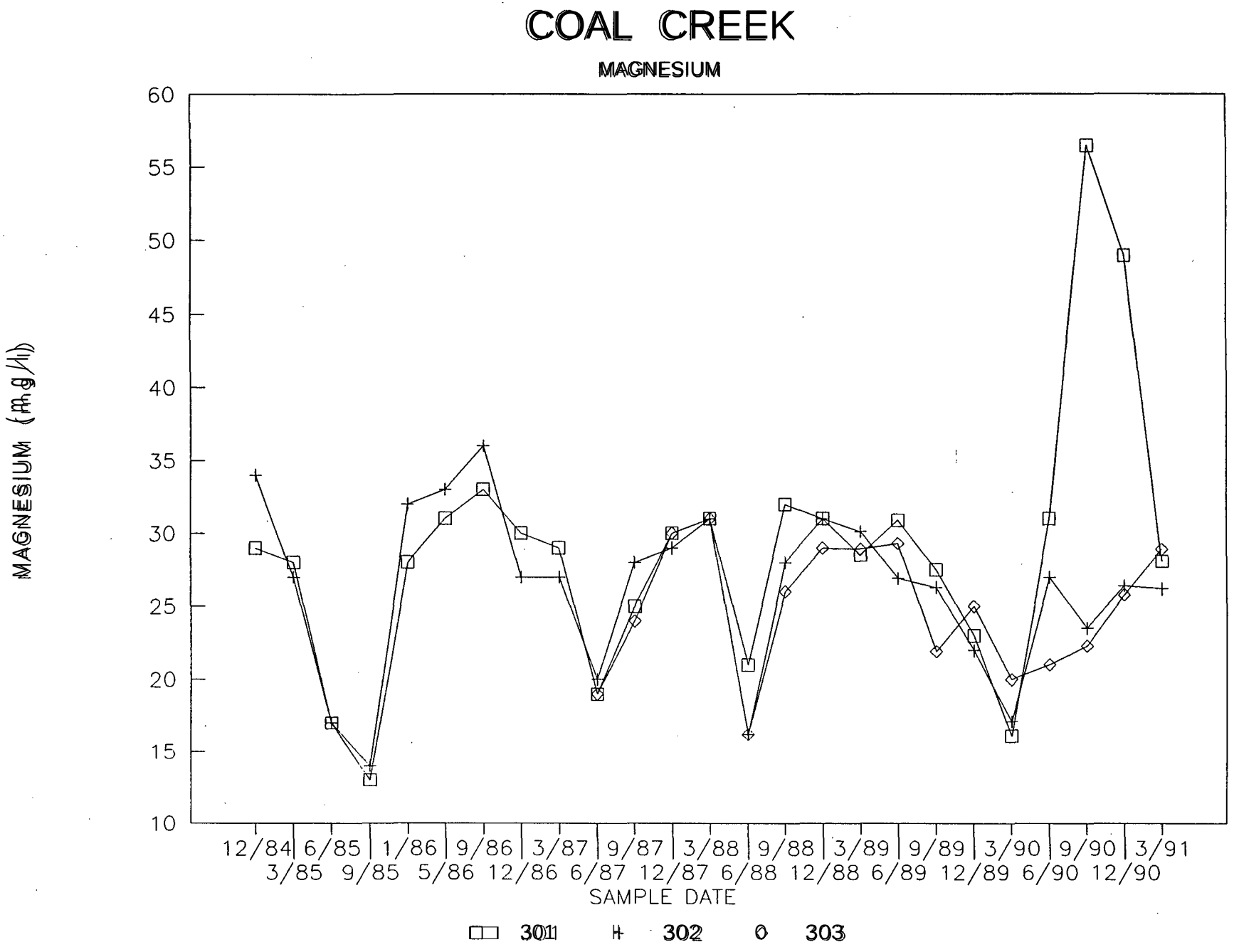

COAL CREEK
MAGNESIUM
MAGNESIUM (mg/l)
60
55
50
45
40
35
30
25
20
15
10
12/84 6/85 1/86 9/86 3/87 9/87 3/88 9/88 3/89 9/89 3/90 9/90 3/91
3/85 9/85 5/86 12/86 6/87 12/87 6/88 12/88 6/89 12/89 6/90 12/90
SAMPLE DATE
301
302
303

FIGURE 10J

COAL CREEK

NITRITE/NITRATE

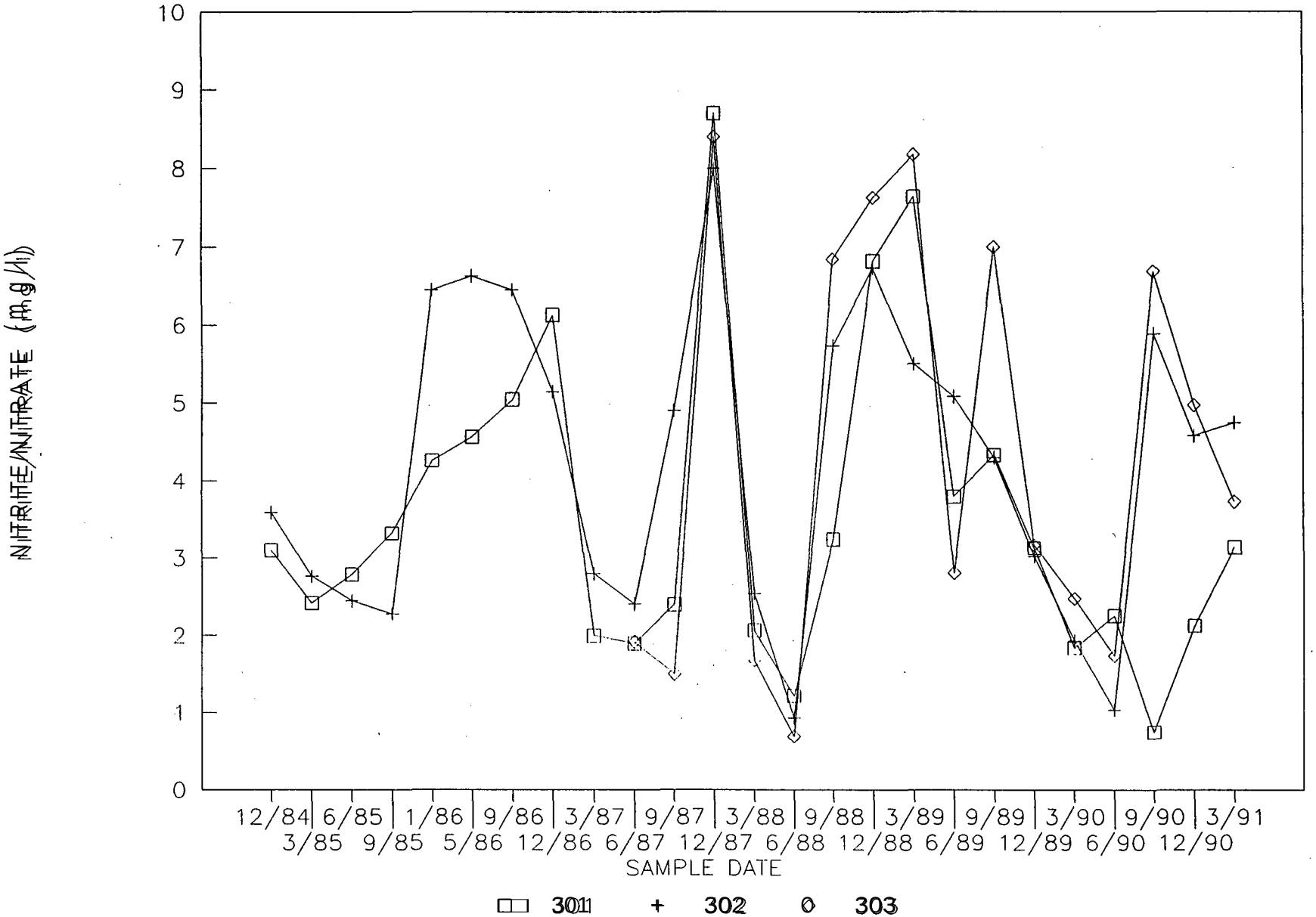


FIGURE 10K

COAL CREEK

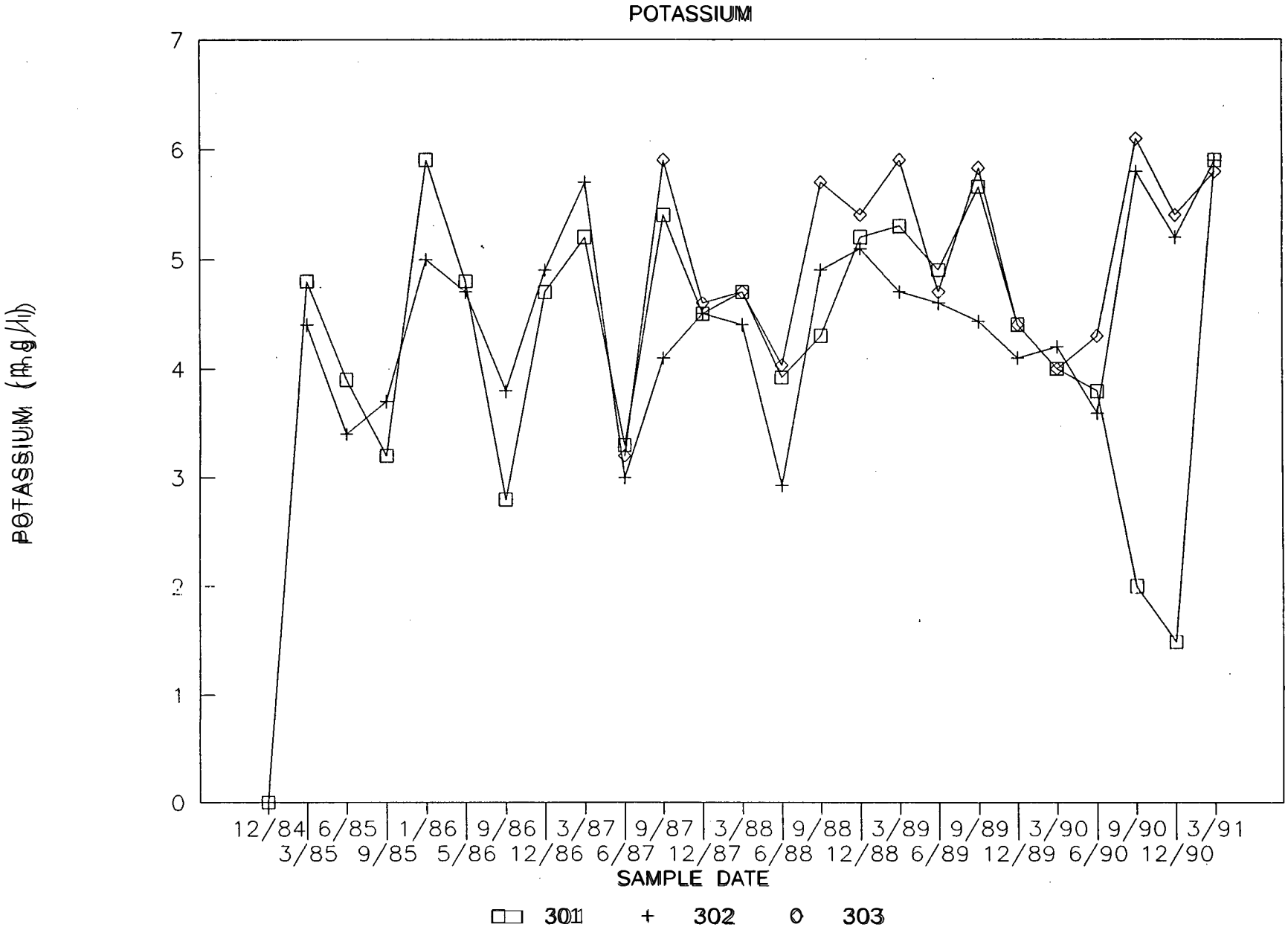


FIGURE 10L

COAL CREEK

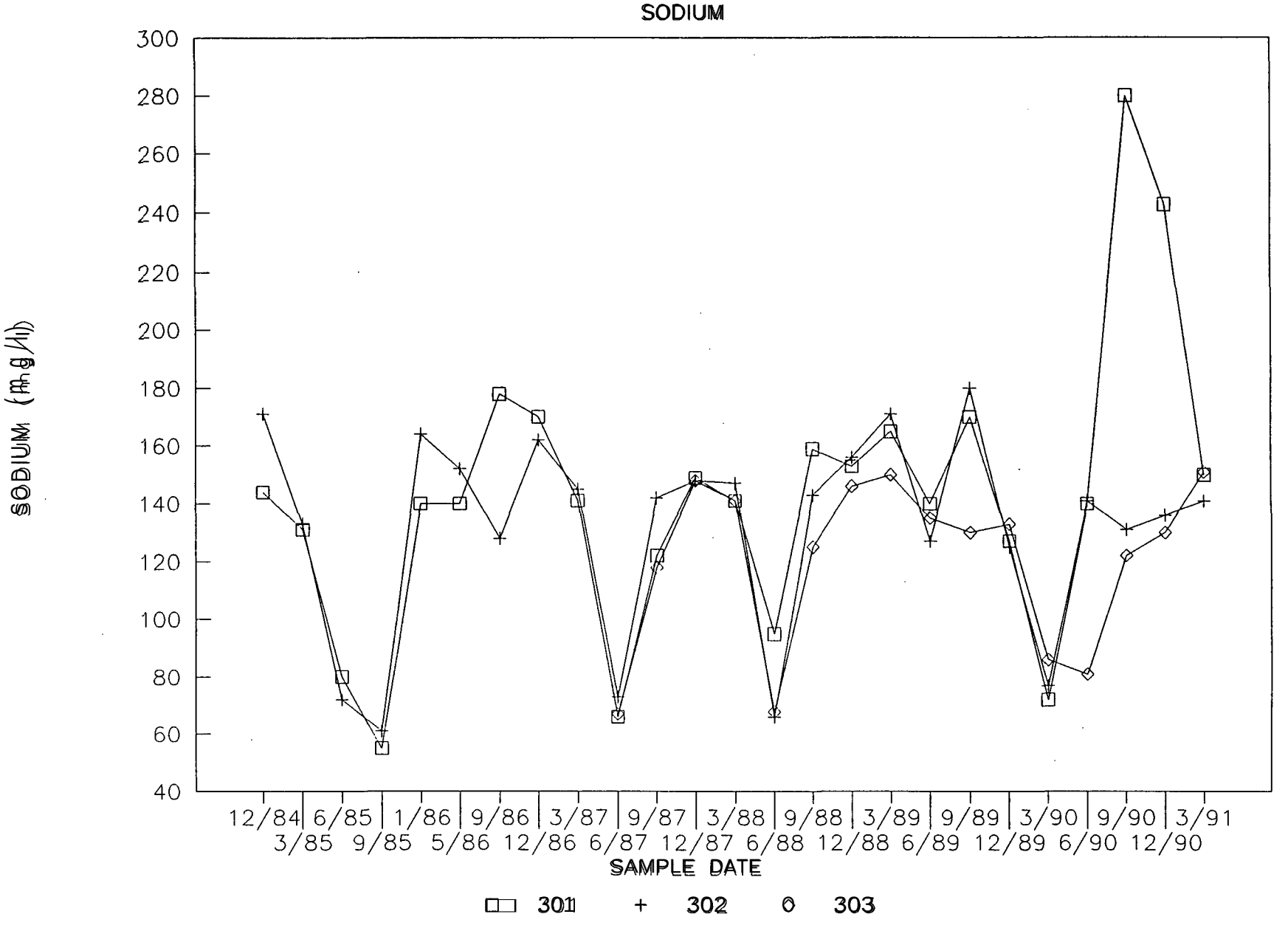


FIGURE 10M

COAL CREEK

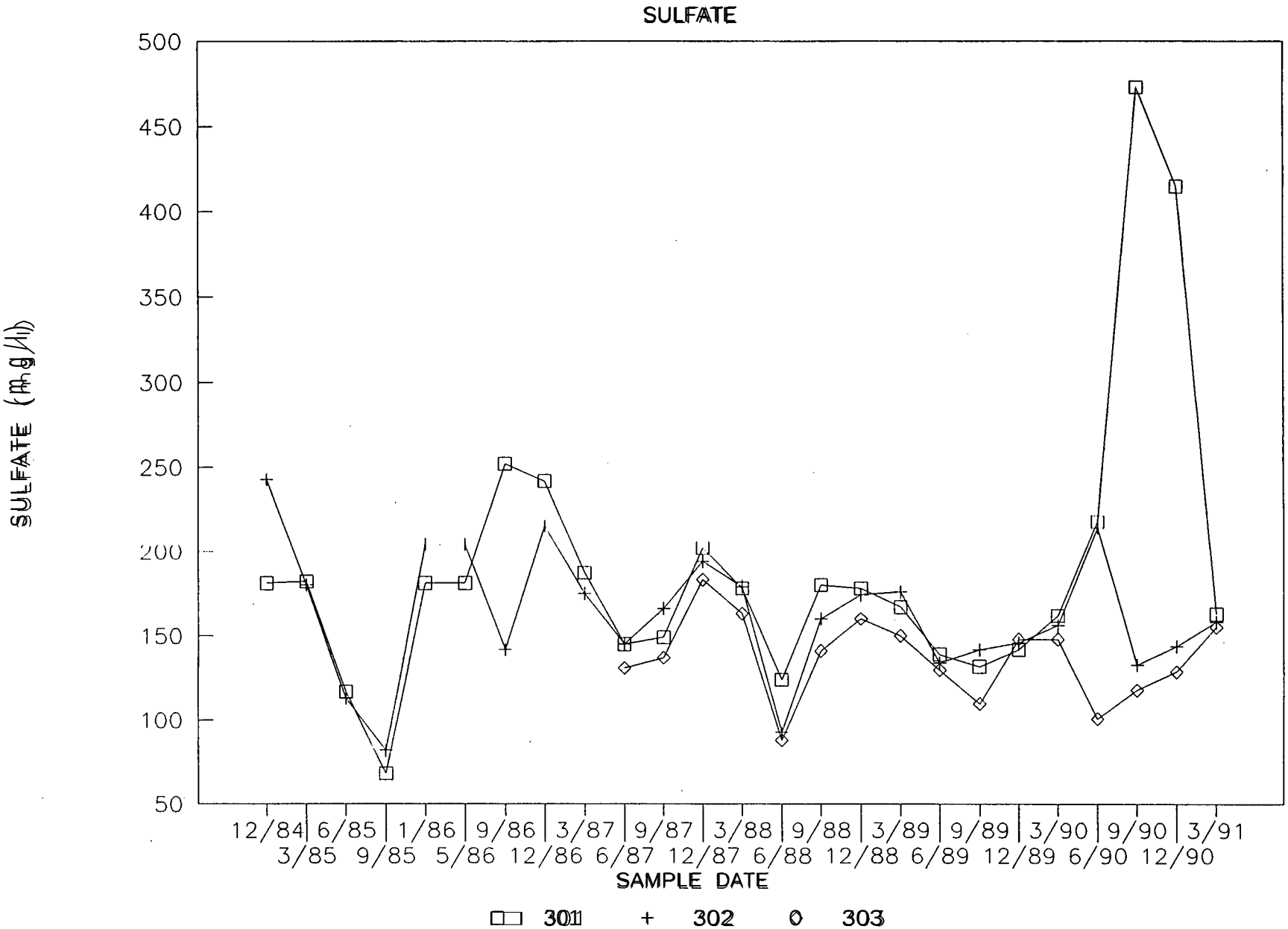


FIGURE 10N

14,000,000 Tons of mill tailings, 2 miles from C. Springs business district will be (have been?) reprocessed for gold.

Filed JAN 09 1981 BATHWM

482148

MILL TAILINGS
CO. SPRINGS
Minerals Yr. bk 1974: vol 2

EL PASO Co.

482148 - R8 SDMS

WELD

Old Erie Landfill
Weld Co. Rd 5 @ intersection w/Co. Rd 6
Co ST. TROOPER, C. Heister, Co. TRAINING INST; Dacono fire chief Joe Fuss

Landfill has operated for at least 10 years; was closed several months ago. Has had several fires, the worst on 12/22/77. 4 alarm fire that went on for 16 hours. Started by methane.

Chief Fuss felt that the major problem with that landfill was the combination of plastic film tape and methane. Once a fire starts, it's virtually impossible to extinguish. In addition, fumes released from the burning film are toxic. He has no widence but he agreed w/Heister that there probably are other toxic chemicals present: eg printing ink, copying chemicals, machining oils, building and grounds maintenance chemicals eg herbicides, insecticides, cleaning compounds etc. Also aerial sprayers usually just dump waste into landfill.

Heister, however has seen IBM trash trucks with ink and solvents in the load.

over →

Sgt. David Holm of Weld Co Sheriff's dept. suspects that 12/77 fire was arson-accelerants were found which were petrochemical in origin but probably not due to oil field dumping incidents. Said he would check into it

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PRELIMINARY ASSESSMENT
COLUMBINE LANDFILL
ERIE, COLORADO
COD 980951735

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DATE SUBMITTED: 11.27.90

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PRELIMINARY ASSESSMENT
COLUMBINE LANDFILL
ERIE, COLORADO
COD 980951735

1.0 INTRODUCTION

The Revised Preliminary Assessment (RPA) of the Columbine Landfill near Erie, Colorado has been prepared to satisfy the requirements as set forth in a cooperative agreement between the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Health, Hazardous Materials and Waste Management Division (CDH). Included in this report are the site history, site characteristics and preliminary pathway analysis. Previous reports include a Preliminary Assessment (PA) and a Site Investigation (SI) performed in June 1984.

The area had been identified as an area of environmental concern and was placed on CERCLIS in 1984. On August 20, 1990 and September 7, 1990, a site visit was conducted at the Laidlaw South Landfill (previously known as the Columbine Landfill) and the surrounding property.

This Revised Preliminary Assessment is the result of a records search conducted at the Colorado Department of Health, the Weld County Department of Planning, the Weld County Commissioners Office, and the Weld County Health Department. Additional data gathering efforts included interviews with Rick Hoffman of Laidlaw Waste Systems, Inc. (the current owners and operators of the CERCLIS site), Kenneth Pratt (property owner of the old Erie Landfill), John Neuhauser (operator of the old Erie Landfill), Brad Kiernes (previous site operator with Colorado Landfill, Inc.), Mrs. Roweder (wife of Ralph Roweder who operated the old Erie Landfill in the late 70's), IBM, Sundstrand Aviation and Browning Ferris, Inc.

2.0 OBJECTIVE

2.1 The objectives of the PA are to:

* characterize potential onsite wastes;
* assess potential for contaminant migration; and
* determine potential impacts to the public health and the environment.

2.2 Previous Work

A Preliminary Assessment (found in Appendix A) of the Columbine Landfill was performed by CDH in June 1984. The PA stated that approximately 1500 drums containing 84,000 gallons of liquid were disposed on the Pratt property. The waste was generated by IBM between 1965 and 1969. The nature of the liquid wastes were suspected as solvents, unspecified organics, inorganics, acids and bases. Contamination to the shallow alluvial ground water was listed as a potential but undocumented environmental impact at the time of the PA.

The Site Investigation report (found in Appendix B) summarized the site history and geology. Surface water and ground water samples were collected. Organic and inorganic analyses were performed. The presence of several compounds found in the SI were discounted either because they were suspected laboratory contaminants or because the compounds were exotic and only tentatively identified. Two compounds identified as being present in the ground water were 1-butene and oxybismethane. The compounds were found at levels of 130 ug/l in GW-1 for 1-butene, 310 ug/l in GW-1 for oxybismethane and 370 ug/l in GW-8 (aka GW-2 in the SI) for oxybismethane. The SI report concluded that:

1.) The landfill is producing leachate based on the specific conductivity;

2.) That some mounding may be occurring thus allowing leachate to migrate offsite and up gradient; and

3.) That further followup work is needed to accurately determine the presence of the organic constituents.

3.0 SITE DESCRIPTION

3.1 Location

The landfill site is located approximately 1 1/4 miles southeast of the town of Erie in Weld County, Colorado. The Columbine Landfill site (now known as Laidlaw South) occupies 160 acres in the E1/2 NW1/4 and W1/2 NE1/4 of Section 29, Township 1 North, Range 68 West. The Old Erie Landfill site (aka the Pratt property) occupies 35 acres in the NE1/4 NE1/4 of Section 29, Township 1 North, Range 68 West. The Laidlaw North site occupies 80 acres in the S1/2 SW1/4 of Section 20, Township 1 North, Range 68 West. The approximate site coordinates are lattitude 40° 01' 40" and longitude 105° 01' 15". To reach the site from I-25, take the Erie exit, go west to Weld City Road #5 and go south one mile. The entrance to the site is at the intersection of Weld County Road #5 & #6 (figure 1 & 2).

3.2 Site History

There has been multiple activities and transfer of ownership on the parcels of land in Section 20 and 29, T1N, R68W. The parcel owned by Pratt has been in the family since 1912. Due to the topographic relief of the draw running from east to west across the site, it was unavailable for farming. To correct this problem the Pratts entered into an agreement with Mr. John F. Neuhauser in 1964 to fill in the drainage in the NE1/4 NE1/4 Section 29, T1N, R68W so that the area would eventually be level enough to farm. Neuhauser with Mr. Carl Smith (both employed by Sundstrand Aviation) formed a company called Sanitation Engineering, Inc. They hauled solid waste from nearby communities. (Record keeping during the late 1960's until the late 1970's was very poor. Much of the following discussion is based on interviews.) Sanitation Engineering had apparently obtained a contract with I.B.M.-Boulder and Sundstrand Aviation to dispose of a portion of their waste stream. The landfill, which may have been known as the Erie Landfill, accepted industrial and chemical wastes in addition to regular municipal solid wastes. The site was not fenced and was a continual source of complaints from the landowner.

IBM reported to the EPA an estimate of the amount and type of waste they had disposed of at the Erie Landfill between 1965 to June 1969. The EPA Notification is shown in figure 3. IBM estimated that 84,000 gallons of chemical waste contained in 1500 55 gallon drums were disposed. The chemical waste types were organics, inorganics, solvents, acids and bases. A summary from a 1983 RCRA application (waste characterization and information) and a 1987 SARA Title III report is found in Appendix C. The chemicals typical of IBM manufacturing include No. 1, No. 2 and No. 6 fuel oil, liquid nitrogen, methyl ethyl ketone, trichlorofluoroethanol, 1,1,1-trichloroethane, toluene, tetrahydrofuran, methylene chloride, n-butylamine, ethylene diamine, ammonia and sulfuric acid.

The earliest document on file regarding the Neuhauser site is dated August 9, 1966 (figure 4). A routine Boulder County inspection noted that two pits were dug for the disposition of some type of chemicals. In a third pit, it appeared that chemicals were being burned. Mr. Neuhauser reported that Sundstrand brought torpedo propellant to the site in tanker trucks. The propellant may have been a variation of diethylene glycol dinitrate. The propellant was pumped from the tanker into a pit lined with a metal container. The propellant filled pit was then ignited as a method of disposal. On September 29, 1966 an inspection was performed by a CDH representative. The report noted that chemical wastes were being discharged in designated areas and cover material was being supplied from an excavation designed to divert natural drainage around refuse fill rather than through the fill. In addition, Mr. Neuhauser commented at the time of the inspection, that operational improvements were delayed pending the outcome of the recent court decision. This court decision that he may be referring to is the Public Utilities Commission (PUC) hearing regarding poor disposal practices at the old Erie Landfill. It is known, via IBM conversations, that Neuhauser was brought before the PUC for his disposal operations. A transcript of this hearing seems to be unavailable. IBM does not have a copy and the PUC purges their documents every two years. The exact date of the hearing is unknown. However, as a result of the PUC decision, IBM terminated their contract for disposal with Neuhauser in June 1969.

On July 17, 1968, the Erie Landfill received a Certificate of Designation (CD) issued to John F. Neuhauser by the Weld Board of County Commissioners (figure 5). An Air Pollution Control Division memo dated July 31, 1968 stated that an uncontrolled chemical fire occurred on July 26, 1968 at the Neuhauser dump located just inside Weld County in the southwestern corner (figure 6). Approximately 3000 gallons of waste chemicals had burned. Adjacent to the area,

where the chemical fire occurred, was an open burning dump face that appeared to have been burning for quite some time. During conversations at the time of the incident, Mr. Neuhauser revealed that the waste chemicals were from the IBM plant in Boulder County and the Sundstrand Manufacturing complex in Adams County. The site inspector recalled that Mr. Neuhauser had at one time operated a dump site in Boulder County which closed down for contaminating ground water and operating an uncontrolled dump. On October 30, 1968 the CD was suspended by Weld County for 33 days but was held in abeyance for a 6 month probation period (figure 7). Mr. Neuhasuser sold his share of Sanitation Engineering to his partner Carl Smith in late 1968.

There is no information found regarding activities at the Erie Landfill between 1969 and 1973. By this time Weld County had all of the county landfills contracted out to a single operator. According to Mrs. Barbara Roweder, Ralph (her husband) worked for BFI as supervisor starting sometime around 1973/1974. BFI probably operated the Erie Landfill and perhaps all of the Weld County Landfills prior to Ralph's employment.

During the mid to late 70's, CDH inspected the landfill several times. A CDH inspection dated 06/02/75 states oil-water waste should be sprayed onto or worked into the existing landfill face (figure 8). Two CDH inspections in February and April 1976 stated that approximately 1500 gallons per week of oil and water waste was deposited at the base of the landfill (figure 9 & 10). In October 1976, Ralph Roweder purchased BFI's contract to operate the Weld County Landfills. In a memo from the Dacona Fire Department (dated February 7, 1978), the Fire Chief expresses his concern with the frequent fires at the Erie Landfill requiring 10,000 to 100,000 gallons of water to extinquish (figure 11). There is no other information on file regarding site operations until January 1979 when Ralph Roweder died. Mrs. Barbara Roweder prepared to sell the contract to operate the Weld County Landfills. Lynn Kiernes (owner of Colorado Landfill, Inc.) purchased the contract sometime in 1979.

The Weld County Commissioners revoked the CD by resolution for the Erie Landfill on June 6, 1979 (figure 12). Colorado Landfill, Inc. was not interested in operating the old Erie Landfill site. Therefore, the abandoned Erie Landfill was never properly closed and sat open from 1979 until 1983. Mr. Lynn Kiernes decided to purchase the Columbine Mine site adjacent to the Pratt property and operate it as a sanitary landfill. The Rocky Mountain Fuel Company owned both the surface and mineral rights of the 160 acres (immediately west of the old Erie Landfill) within E1/2 NW1/4 and W1/2 NE1/4 Section 29, T1N, R68W. This area was known as the Columbine Mine No. 1 which operated from 1920-1946. In the subsurface, the mine occupied nearly all of Section 29 and much of the south half of Section 20. In June 1979, the surface rights were sold to Colorado Landfill, Inc. while Rocky Mountain Fuel retained the mineral rights.

Colorado Landfill, Inc. applied for and received a CD in 1979 to operate a sanitary landfill (accepting municipal solid wastes only) on the Columbine Mine site and which was called the Columbine Landfill. The Kiernes planned for continued disposal into the draw that ran from east to west across the site. The new operations plan called for a 6" scarified and recompacted clay liner and a ground water monitoring plan.

A CDH inspection dated 11/17/81 stated that oil and grease was within the soil at the northeast end of the site and ponded sludge was found (figure 13). Approximately 500 gallons per week of car wash and grease trap wastes were disposed of at the site. In a 09/27/82 inspection (figure 14), 6000-9000 gpd of sand and grease trap waste sludges (at 1% solids) were being spread at the landfill site for 6-8 weeks. In 09/01/82, the Colorado Landfill,

Inc. requested permission to fill and cover the old Erie Landfill. The request was granted by Weld County on May 4, 1983. On May 24, 1983, a CDH memo stated that an independent laboratory found the disposed sand trap wastes to be cyanide bearing and containing potentially EP toxic concentrations of metals (figure 15). Discharge off-site from the Columbine Landfill was observed from a pond at the west end of the site in a May 25, 1983 inspection (figure 16). The dark to black liquid discharge had a pH of 5.8 and a field conductivity of 2100 umhos. The old fill area (the Erie Landfill) had exposed trash as stated in 07/28/83 inspection (figure 17). The Weld County Sheriff's Office conducted an investigation into the alledged disposal activities at the old Erie Landfill on 09/29/83 (Appendix D). The research turned up several polaroids (dated 12/27/68 and 02/06/69) depicting black colored 55 gallon drums. Some of the drums had the tops bulging and burning. Other drums (that were not burning) had bulging tops from apparent internal pressure. A few of the black drums had the word "PROTEX" stenciled on the sides.

On December 3, 1985, Columbine Landfill was purchased by Western Disposal. A new operations plan was developed which included closing the old Erie Landfill site. Laidlaw Waste Systems, Inc. purchased the Columbine Landfill in January 1988 from Western Disposal, Inc. The property became know as Laidlaw South. Laidlaw developed a closure and post-closure maintenance plan for the old Erie Landfill. By this time the draw through the landfill site had been completely filled.

Daniel Horst (of Landfill Systems) developed an operations plan to site a landfill to the north of Columbine Landfill in S1/2 SW1/4 Section 20, T1N, R68W. The 80 acre Horst site, accepting only municipal solid waste, was annexed by the town of Erie on November 8, 1984. The Horst property was sold to a company called GSX on August 18, 1986. In November 1986, the GSX Corporation was purchased by Laidlaw. This property became known as Laidlaw North.

On the north side of the Laidlaw North property, the soil wells 103A & 103B were drilled to a depth of 20' in 12/84 and 3/88 respectively. Well 103A did not have enough water to sample until 12/87, when it found high concentrations of volatile organics. Contaminants now found in both 103A & 103B include 1,1-dichloroethane, methylene chloride, tetrachloroethene, 1,1,1-trichloroethane, chloroethane, chloroform and trichlorofluoromethane (figure 18).

3.3 Site Characteristics

Geology

The site is on the northwestern flank of the Denver Basin, a large structural basin that contains important bedrock ground water resources.

The soils on the site are comprised of calcareous silt, with some clay and very fine sands. The soil deposits were formed by wind desposition, by stream deposition and by weathering of the bedrock. Soil color ranges from light brown to brownish-grey and soil thickness ranges from approximately 2 to 21 feet. Variations in soil thickness are related to irregular bedrock and land surfaces.

At the soil/bedrock interface, the bedrock is typically highly weathered with iron-stain mottling, fracturing and occasionally bearing perched water. Bedrock is exposed along the eastern edge of the Coal Creek drainage west of the site. Within the site boundaries, bedrock occurs at depths of 2 to 21 feet below the ground surface. The irregular bedrock surface somewhat parallels the surface topography and is probably produced by differential

weathering of the bedrock.

The Laramie Formation, which immediately underlies the site, is typically divided into upper and lower lithologic units. The upper unit is a buff to dark-gray, organic claystone with interbedded sands. Numerous coal seams in this interval were mined in the early 1900's to provide heating coal to the cities along the Front Range. The lower unit of the Laramie Formation consists of thin to massive beds of fine-grained, moderate to well-cemented sandstone and a buff to dark carbonaceous claystone. This lower unit has been further broken into the A and B sandstone units. The sandstones units occur at depths of 350 to 400 feet in the vicinity of the site and comprise the upper part of the Laramie-Fox Hills aquifer.

The coals of the Laramie Formation have been extensively mined in the area by the Columbine Mine No. 1 (figure 19). Overburden thickness above the mine ranges from a minimum of 150' to a maximum of 400' (figure 20) with the probable extracted coal seam thickness ranging from 0' to 15' (figure 21). The mine was operated by the room and pillar extraction method. After the coal seams were exhausted, the pillars were typically removed. Figure 22 shows areas where pillars were removed and where they remain. Figure 23 shows subsidence hazards. The area has never been evaluated to determine past or future subsidence potential.

The Fox Hills Sandstone is beneath the Laramie Formation. The upper unit, the Milliken Sandstone is composed of fine to medium-grained, parallel, thick bedded sandstone, thin siltstone and shale interbeds. The unit ranges in thickness from 40 to 90 feet. The Milliken Sandstone and the overlying A and B sands of the Laramie Formation comprise the Laramie-Fox Hills aquifer, an important source of water through out the Denver Basin. The over-lying aquifers of the Dawson Arkose, Denver and Arapahoe have been eroded away in the vicinity of the site. The Pierre Shale beneath the Fox Hills Sandstone, consists of a 7000 to 8000 foot thick sequence of gray to brown, clayey marine shales.

The site lies in a structurally complex area. The bedrock has been highly distorted through both folding and faulting, with faults that generally align in a northeasterly direction (figure 24). There is no surface expression of these faults and there is no evidence of recent movement on any faults during the Holocene in the area. Regionally the bedrock dips one degree to the southeast. However, local structural deformations may cause appreciable variation.

Hydrogeology

Data published indicate that the direction of ground water flow in the Laramie-Fox Hills aquifer is to the east-southeast. Ground water is generally produced from the sandstone units at depths of 350 to 400 feet. The potentiometric surface is approximately 200 to 270 feet below land surface, indicating that the aquifer is under confined conditions. Wells tapping the Laramie-Fox Hills aquifer are shown in figure 25 and well permits are found in Appendix E.

The exploratory drilling programs have identified two shallow ground water systems at the site. The shallowest (or alluvial) ground water system is associated with the alluvial and colluvial soil materials in the topographic drainages. In a typical system, the alluvial ground water would move down the west sloping drainage, with a velocity related to the gradient, permeability and storativity of the materials. Recharge to the alluvial ground water system occurs by direct infiltration of snowmelt and rainfall in topographically elevated areas. The saturated thickness of the shallow system is generally less than 5 feet

and is perched at approximately 10'-20' below the ground surface and above the bedrock. Because the old Erie Landfill remained open essentially from 1965 to 1983, shallow ground water mounding is a possibility. If this is the case, the water table elevation could rise within the landfill therefore reversing a component of flow from west to east.

The deeper ground water system found at the site is in a saturated bedrock unit consisting of siltstone, sandstone and coal units. The depth to saturated bedrock ranges from 21 to greater than 82 feet. Bedrock immediately above and below the saturated unit is dry. The lateral extent of the system is unknown but possibly occurs under much of the site. The perched ground water flow is to the northwest at a gradient of approximately 0.05 ft/ft. The recharge area for the shallow bedrock ground water system probably does not occur at the site as indicated by the presence of dry bedrock above this zone.

Because of the large difference in the potentiometric elevation between the shallow bedrock ground water systems and the Laramie-Fox Hills aquifer, the low hydraulic conductivity of the upper Laramie claystones, and the unsaturated bedrock beneath the perched bedrock system, it is concluded that the perched and regional ground-water systems are not hydraulically connected.

Hydrology

The site is on a topographically west-facing slope with total relief across the site at approximately 155 feet. Flat areas, located between the draws, are farmed. Two well developed drainages, with an east-west trend, cross Section 29. The drainage that bisects the landfill area is referred to here as the middle draw, the drainage to the south of the landfill is referred to as the south draw and the drainage to the north (Section 20) of the Columbine Landfill is referred to as the north draw (since these drainages are currently unnamed, see figure 2).

The middle and south draw are well developed and are incised 5 feet on the east end of Section 29 to as much as 20 feet farther west. Due to the depth of the drainage channel, farming was never possible across these draws. The north draw is far less developed and from old aerial photographs, farming was possible across some portions of the drainage.

The middle and south draw join just west of Section 29 in Section 30. At that confluence, the draws are bermed and water ponds behind it. Downgradient of the berm, the draw bed is dry and there is no discharge to Coal Creek. The south draw, as it runs west through Section 29, is bermed in four places (photos 1 - 4). Behind each berm, water is ponded and wetlands type vegetation grows there. A seep is shown on the topographic map in the south draw. It is unknown if the middle draw was ever bermed. However, interviews with those knowledgeable of the site indicate that there were some berms with ponding behind them. The north draw is not bermed and it is generally dry except during storm events.

Coal Creek is the only perennial stream within two miles of the site. It is located approximately 1000 feet from the western site boundary and is 50 to 120 feet below the ground elevation of the site. Surface water conditions in Coal Creek have been monitored upstream and downstream routinely by Laidlaw Wastes Systems. Coal Creek flow rates which have been visually estimated, range from 5 cfs to 25 cfs. Generally, the highest flows appear to occur in September and the lowest flows in January. This is somewhat inconsistent with the behavior of Front Range streams which generally have peak flows during snowmelt (April through June). This difference may be due to diversions upstream.

Total dissolved solids (TDS) in Coal Creek have ranged from about 300 to 800 milligrams per liter (mg/1). Copper, iron, manganese, and zinc concentrations are routinely at or below their detection limits of 0.01 and 0.05 mg/1. Strontium concentrations are somewhat higher at about 0.5 mg/1. Laidlaw reports that this appears to be a natural condition and does not reflect an impact from the landfill operation. Nitrate/nitrite in samples from Coal Creek have varied from about 2 to about 6.5 mg/1. Total organic carbon (TOC) concentrations have consistently been in the range of 7 to 10 mg/1. Samples were collected from Coal Creek in June 1987 for analysis of the EPA priority pollutant list. The EPA priority pollutants were not found in any of the samples.

On average, water quality is equivalent at the upstream and downstream monitoring stations. There is no indication of degraded surface water quality in Coal Creek from the landfill operation to date.

4.0 PRELIMINARY PATHWAY ANALYSIS

4.1 Waste Characterization

The old Erie Landfill received industrial and chemical waste. Mr. Neuhauser mentions in the July 31, 1968 memo (figure 5) that waste chemicals from the IBM plant in Boulder County and the Sundstrand manufacturing complex in Adams County were disposed at the site. Aside from the estimated IBM waste of 1500 55 gallon drums disposed of at the site, it is unknown how much of each waste type was actually placed at the landfill between 1965 and 1979. Since the landfill was a small, and basically local landfill serving the nearby communities (such as Erie, Firestone, Frederick, Dacona, Lafayette, Louisville and farm operations in the area), it can be assumed that total municipal solid waste volume was relatively small.

In 1982, Colorado Landfill, Inc. requested to fill in and place final cover on the Erie Landfill site. The volume of waste on the Pratt property after it had been finally closed is approximately 400,000 cubic yards (cy). The final elevation of the property was planned at approximately 25 feet above the undisturbed topography. As of January 1990, Laidlaw South (including the old Erie Landfill) has 2,900,000 cy of solid waste in place and Laidlaw North has 5,800,000 cy of solid waste in place. The estimated total waste volume that will be disposed by the time of final closure will be 14,200,000 cy for Laidlaw South at a final elevation of 5240' and 7,300,000 cy for Laidlaw North at a final elevation of 5280'.

Mr. Neuhauser worked at the Sundstrand Aviation Corporation at 2480 West 70th Street from approximately 1960 until 1969 as an industrial engineer and a property coordinator. Mr. Carl Smith (also of Sundstrand and manager of contractor activities) with Neuhauser operated a company called Sanitation Engineering, Inc. in the 1960's. They were able to obtain contracts with IBM and Sundstrand to dispose of industrial and chemical wastes. Sanitation Engineering kept containers at the IBM-Boulder plant to collect their solid and industrial wastes. In addition, Sanitation Engineering was responsible for transporting the IBM waste to the landfill site. Neuhauser recalls that the IBM chemical waste disposed at the landfill site was primarily barrels of waste methyl ethyl ketone.

The wastes disposed by IBM were generally listed in the EPA notification form. Assuming that processes and wastes were similar to those stated in more recent documents. The possible process wastes that could have been disposed at the Erie Landfill by IBM (found in a 1983 Generator Report) are:

1) Waste magnetic coating solution used to make magnetic tape products;
2) Waste corrosives, acids and caustics used in plating and cleaning processes;
3) Waste halogenated cleaning solutions, freons, chloroethane, methylchloroform;
4) Waste ethylene diamine;
5) Waste potassium cyanide;
6) Waste zinc cyanide; and
7) Waste flammable liquids from manufacture of magnetic products containing toluene, methy ethyl ketone, plasticizers, iron oxide and tetrahydrofuran.

Wastes listed in a 1987 SARA TITLE III Tier Two report lists IBM stored chemicals as:

1) Fuel oils No. 1, No. 2 and No. 6;
2) Liquid nitrogen;
3) Methyl ethyl ketone;
4) Trichlorofluoroethane:
5) 1,1,1-Trichloroethane;
6) Toluene;
7) Tetrahydrofuran;
8) Methylene chloride;
9) n-Butylamine;
10) Ethylene diamine;
11) Ammonia; and
12) Sulfuric Acid.

Appendix C contains the documents regarding IBM process waste and stored chemicals.

The waste from Sundstrand was transported to the old Erie Landfill in tanker trucks. The waste, which Mr. Neuhauser referred to as "autofuel" (a secret propellant for the mark 48 torpedo) was pumped from the tanker into a 6' by 8' metal container placed within an earthen pit. The waste was then burned. The quantity of Sundstrand waste transported to the site is unknown.

The Erie Landfill was apparently operated by segregating the chemical wastes from the municipal solid wastes. At least some of the industrial wastes were received in drums (based on 1968 photos found at the Weld County Commissioners office). A 1966 document states that the two pits were dug for the deposition of the chemicals and in a third pit chemicals were being burned.

Burning waste along with co-disposal of industrial and municipal solid waste was a common practice at many landfills during the 1960's and 1970's. Generally the waste was uncovered, the site was unfenced and unattended. Burning of the waste was a continual complaint and problem at the site. Several memos document this. The most significant incident is the chemical fire of July 26, 1968 in which 3,000 gallons of waste chemicals were ablaze. On February 7, 1978, the Dacono Fire Department wrote of serious and uncontrolled burning of wastes at the landfill. On several occassions, the fires required fire department response and the pumping of 10,000 to 100,000 gallons of water onto the landfill. The landfill routinely accepted liquid waste. How long this disposal practice continued or the total volume of liquid waste disposed is unknown. The landfill was operated by the slope and cover method. Wastes were dumped into the middle draw from a higher elevation. Additional wastes were dumped at the top of the fill area and pushed over the face. Eventually the face became too steep to be covered effectively.

Sometime in the later 70's a berm was placed across the middle draw separating the Pratt property from the Columbine Mine property. Liquids (surface water, leachate and possibly alluvial ground water) routinely ponded upgradient of this berm. The 1984 SI documents that GW-6 had 7' of saturated trash on the day of sample collection. This well is believed to be downgradient of the berm.

The Erie Landfill was operated in a manner that maximized it's contaminant release to the environment. Leachate production, surface water and ground water contamination are common problems associated with landfills that were poorly operated and poorly sited as was the old Erie Landfill. The siting and operational problems included the following.

1) Wastes were placed into a the middle draw which contained permeable alluvial materials;

2) A lack of run-on and run-off surface water control structures contibuted to surface water infiltration through the landfill;

3) The unsecured, unfenced and unattended facility allowed the opportunity for unauthorized disposal;

4) Chemical and industrial liquid wastes that are both flammable and hazardous were routinely accepted;

5) Liquid sand trap and oily wastes were routinely accepted at the landfill;

6) Burning of wastes in an uncontrolled manner which required thousands of gallons of water had to be pumped onto the landfill to control the fire; and

7) A lack of daily and final cover over the landfill during its years of operation (1965 to 1978) and abandondment (from 1979 to 1983) allowed precipitation to pond on the surface and infiltrate.

The Columbine Landfill did not accept hazardous wastes. However, it did accept sandtrap wastes and sludges with percent solids as low as 1% in addition to regular municipal solid wastes. The Laidlaw South Landfill is approved to accept wastes typical of present day solid waste disposal facilities as is Laidlaw North.

4.2 On-site Pathway

The potential for exposure of human populations to on-site contamination is low. Access to the property is currently restricted by an 8' fence about the entire perimeter. The site is attended with signs posted. The entire landfill property has received either daily, intermediate or final cover. Exposure to on-site workers would be typical of other landfills.

4.3 Air Pathway

The site does not pose a significant threat to human populations or the environment based on potential migration of contaminants via the air pathway. Onsite waste sources available to the air route are limited to landfill gas migration through the daily, intermediate and final cover. The landfill gases may contain volatile halogenated organics, methane, carbon dioxide and hydrogen sulfide. There are six residences, one business and approximately 43

individuals located within a one mile radius of the site.

4.4 Ground Water Pathway

The aquifer units which exist beneath the site are:

1) The alluvial aquifer;
2) The shallow Laramie bedrock aquifer; and
3) The Laramie-Fox Hills aquifer.

Approximately four hundred wells within a four mile radius of the site utilize these aquifers (figure 25).

The town of Erie obtains its drinking water from Erie Lake and Prince Lake No. 2 located in E1/2 Section 27, T1N, R69W, approximately 2 miles to the southwest of town. By town ordinance the Erie residences may not use ground water for drinking purposes. However, they may use ground water for watering their yard and gardens, etc. A review of well logs for the town reveals that nearly all local wells are less than 50 feet deep and tap the alluvial aquifer. There are approaximately 110 alluvial aquifer users with a four mile radius of the site.

The alluvial aquifer is found within the over-burden soil material that ranges from 10' to 21' feet deep. The saturated interval (generally 5' thick) is found in or close to natural topographic drainages at the site. At the Laidlaw North site ground water monitoring wells 103A and 103 B currently exhibit contamination in the fomr of methylene chloride, 1,1-dichloroethane, tetrachloroethene, 1,1,1-trichloroethane, chloroethane, chloroform and trichlorofluoromethane. Since these draws normally do not flow, contaminated alluvial ground water may reach Coal Creek via the subsurface. However, it is undocumented at this time.

The perched shallow bedrock aquifer has not shown halogenated organic contamination at the site as has the allluvial aquifer. However, it does appear that some degradation of water quality has occured in the form of elevated chloride, sulfate, nitrate and TDS (figure 26). The occurence of the shallow bedrock aquifer is not well understood. It may be recharged locally by infiltration of precipitation and surface water through fractures and faults. Regionally, it is probably recharged at the Laramie outcrops located at the basin's edge. The saturated zones are within sandstone units that may have large areal extent and exist under semi-confined conditions. The shallow bedrock aquifer is utilized within a four mile radius of the site. Occassionally these upper Laramie sandstone units may be mistaken for the Laramie-Fox Hills aquifer.

The Laramie-Fox Hills aquifer is utilized by residences not within the town of Erie. The aquifer averages 350 to 400 feet deep in the vicinity of the site and is under confined conditions. Infiltration into the Laramie-Fox Hills from upper saturated zones is possible through fractures and faults. However the primary source of recharge to the aquifer is at the basin's edge where the units are exposed. Therefore it appears that the threat to this aquifer from the landfill is be minimal. There are approaximately 230 Laramie-Fox Hills aquifer wells within a four mile radius of the site.

4.5 Surface Water Pathway

The north, middle and south draws form a dendritic drainage pattern prior to entering Coal

Creek the west of the site. The north draw is generally dry and shallow enough to allow farming across it. The middle draw is incised 5 to 10 feet. It is believed that the draw may have been bermed in several locations allowing surface water pond behind it. Together, the Columbine Landfill and the old Erie Landfill disposed of both hazardous and non-hazardous liquids and solid wastes into the middle draw. The middle draw (prior to any topographic alterations) drained a 254 acre area. Eventually 3/4 of the length of the middle draw was landfilled. A walk along the middle draw on 09/07/90 revealed that flowing or standing surface water did not exist until the confluence of the middle and the south draw (off-site in Section 30).

The south draw appears to have been the site of a variety of waste disposal activities over the years. The time of disposal is unknown and the draw has never been a designated landfill. Wastes deposited along the south draw include regular solid wastes, photo conductor film (probably from IBM) and occasionally rusted empty drums. The draw is basically dry but bermed in four areas with surface water ponded behind them (photos 1 - 4). Of the four ponds, the three eastern most ponds exhibit healthy wetlands vegetation and algae growth in clear water. The fourth pond (which is also the location of a spring depicted on the topographic map) does not have wetlands vegetation or grass growing up to the waters edge. The pond water and the shore is muddy. Several unmarked rusted drums are half buried and piles of photo conductor material is found at the pond edge and within the pond (photo 4). Access to the south draw is unrestricted.

The large pond located in Section 30 is the result of surface water from the middle and south draw retained behind a berm (photo 5). Downgradient of the bermed confluence, the creek bed is dry and there is no surface water discharge to Coal Creek. Coal Creek flows NW for approximately 4 miles and then enters Boulder Creek in the E1/2 Section 1, T1N, R69W. Boulder Creek flows toward the northeast and enters St. Vrain Creek in Section 9, T2N, R68W.

There are no recreational improvements along Coal Creek between the landfill and Boulder Creek as shown on the Erie, Colorado topographic map (USGS 1979). However, it is probable that many unimproved areas of access are present within 15 downstream miles of the site along Boulder and St. Vrain Creeks. Several local irrigation ditches depicted on the topographic map are diverted from Boulder and St. Vrain Creek. Based on conversations with the Fish & Wildlife Assistance possible federal and state endangered species include:

1) Bald eagles which feed on fish and winter in the area;
2) Peregrine falcons which feed on water fowl and migrate through the area; and
3) Black footed ferets which prey on prairie dogs.

There appear to be no sensitive plant life in the area aside from fresh water wetlands that are present along Coal Creek, Boulder Creek and St. Vrain Creek. There are no fisheries within 15 downstream miles of the site.

4.6 Summary of Overall Release Potential

Releases to the air pathway and on-site pathway are typical of most landfill sites. Releases to the surface water pathway also appears to be minimal due to the lack of off-site surface water flow accept during storm events. However, the spring and pond within the south draw exhibit stressed vegetation and may be contaminated.

The potential for release of contaminants to the ground water from the site to the alluvial

and shallow bedrock perched aquifers is high. The potential for release of contaminants from the site to the Laramie-Fox Hills aquifer is low. The closest alluvial aquifer users are 1 1/4 mile down gradient of the site in the town of Erie. The closest Laramie-Fox Hills aquifer use is approximately 1/4 mile to the northeast of the site.

5.0 CONCLUSION

The old Erie Landfill located on the Pratt property has documented disposal of halogenated organics and torpedo propellant in addition to other liquid and solid wastes between 1965 and 1979. Between 1979 and 1983, the site sat open and allowed precipitation to infiltrate the landfill creating the potential of leaching and ground water contamination. The Columbine Landfill which opened in 1979 accepted municipal solid wastes, sand and oil/grease trap wastes. The Laidlaw North Landfill which opened in 1985 accepted municipal solid waste only.

Alluvial ground water contamination is documented in wells 103A & 103B at Laidlaw North. The shallow bedrock wells appear to show degradation of ground water quality. The south draw shows stressed vegetation around a pond and spring which indicates possible contamination to either the pond or the spring which feeds it.

The major pathway of concern is the ground water pathway with contamination to the alluvial aquifer, the shallow bedrock aquifer and a nearby spring.

6.0 REFERENCES

Amuedo & Ivey, CGS: Environmental Geology 9

Colorado Department of Health (site files)

Colorado Division of Wildlife

Colorado State Engineers

Erie, Town of

Fish and Wildlife Assistance

Interview:

- Armstrong, Gary; Rock Mountain Fuel Company, Owner of Columbine Mine
- Hoffman, Richard; manager of Laidlaw Regional Landfill
- Horst, Daniel; original operator of Laidlaw North
- IBM
- Kiernes, Brad; Colorado Landfill, Inc.
- Neuhauser, John F.; Co-owner of Sanitation Engineering, Inc.
- Pratt, Kenneth; owner of Pratt property
- Roweder, Barbara; wife of Ralph Roweder
- Sundstrand Aviation

Site Inspection to the Laidlaw North and South on 08/20/90 and 09/07/90

Weld County Assesors Office (site files)

Weld County Commissioners Office (site files)

Weld County Health Department (site files)

Weld County Planning Department (site files)

U.S. Geological Survey Topographic Maps

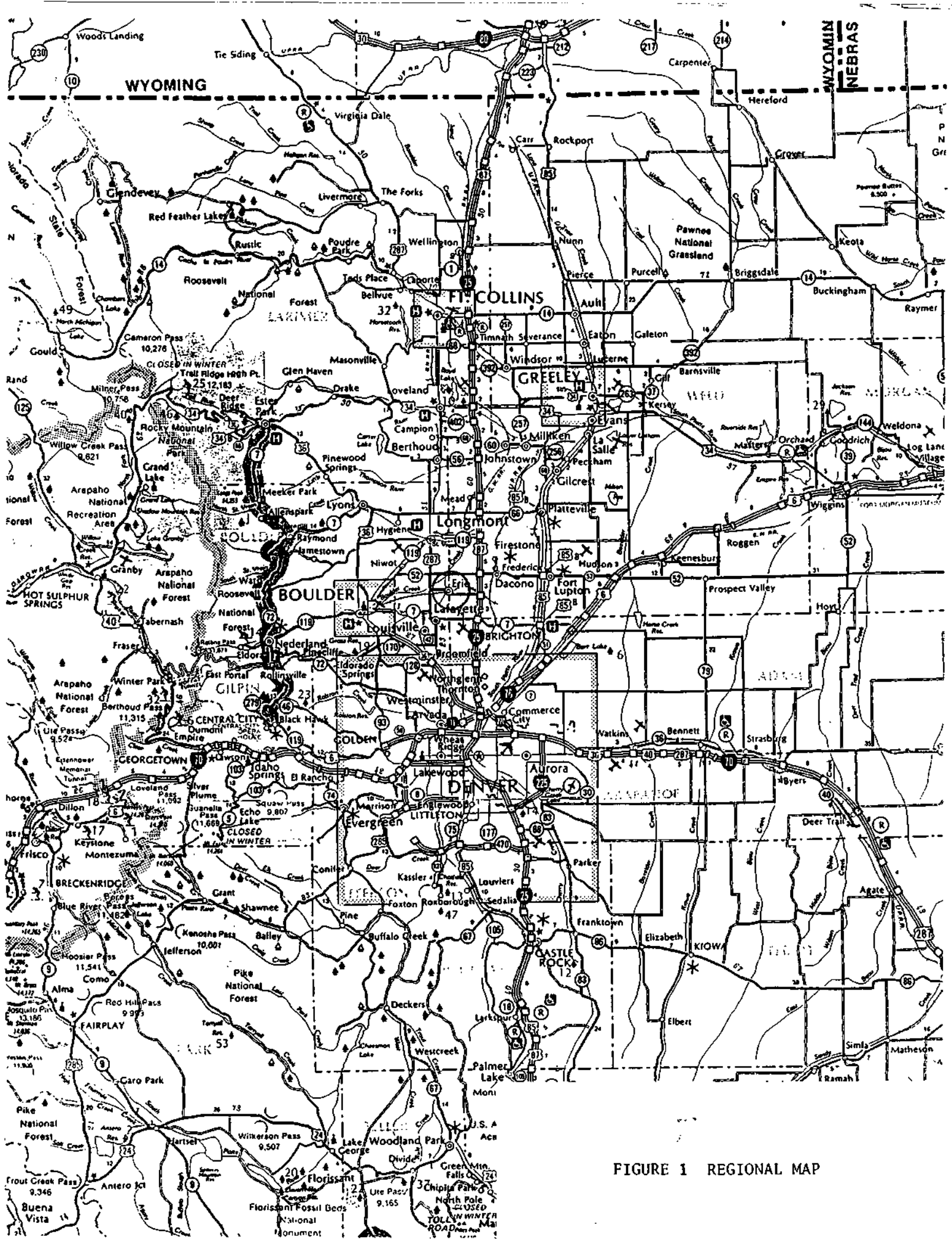
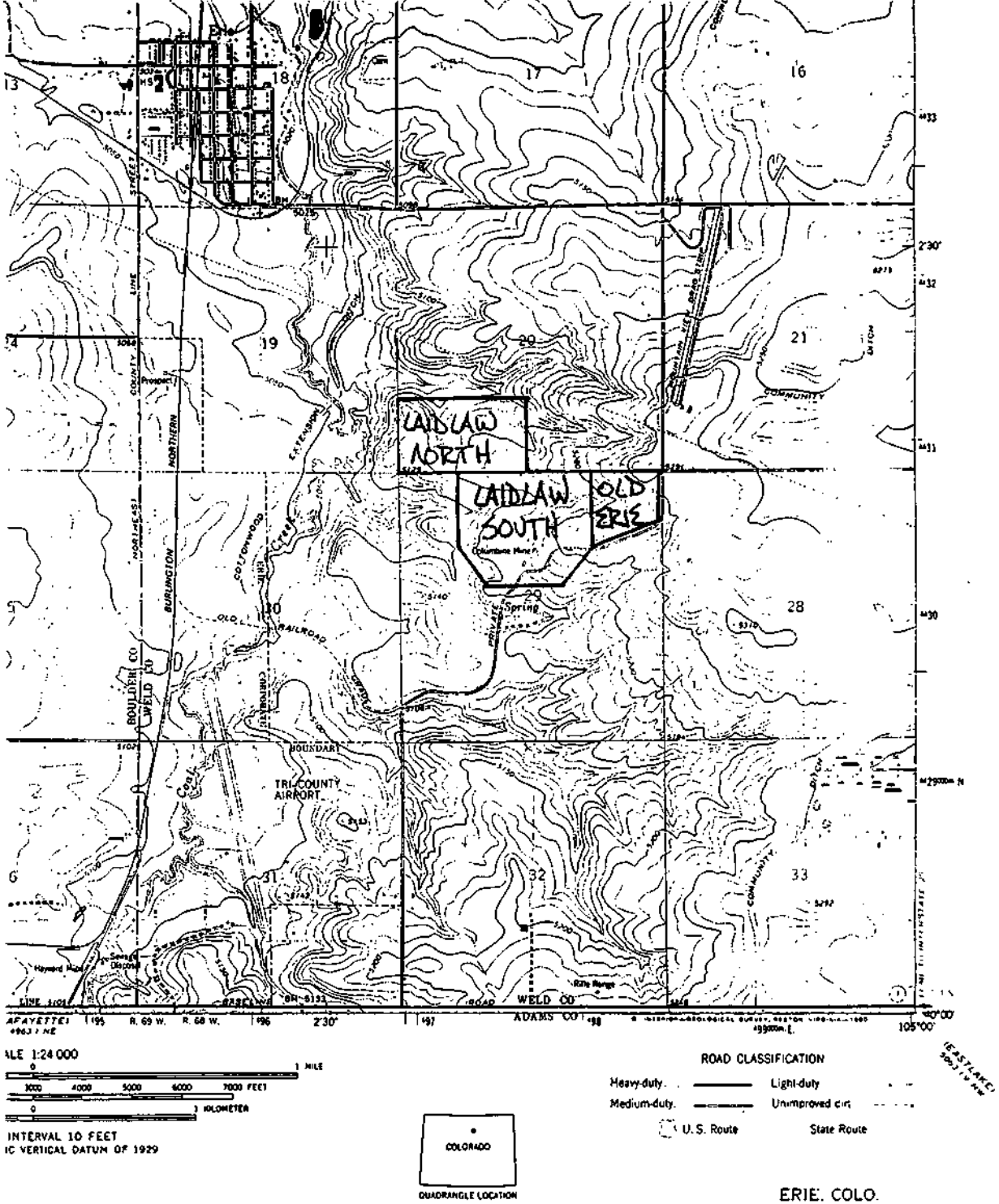


FIGURE 1 REGIONAL MAP



ALE 1:24 000

0 — 1 MILE

0 — 1000 2000 3000 4000 5000 6000 7000 FEET

0 — 1 KILOMETER

INTERVAL 10 FEET
IC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Heavy-duty — Light-duty

Medium-duty — Unimproved dirt

U.S. Route — State Route

COLORADO

QUADRANGLE LOCATION

NATIONAL MAP ACCURACY STANDARDS
ENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

To place on the predicted North American Datum 1983 move the projection lines 5 meters north and 48 meters east as shown by dashed corner ticks

ERIE, COLO.
N4000-W10500/7.5

1967
PHOTOREVISED 1979
DMA 4964 II SE - SERIES V877

PN

FIGURE 2A SITE MAP

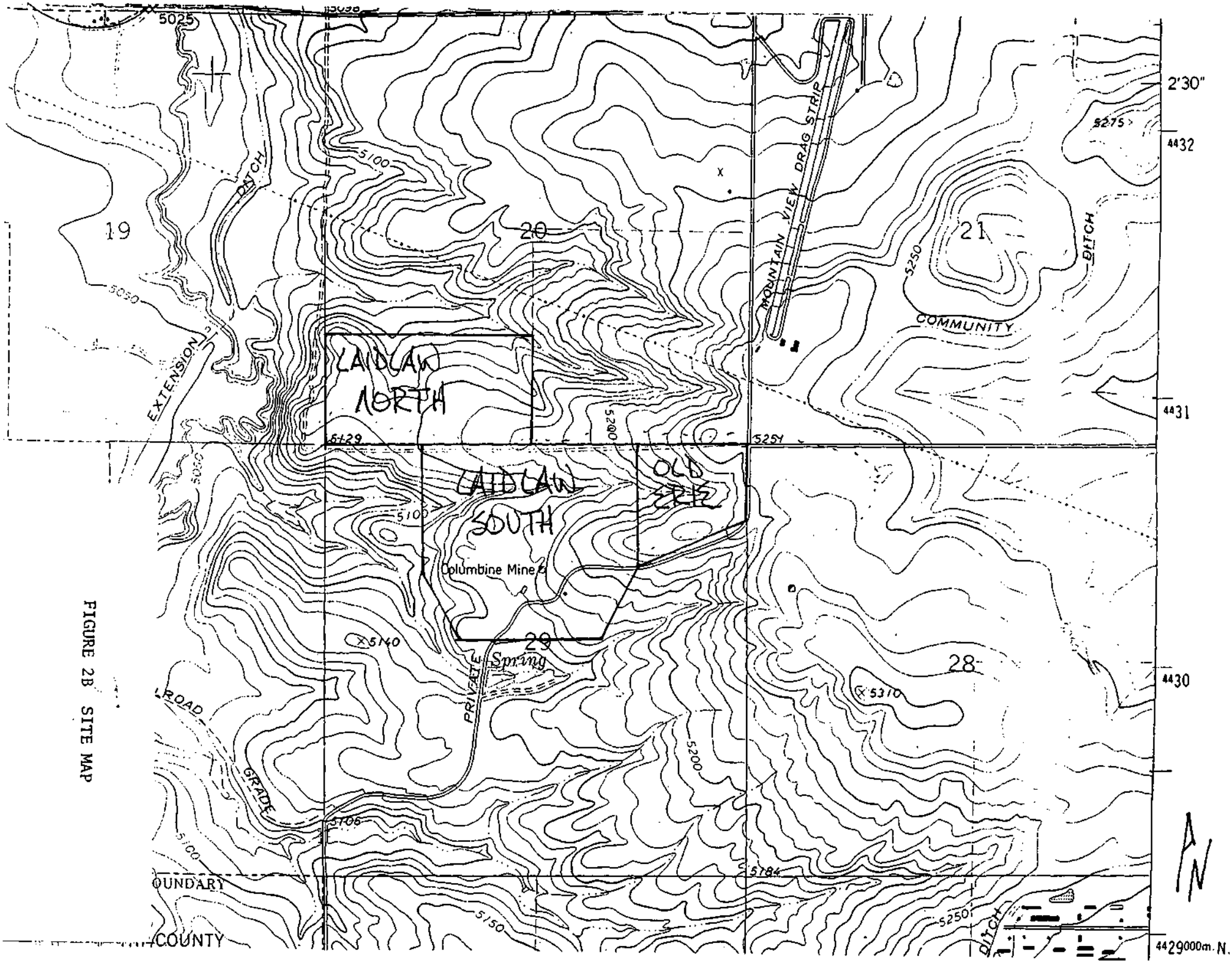


FIGURE 2B SITE MAP

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

RECEIVED
SEP 13 1990
HAZARDOUS MATERIALS AND WASTE MANAGEMENT

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:
Enter the name and address of the person or organization required to notify.

Name: Voluntary Notification Identifying Past
Street: Disposal Activity of IBM Corporation
City: State: Zip Code:

B Site Location:
Enter the common name (if known) and actual location of the site.

Name of Site: Erie, Colorado Sanitary Landfill South
Street: and East of town
City: Erie County: Boulder State: CO Zip Code:

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Boggio, Robert Engineer
Phone: IBM Corporation, P.O. Box 1900
Boulder, Colorado 80302 (303) 447-7764

D Dates of Waste Handling:
Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1965 To (Year): June, 1969

IBM contributed an estimated 84,000 gallons of chemical waste to the Erie Landfill. The material was disposed of in approximately 1,500 55 gallon drums.

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. [X] Organics
2. [X] Inorganics
3. [X] Solvents
4. [ ] Pesticides
5. [ ] Heavy metals
6. [X] Acids
7. [X] Bases
8. [ ] PCBs
9. [ ] Mixed Municipal Waste
10. [ ] Unknown
11. [ ] Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. [ ] Mining
2. [ ] Construction
3. [ ] Textiles
4. [ ] Fertilizer
5. [ ] Paper/Printing
6. [ ] Leather Tanning
7. [ ] Iron/Steel Foundry
8. [ ] Chemical, General
9. [ ] Plating/Polishing
10. [ ] Military/Ammunition
11. [ ] Electrical Conductors
12. [ ] Transformers
13. [ ] Utility Companies
14. [ ] Sanitary/Refuse
15. [ ] Photofinish
16. [X] Lab/Hospital
17. [ ] Unknown
18. [X] Other (Specify)

Manufacturing of magnetic media and associated lab development activit

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 300 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous was listed in the regulations under Section 3001 of RCRA. Enter tl appropriate four-digit number in the boxes provided. A copy o the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site located.

Form Approved
OMB No. 2000-0138
EPA Form 8900-1

FIGURE 3 EPA NOTIFICATION OF HAZARDOUS WASTE SITE

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway
442-5926
Boulder, Colorado

Longmont Drug Building
776-5743
Longmont, Colorado

File
Weld Co.
Solid Waste

SPECIAL SANITATION REPORT

Name of establishment: Neuhauser dump in Weld County

Address: Old Columbine Road, Weld County Type of Establishment:

Person interviewed: _____ Telephone Number: _____

Purpose of visit: Field trip - solid waste disposal sites in Boulder County.
(Routine Inspection)

There were two compaction loads of trash dumped at this disposal site which was not covered. One appeared to be refuse from Lafayette and the other appeared from the City of Boulder. Envelopes collected showed that the Ken Penfold Reality Company has quite a bit of trash in this one compactor load, and also there were two pits that were dug for the disposition for some type of chemicals. It appeared that one of the chemicals was being burned in a third pit. There was evidence that possibly that this dump was being covered almost nightly. Considerable area has been used for disposal in this ravine in the past several weeks. No pictures were taken.

Date: August 9, 1966

Owner or representative: _____

(1265)
cc - John Norris, Director, Dept. of Development, Court House, Boulder

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

cc - Jim Kean, City Administrator
City of Boulder, Municipal Building, Bo

FIGURE 4 09/09/66 BOULDER COUNTY INSPECTION REPORT

_____ County, Colorado

6202

CERTIFICATE OF DESIGNATION
SOLID WASTE DISPOSAL SITE

RECEIVED
JUL 19 1968
DIVISION OF ENGINEERING AND SANITATION

In accordance with the provisions of the Colorado Solid Waste Disposal Sites and Facilities Act, Chapter 358, Colorado Session Laws, 1967, the Board of County Commissioners of Weld County, Colorado hereby designates the following site for disposal of solid wastes:

Location of Site: Section 29, Township 1 North, Range 68 West of the 6th P. M., Weld County

Approx 1½ Miles East 1½ Miles South of Erie, Colorado (John F. Neuhauser)

Type of Site or Facility: Sanitary Landfill (Columbine - Neuhouse)

Name and Address of Responsible Operator: Tractor Operator

This certificate of designation may be temporarily suspended or revoked, after reasonable notice and public hearing, for cause as outlined in Section 13 of the Solid Wastes Disposal Sites and Facilities Act.

Issued this 17th day of July 19 68, at Greeley

Weld County, Colorado.

(This copy to Colo. Dept. of Health, 4210 E. 11th Ave., Denver 80220)

Signed: [illegible]

Chairman, Board of County Commissioners

ES-ENG 72 Form Provided by Colo. Dept. of Health

WELD County, Colorado

6204

CERTIFICATE OF DESIGNATION
SOLID WASTE DISPOSAL SITE

RECEIVED
JUL 19 1968
DIVISION OF ENGINEERING AND SANITATION

In accordance with the provisions of the Colorado Solid Waste Disposal Sites and Facilities Act, Chapter 358, Colorado Session Laws, 1967, the Board of County Commissioners of Weld County, Colorado hereby designates the following site for disposal of solid wastes:

Location of Site: Section 29, Township 1 North, Range 68 West of the 6th P. M., Weld County

Approx 1½ Miles East 1½ Miles South of Erie, Colorado (John F. Neuhauser)

Type of Site or Facility: Sanitary Landfill (Columbine - Neuhouse)

Name and Address of Responsible Operator: Tractor Operator

This certificate of designation may be temporarily suspended or revoked, after reasonable notice and public hearing, for cause as outlined in Section 13 of the Solid Wastes Disposal Sites and Facilities Act.

Issued this 17th day of July 19 68, at Greeley

Weld County, Colorado.

(This copy to Colo. Dept. of Health, 4210 E. 11th Ave., Denver 80220)

Signed: [illegible]

ES-ENG 72 Form Provided by Colo. Dept. of Health

FIGURE 5 CERTIFICATE OF DESIGNATION ISSUED TO THE NEUHAUSER DUMP

MEMORANDUM TO AIR POLLUTION CONTROL FILE

C. Boulder Co
5 W.D

TO : Boulder County File

DATE : July 31, 1968

FROM: D. E. Sorrels

SUBJECT: Complaint on Newhouser Dump Site

On July 26, 1968 I received a telephone call from Bob Shipley complaining about an uncontrolled chemical fire that had occurred at the Newhouser dump located just inside Weld County in the southwestern corner.

On the afternoon of July 26, 1968 Bob Taylor and I made a field investigation of the dump site and indeed found that the fire was still in progress. Investigation revealed that there had been quite a sizeable chemical fire at the scene where approximately 3,000 gallons of waste chemicals had gone up in quite a blaze. In fact, the blaze had been hot enough to burn one of Mr. Newhouser's packer trucks parked at the site.

Adjacent to the area where the chemical fire occurred was an open burning dump face that appeared to have been burning for quite some time. Investigation of some of the materials found on the site lead us to believe that a great majority of the material was coming from Boulder County and, in particular, the IBM plant. Attached to this report are four photographs taken at the time at the scene of the open burning dump and the extent of the chemical fire.

In a subsequent conversation with Don Marmande, it was revealed that Mr. Newhouser picks up waste chemicals from the IBM plant in Boulder County and the Sunstrand manufacturing complex in Adams County. Mr. Newhouser also services the solid waste needs of the citizens of Louisville and Lafayette which are located in Boulder County. Don Marmande also pointed out that Mr. Newhouser had at one time operated a dump site in Boulder County but was closed down for contaminating ground water and operating an uncontrolled dump.

The matter of the dump was communicated to Mr. Orville Stoddard of the Engineering Section for his engineering action and follow-up.

RECEIVED
AUG 7 - 1968
DIVISION OF ENGINEERING AND SANITATION

FIGURE 6 07/31/68 APCD MEMORANDUM

DES:pa
cc: JRT
Encs. 4
cc: Dr. Dowding, Don Marmande, Bob S
Boulder City-County H.D.
cc: Mr. Orville Stoddard-Colo. Dept.

Book 159

WELD COUNTY, COLORADO
OFFICE OF THE BOARD OF COUNTY COMMISSIONERS
WELD COUNTY COURT HOUSE
GREELEY, COLORADO

STATE OF COLORADO)
) ss.
COUNTY OF WELD)

FINDINGS
AND
ORDER

IN THE MATTER OF THE LICENSE OF
JOHN NEUHOUSER, DBA SANITATION
ENGINEERING CORP.
DESIGNATION CERTIFICATE OF LICENSE #11
SOLID WASTE DISPOSAL SITE

After investigation and pursuant to Order and Notice heretofore issued and served on October 16, 1968, to show cause why the above-numbered Certificate of License should not be suspended or revoked, public hearing was duly held in the office of the Board of County Commissioners of Weld County, sitting as the Weld County licensing authority, at 10:00 A.M. on Monday, the 28th day of October, 1968, and after consideration of the evidence presented and after affording the licensee an opportunity to be heard, the Board of County Commissioners of Weld County, sitting as the Weld County licensing authority, hereby

FINDS, that the above-named licensee did violate the provisions of the Solid Waste Disposal Sites and Facilities Act, 1967, Permanent Cumulative Supplement to '63 C.R.S. 36-23-10 in the following particulars, to-wit:

1. By failing to properly cover waste material;

2. By failing to adequately fence the facility, thereby permitting waste materials and debris to escape therefrom; and

3. By other violations in the conduct of operation of said disposal facility contrary to the provisions of Paragraphs (b), (e), (f) and (g) of the hereinabove mentioned act.

NOW, THEREFORE, in consideration of the foregoing, and pursuant to authority of law, the Board of County Commissioners of Weld County, as the Weld County licensing authority, hereby ORDERS that the above-numbered Certificate of License of Designation for Waste Disposal Site be and the same hereby is SUSPENDED for a period of 33 days, or until December 1, 1968; however, all of said 33-day suspension to be held in abeyance for a period of six months from date hereof. If at any time within said six months' probationary period, licensee shall again be adjudged in violation of the Solid Waste Disposal Sites and Facilities Act, said time of suspension shall automatically be invoked, along with any additional penalty that might be imposed by the Board.

Ordered and signed this 30th day of October, 1968.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
WELD COUNTY, COLORADO

Clerk of the Board

APPROVED AS TO FORM:

County Attorney

FIGURE 7 WELD COUNTY CD SUSPENSION

COLORADO DEPARTMENT OF HEALTH

DIVISION OF ENGINEERING AND SANITATION

SOLID WASTES DISPOSAL SITES

ANNUAL INSPECTION

File No. 62026 County WELD

Facility Name: ERIE LANDFILL

~~Street or~~ P. O. Box 596

City: EVANS Colo., Zip 80620

Date: 6/2/75

Population Served: ± 4,000

CATEGORY A [ ] B [X]

ITEM	AS FOUND Yes	AS FOUND No	REMARKS
1. COMPLIANCE	[X]	[ ]	FINISHED AREAS NEED GRADING TO PREVENT PONDING
a. Designated site	✓	—	
b. Free of obnoxious odors, rats, insects	✓	—	
c. Covered as required	✓	—	OIL-WATER WASTE SHOULD BE SPRAYED ONTO OR WORKED INTO EXISTING LANDFILL
d. Sufficient area for machinery	✓	—	
e. Site fenced	✓	—	
f. Free of smoke and flame	✓	—	
g. Complies RE: toxic materials	✓	—	
			NEED BERM ON WEST SIDE OF FILL
2. WATER POLLUTION EVIDENCE ESTABLISHED	[ ]	[X]	
	M	Co.	
3. LOCATION	[ ]	[X]	
4. OPEN BURNING	[ ]	[X]	

Mayor or Manager: HERB OSBORNE

Local Health Dept. Rep: GLEN PAUL

Person Interviewed: HERB OSBORNE

Letter to Follow: Yes [ ] No [X]

Inspecting Engineer: THOMAS TISTINK

FIGURE 8 06/02/75 CDH INSPECTION REPORT

ENG 77 (Rev 5-71-15)

COLORADO DEPARTMENT OF HEALTH

DIVISION OF ENGINEERING AND SANITATION

SOLID WASTES DISPOSAL SITES

ANNUAL INSPECTION

File No. 62026 County WELD

Facility Name: ERIE LANDFILL

~~Street or~~ P. O. Box 596

City: EVANS Colo., Zip 80620

Date: 2/10/76

Population Served: ± 9,000

CATEGORY A [ ] B [X]

ITEM	AS FOUND Yes	AS FOUND No	REMARKS
1. COMPLIANCE	[ ]	[X]	OPERATED BY B.F.I. WELD CO. LANDFILL
a. Designated site	✓		
b. Free of obnoxious odors, rats, insects	✓		OIL & WATER WASTE
c. Covered as required	✓		
d. Sufficient area for machinery	✓		DEPOSITED AT BASE OF
e. Site fenced		✓	FILL - APPROXIMATELY
f. Free of smoke and flame	✓		1500 GALLONS PER WEEK
g. Complies RE: toxic materials	✓		
2. WATER POLLUTION EVIDENCE ESTABLISHED	[ ]	[X]	MORE FENCING NEEDED TO STOP BLOWING PAPER
	M	Co.	
3. LOCATION	[ ]	[X]	
4. OPEN BURNING	[ ]	[X]	

Mayor or Manager: HERB OSBORNE

Local Health Dept. Rep: —

Person Interviewed: DUANE EIKENBERG

Letter to Follow: Yes [ ] No [X]

Inspecting Engineer: TOM TISTINIC

FIGURE 9 02/10/76 CDH INPSECTION REPORT

ES ENG 77(Rev 5-71-15)

COLORADO DEPARTMENT OF HEALTH

DIVISION OF ENGINEERING AND SANITATION

SOLID WASTES DISPOSAL SITES

ANNUAL INSPECTION

CATEGORY A: ☒ B: ☐

File No. 62026 County Weld

Facility Name: Erie Landfill

~~Street or~~ P. O. Box 596

City: Evans Colo., Zip

Date: April 9, 1976

Population Served: 4,000

ITEM	AS FOUND Yes	AS FOUND No	REMARKS
1. COMPLIANCE	☐	☐	(1) Large uncovered accumulation of trash. Operator stated that equipment had broken down. Ponded water observed below fill.
a. Designated site	X		
b. Free of obnoxious odors, rats, insects	X		
c. Covered as required	(1)		
d. Sufficient area for machinery	X		
e. Site fenced	X	(2)	
f. Free of smoke and flame	X		
g. Complies RE: toxic materials	X		
2. WATER POLLUTION EVIDENCE ESTABLISHED	☐	☒	(2) Inadequate fencing along all sides. Large amounts of trash scatter along and outside perimeter
	M	Co.	
3. LOCATION	☐	☒	
4. OPEN BURNING	☐	☒	

Mayor or Manager: Larry Osborne

Local Health Dept. Rep: Lindstrom

Person Interviewed:

Letter to Follow: Yes ☐ No ☒

Inspecting Engineer:

FIGURE 10 04/09/76 CDH INPSECTION REPORT

ES ENG 77(Rev 5-71-15)

Dacono Area Fire Protection District

February 7, 1978

WELD COUNTY COMMISSIONERS
GREELEY,
COLORADO;

Sirs;

I am writing this in regards to the Erie Landfill Dump, located in south west weld county.

As I am sure you are aware of this landfill operation has been the scene of several fires in the past years, and in the recent months it is getting to be a real problem.

I should like to know if I could have the opportunity to attend one of your meetings and be allowed to discuss this problem with your board.

The reason for my concern is the fact that there is apparently no policy set out to require the landfill operator to cover the trash and refuse at the end of the days operations. This is leading to a large build-up of loose trash, paper, and celluloid film strip scattered all over inside the area, and much of it goes over the fence and throughout the area to the east of the landfill. We have had two recent fires that have been quite serious, and a threat to the land to the east of the landfill. About one month ago we had nine peices of fire apparatus on the scene for over 12 hours and had to have heavy dirt machinery to cover the fire to keep it from going into the fields and possibly homes to the east. On the 5th of this month we were again on the scene with four peices of fire equipment for 3½ hours. We pumped and tanked over 100,000 gallons of water on the first and approximately 10,000 on the last one. I feel this is a great waste of needed water and a definite fire hazard to the area.

When I asked the operators of the dump to cover the fill after each days operation, they say they are getting so many trucks that this is not possible. I feel they will have to get more equipment or cut down on the loads they receive, but before I persue the issue to any great degree, I should like to have the feelings of the Board of County Commissioners and know of any regulations you may have placed on them or feel should be placed on them. I will wait to meet with you before doing anything on the problem.

Respectfully

Joseph W. Fuss

Joseph W. Fuss
Fire Chief
Dacono Area Fire Prot. Dist

FIGURE 11 02/07/78 DACONO FIRE DEPT. LETTER

DACONO, COLO

RESOLUTION

RE: RESCINDING LANDFILL DESIGNATIONS.

WHEREAS, the Board of County Commissioners of Weld County, Colorado, pursuant to Colorado Statute and the Weld County Home Rule Charter, is vested with the authority of administering the affairs of Weld County, Colorado, and

WHEREAS, Weld Landfill, Inc. and Colorado Landfill, Inc. have informed the Board that the Erie landfill site designation has expired and that neither operator can operate the site under the current conditions in accordance with proper health standards due to the lack of cover material, and

WHEREAS, Weld Landfill Inc. and Colorado Landfill Inc. have informed the Board that there is no longer a need for the Prospect Valley landfill site (Certificate number 27) in Weld County, and

WHEREAS, Weld Landfill, Inc. and Colorado Landfill, Inc. have requested that the Board of County Commissioners revoke the following landfill designation certificates:

Erie, Certificate Number 23
Prospect Valley, Certificate Number 27

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Weld County, Colorado, that the following landfill designation certificates are hereby rescinded at the request of the landfill operators:

Erie, Certificate Number 23
Prospect Valley, Certificate Number 27

BE IT FURTHER RESOLVED that the Board hereby directs the County Engineer to have the sign department post proper signs indicating the closure of the above sites and the location of alternative landfill sites in the immediate area.

The above and foregoing Resolution on motion duly made and seconded, adopted by the following vote on the 6th day of June, A.D., 1979.

ATTEST: Mary Ann Feuerstein

Weld County Clerk and Recorder
and Clerk to the Board

By: Jeannette Dorway
Deputy County Clerk

APPROVED AS TO FORM

DATE PRESENTED: JUNE 11, 1979
BOARD OF COUNTY COMMISSIONERS
WELD COUNTY, COL

Noomen

Lydia De

C. W. Kirby

June K

FIGURE 12 WELD COUNTY RESOLUTION RESCINDING LANDFILL DESIGNATION

SOLID WASTE FACILITY INSPECTION

Compliance	✓
Non-compliance	
Open Dump	

County WELD Date 11/17/81 Located in Incorporated Area /_/
Facility COLORADO LANDFILL INC - CAIE SWDS
Location PDS 5 + 6
Current Operator COLORADO LANDFILL
Mailing Address of Operator
Current Owner (If different)
Mailing Address of Owner

(All items checked must be explained in supplemental report)

I. Public Health and/or Environmental Hazards (Department enforcement against violations)

(1) A. Evidence of Industrial Waste Disposal (?)
___ B. Evidence of Potential for Serious Surface or Ground Water Pollution
___ C. Surface Diversion/Containment Facilities Inadequate or not Maintained
___ D. Landfill Gas Migration Concerns
___ E. Sludge or Septic Pumpings Disposal on Site (Unauthorized)
___ F. Safety Hazards
___ G. Non-Compliance with Approved Design and Operation
___ H. Other

___ * REMEDIAL ACTION REQUIRED

II. Minimum Standards, CRS 30, 20-110 (Locally enforced standards)

___ A. Odors and/or Vectors Present
___ B. Inadequate and/or Irregular Cover
___ C. Inadequate Fencing (to control access and windblown debris)
___ D. Burning apparent
___ E. Not Designated and/or Improperly Zoned

INSPECTING ENGINEERS RECOMMENDATIONS FOR SITE IMPROVEMENT

REX 3-55 COMPACTOR CAT 12 GRADER IH 433 SCRAPER
CONTINUE SPREADING SAND TRAP WASTES ON SOIL FOR ABSORPTION
RATHER THAN PONDING IT.

III. Complaints Received (Attach copies) Action Taken

NO COMPLAINTS

IV. Remarks

AREA FILL METHOD NORTH WEST PORTION OF SITE - ≈ 5-10' GULLY FILL
(1) OIL AND GREASE IN SOIL @ NEAST END OF SITE
PONDED SLUDGE (?) - CAR WASH GREASE TRAPS - AT MOST 500 GAL/WEEK
SPREAD, COVERED, EXCAVATED FOR INTERMEDIATE COVER

(Name) PRESENT AT INSPECTION

JIM CHAPPELL
NED NOACK
MARC MANG, KEN LOVE

Inspecting Engineer August E Noack

(WHITE COPY-FILE) (YELLOW COPY-OPERATOR)

FIGURE 13 11/17/81 CDH INPSECTION REPORT

SOLID WASTE FACILITY INSPECTION

Compliance	✓
Non-compliance	
Open Dump	

County Weld CO Date 9/27/82 Located in Incorporated Area /_/
Facility Erie Landfill
Location SECTION 29, T1N, R68W
Current Operator Mr. Jack Love - Colorado Landfill, Inc.
Mailing Address of Operator 1450 Weld Co. Rd. # 6
Current Owner (If different) Colorado Landfill Inc.
Mailing Address of Owner same

(All items checked must be explained in supplemental report)

I. Public Health and/or Environmental Hazards (Department enforcement against violations)

_____ A. Evidence of Industrial Waste Disposal Asbestos
_____ B. Evidence of Potential for Serious Surface or Ground Water Pollution
_____ C. Surface Diversion/Containment Facilities Inadequate or not Maintained
_____ D. Landfill Gas Migration Concerns
_____ E. Sludge or Septic Pumpings Disposal on Site (Unauthorized)
_____ F. Safety Hazards respirators, cab coolers outside air intake
_____ G. Non-Compliance with Approved Design and Operation
_____ H. Other _____

_____ * REMEDIAL ACTION REQUIRED

II. Minimum Standards, CRS 30, 20-110 (Locally enforced standards)

_____ A. Odors and/or Vectors Present
_____ B. Inadequate and/or Irregular Cover
_____ C. Inadequate Fencing (to control access and windblown debris)
_____ D. Burning apparent
_____ E. Not Designated and/or Improperly Zoned

INSPECTING ENGINEERS RECOMMENDATIONS FOR SITE IMPROVEMENT

No asbestos present. They have accepted 4-5 loads total. Equipment operators: no respirators, filtered air cond., 6 broken windows on scraper.
No leachate @ fill toe. Working face ± 130' wide 5:1 slope.

III. Complaints Received (Attach copies) Action Taken

IV. Remarks

Check for birds & asbestos
Sand/grease trap waste sludge being spread 6000-9000 GPD of 1% solids for 6-8 wks on ±3 Acres. Spread ±250 gpm @ ½ hour usual penetration ¼" no runoff @ 1 hour - dry. Weather sunny breezy 80°

PRESENT AT INSPECTION

(Name)	(Representing)
August E. Noack	CDH/WMR
Brad Kurnes	Lynn Kurnes
Byron Kurnes	Jack Love

FIGURE 14 09/27/82 CDH INPSECTION REPORT

Inspecting Engineer Mary Cerver

(WHITE COPY-FILE) (YELLOW COPY-OPERATOR)

COLORADO DEPARTMENT OF HEALTH
Division or Section of: Waste Management Division

INTER-OFFICE COMMUNICATION

TO : Ken Waesche & Erie '83' file

DATE : May 24, 1983

FROM: Ned Noack

SUBJECT: Sand trap sludges at Erie on 4/26/83

As you know, we received a set of analyses describing toxicity levels in sand trap sludges disposed at the Erie Landfill, in Weld County, Colorado. It appears that the wastes were not EP toxic, but the analyses did confirm that the wastes were cyanide bearing and thus possibly RCRA hazardous as a reactive waste. When this was transmitted preliminarily to Byron Kiernes, Colorado Landfill Incorporated (CLI), he said he would send us additional analytical data. I received this data, preformed by a different lab, on 5/13/83. There was no discussion of testing procedures, but the data appeared to indicate potentially EP toxic concentrations of metals. I spoke to Byron and Brad Kiernes today, and asked them to:

1. Provide me with all available test data on sand trap sludges and/or runoff from those sludges.

2. Discuss in greater detail their proposals for sampling and analyses of sand trap sludges, including limitations due to holding time, collection bottles, etc.

3. Have their second lab summarize the analysis and procedures that produced this latest data and any others submitted per #1 above.

Once all this data is submitted and correlated, it may be necessary to request a determination from EPA as to whether these wastes are hazardous or not.

NN:pb

FIGURE 15 05/24/83 CHD MEMORANDOM

AD BUS-29 (10-29-100)

SOLID WASTE FACILITY INSPECTION

Compliance	
Non-compliance	✓
Open Dump	

County WELD Date MAY 25, 1983 Located in Incorporated Area /__/
Facility ERIE SWDS (COLUMBINE SITE)
Location WELD COUNTY RDS 5 + 6;
Current Operator COLORADO LANDFILL INC.
Mailing Address of Operator
Current Owner (If different)
Mailing Address of Owner

(All items checked must be explained in supplemental report)

I. Public Health and/or Environmental Hazards (Department enforcement against violations)

- ____ A. Evidence of Industrial Waste Disposal
- (1) B. Evidence of Potential for ~~Serious~~ Surface ~~or Ground~~ Water Pollution
- (2) C. Surface Diversion/Containment Facilities Inadequate or not Maintained
- ____ D. Landfill Gas Migration Concerns
- ____ E. Sludge or Septic Pumpings Disposal on Site (Unauthorized)
- ____ F. Safety Hazards
- (3) G. Non-Compliance with Approved Design and Operation
- ____ H. Other ____

____ * REMEDIAL ACTION REQUIRED

II. Minimum Standards, CRS 30, 20-110 (Locally enforced standards)

- ____ A. Odors and/or Vectors Present
- (4) B. Inadequate and/or Irregular Cover
- ____ C. Inadequate Fencing (to control access and windblown debris)
- ____ D. Burning apparent
- ____ E. Not Designated and/or Improperly Zoned

INSPECTING ENGINEERS RECOMMENDATIONS FOR SITE IMPROVEMENT

(1) DISCHARGE OFFSITE FROM ONE OF TWO PONDS WEST EDGE OF SITE: DARK BROWN TO BLACK LIQUID, FIELD pH 5.8, FIELD CONDUCTIVITY 2100 µmhos @ 26°C. SAMPLE TAKEN; RESULTS PENDING

(2)(3) COMPLETE DIVERSION STRUCTURE BENEATH ROAD ALONG SITE'S NORTH BOUNDARY AS DESIGNED

III. Complaints Received (Attach copies) Action Taken

(4) AS CONTROL MEASURES ARE CONSTRUCTED, REMOVE EXPOSED TRASH TO WORKING FACE AND COVER

IMPROVE BERMING ALONG EDGES OF INTERMEDIATE COVER AREAS TO IMPROVE RUNOFF CONTROL

IV. Remarks

USE PONDED WATER FOR DUST CONTROL TO THE EXTENT PRACTICABLE

NO BIRDS

DO NOT APPLY SLUDGES OR PONDED WATER TO AREAS WEST OF WORKING FACE 'TIL LEACHATE/RUNOFF

(Name) PRESENT AT INSPECTION (Representing)

CRAIG BECK, NED NOACK
BRAD KIERNES, KEN LOVE

FIGURE 16 05/25/83 CDH INPSECTION REPORT

Inspecting Engineer August E. Alo

(WHITE COPY-FILE) (YELLOW COPY-OPERATOR)

SOLID WASTE FACILITY INSPECTION

Compliance	
Non-compliance	✓
Open Dump	

County Weld Date 7-28-83 Located in
Facility ~~ERIE LANDFILL~~ (Columbine) Incorporated Area /_/
Location Rd 5 & 6 SEC. 29 T. 1 No. R. 6W.
Current Operator Co. LANDFILL Inc
Mailing Address of Operator 6037 77th AVE. Greeley, Co. 80631
Current Owner (If different)
Mailing Address of Owner

(All items checked must be explained in supplemental report)

I. Public Health and/or Environmental Hazards (Department enforcement against violations)

_____ A. Evidence of Industrial Waste Disposal
_____ B. Evidence of Potential for Serious Surface or Ground Water Pollution
_____ C. Surface Diversion/Containment Facilities Inadequate or not Maintained
_____ D. Landfill Gas Migration Concerns
_____ E. Sludge or Septic Pumpings Disposal on Site (Unauthorized)
_____ F. Safety Hazards
_____ G. Non-Compliance with Approved Design and Operation
_____ H. Other

_____ * REMEDIAL ACTION REQUIRED

II. Minimum Standards, CRS 30, 20-110 (Locally enforced standards)

X A. Odors and/or Vectors Present
X B. Inadequate and/or Irregular Cover
_____ C. Inadequate Fencing (to control access and windblown debris)
_____ D. Burning apparent
_____ E. Not Designated and/or Improperly Zoned

INSPECTING ~~ENGINEERS~~ EHS. RECOMMENDATIONS FOR SITE IMPROVEMENT

A. FLIES PRESENT
B. OLD FILL AREAS HAVE SOME EXPOSED TRASH.

III. Complaints Received (Attach copies) Action Taken

IV. Remarks

SOME POOLED WATER ON SOUTH SIDE-
CAT STUCK there TRYING TO fill Pooled water area.

(Name) PRESENT AT INSPECTION (Representing)

Inspecting ~~Engineer~~ EHS C. W. Meier

FIGURE 17 07/28/83 CDH INPSECTION REPORT

(WHITE COPY-FILE) (YELLOW COPY-OPERATOR)

Volatile Organic Compounds Found in Wells 103A and 103 B, Laidlaw North

	103A 04/27/88	103B 04/27/88	103A 03/30/89	103B 03/30/89	103A 03/18/90	103B 03/18/90	103A 04/17/90	103B 04/17/90
benzene	< 5	3	< 5	< 5	10	2	7	< 1
chlorothane	< 50	15	48	11	< 10	< 10	58	< 10
chloroform	< 25	< 5	7	< 5	7	< 5	11	< 5
1,1-dichloroethane	170	53	220	73	340	46	340	60
1,2-dichloropropane	< 25	< 5	-	-	10	5	< 5	< 5
1,1dichloroethene	< 25	< 5	5	5	5	5	< 5	< 5
methylene chloride	1300	210	2400	220	3400	170	3380	140
tetrachloroethene	58	53	76	67	110	60	140	110
1,1,1-trichloroethane	150	71	110	22	48	19	61	21
trichloroethene	< 25	10	34	12	46	11	54	14
trichlorofluoromethane	< 25	62	5	42	5	33	12	39
vinyl chloride	< 50	< 10	13	< 5	< 10	< 10	10	< 10
xylenes (total)	-	-	4j	< 5	< 5	< 5	< 5	< 5

Notes:

All units are micrograms per liter

- indicates the analysis was not preformed for the compound

< indicates the compound was not detected. The value given is the detection limit.

j indicates the compound is present at an estimated concentration but that the estimated concentration is below the detection limit.

FIGURE 18 LAIDLAW NORTH WELLS 103A & 103B

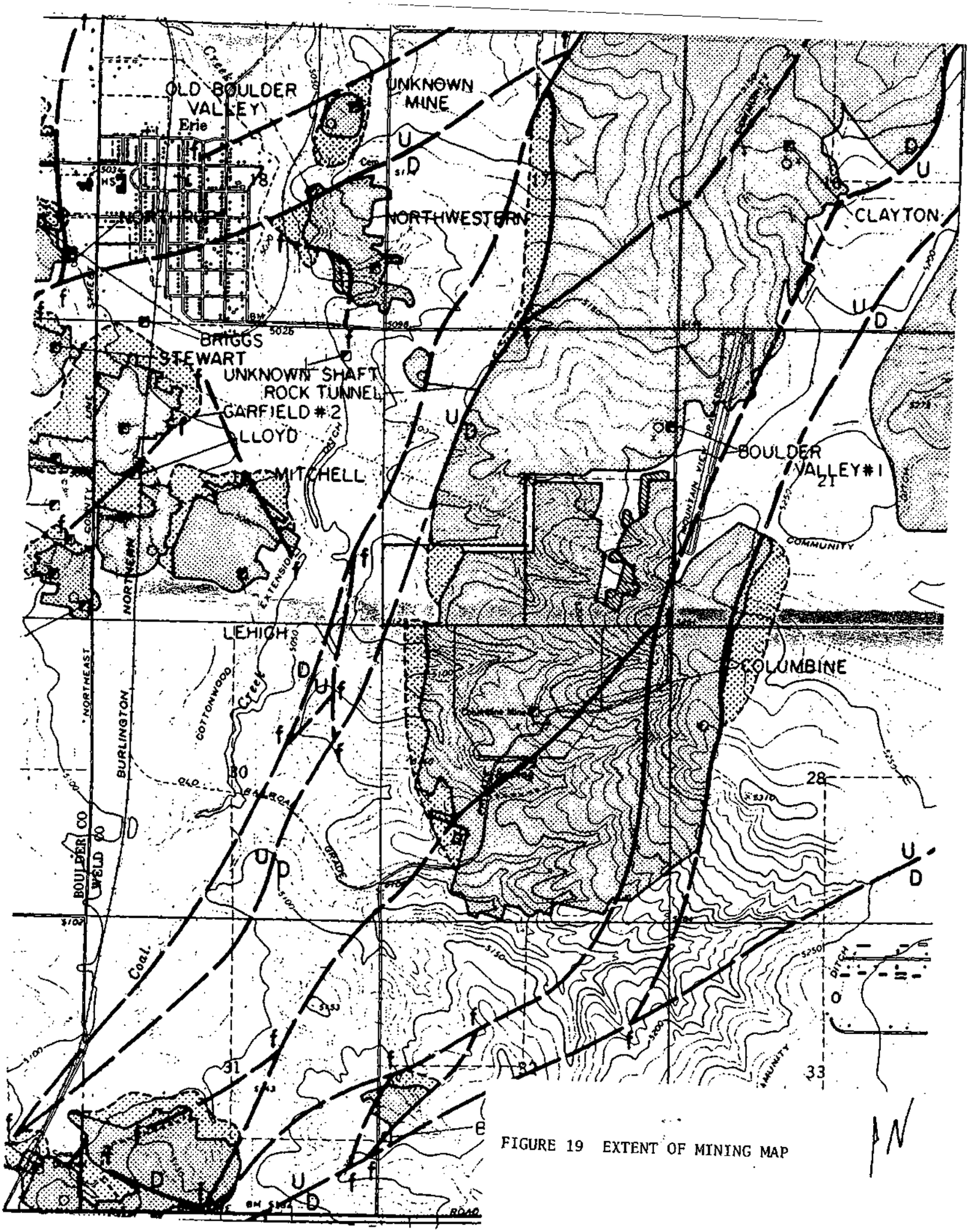


FIGURE 19 EXTENT OF MINING MAP

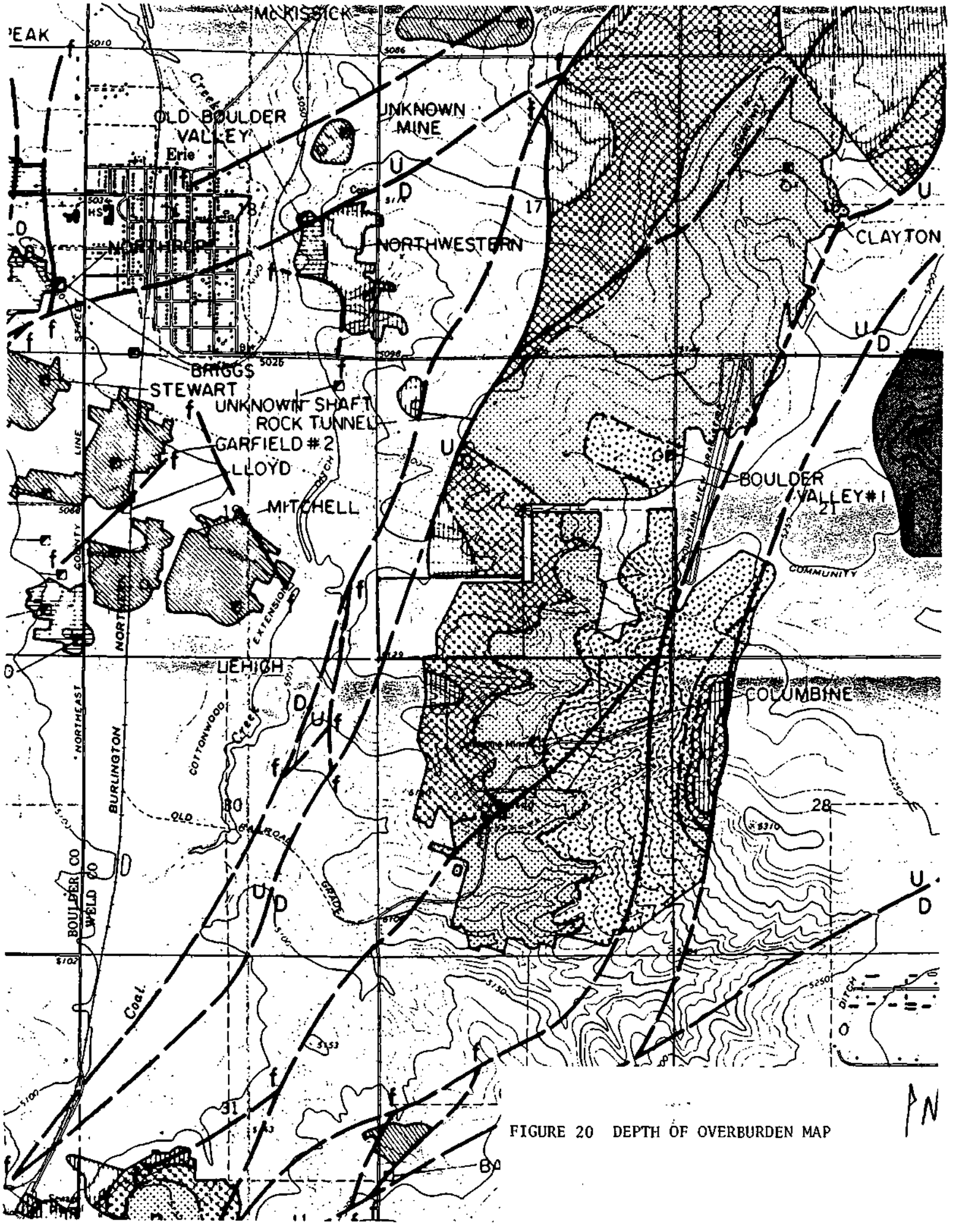


FIGURE 20 DEPTH OF OVERBURDEN MAP

DEPTH OF COVER

0' – 50'

50' – 100'

100' – 150'

150' – 200'

200' – 250'

250' – 300'

300' – 350'

350' – 400'

> 400'

LEGEND

AIRSHAFT

MINE SHAFT (Hoisting Shaft

ROCK SLOPE

U D f f

FAULT

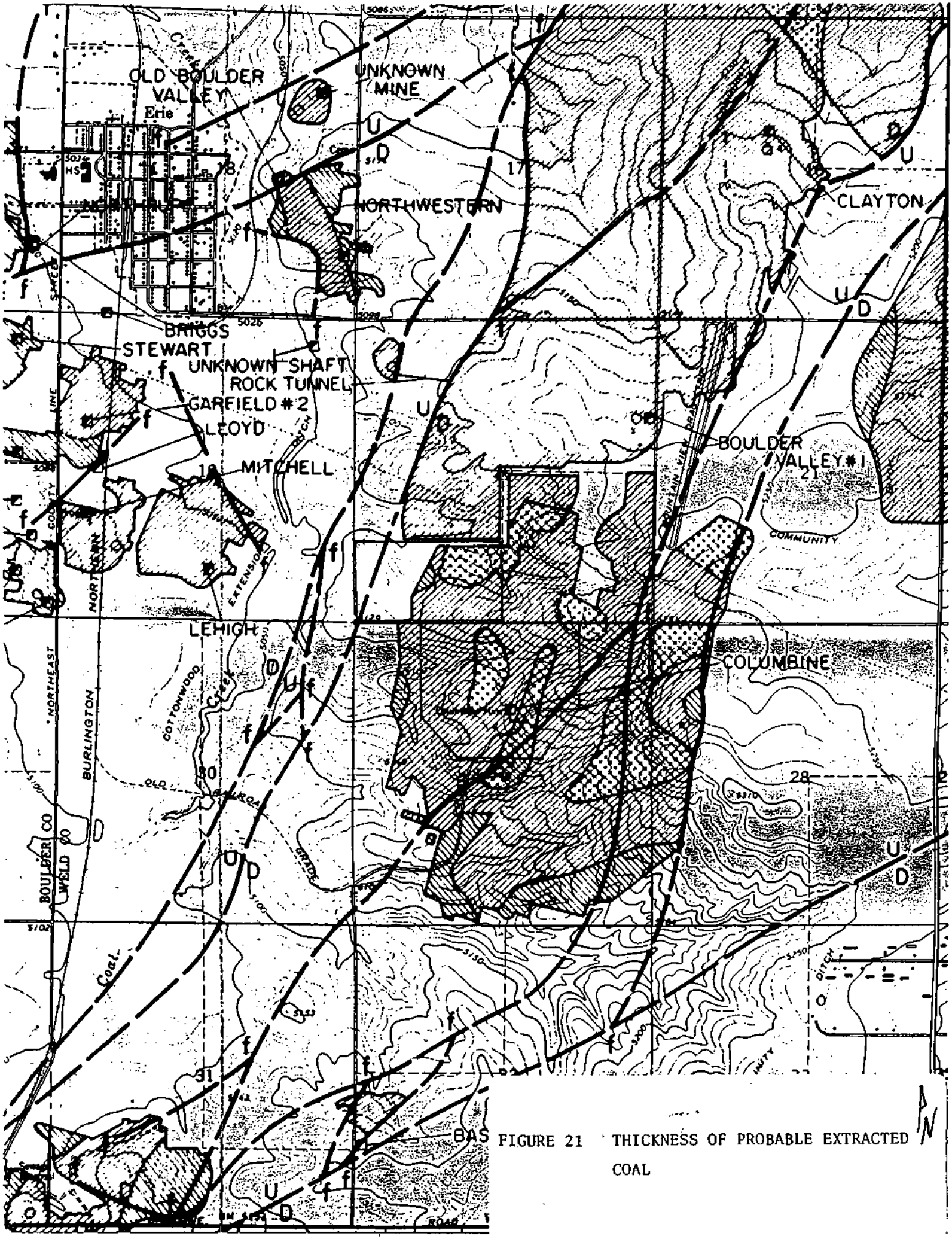


FIGURE 21 THICKNESS OF PROBABLE EXTRACTED COAL

HEIGHT OF MINE OPENING (FLOOR TO BACK)

- 0 to 5 Feet
- 5 to 10 Feet
- 10 to 15 Feet
- 15 to 20 Feet
- 20 to 25 Feet

LEGEND

- AIRSHAFT
- MINE SHAFT (Hoisti
- ROCK SLOPE
- FAULT (U, D, f)

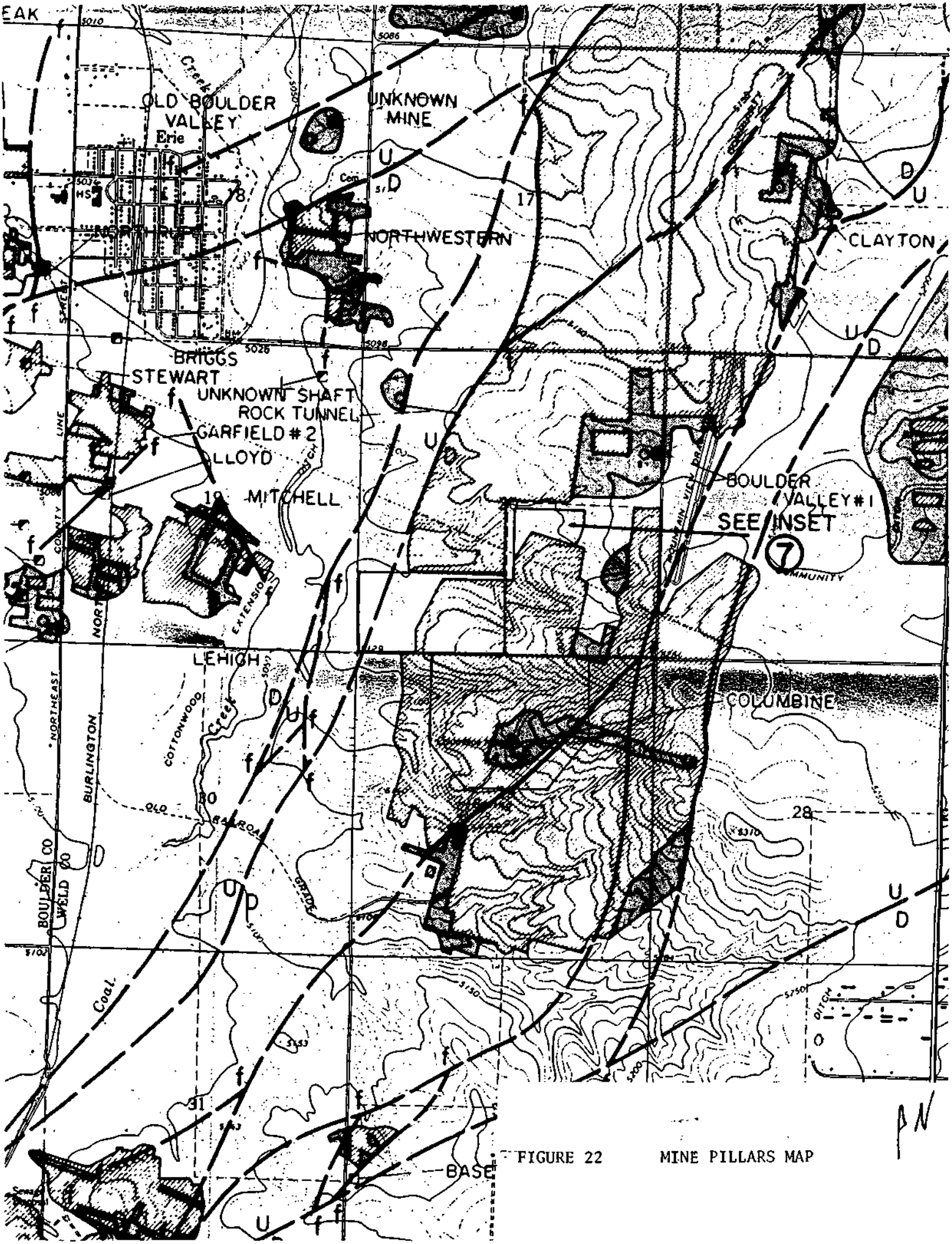


FIGURE 22 MINE PILLARS MAP

MINE PILLARS

PILLARS LEFT

PILLARS REMOVED

LEGEND

AIRSHAFT

MINE SHAFT (Hoisting Shaft)

ROCK SLOPE

U D f f

FAULT

MILE

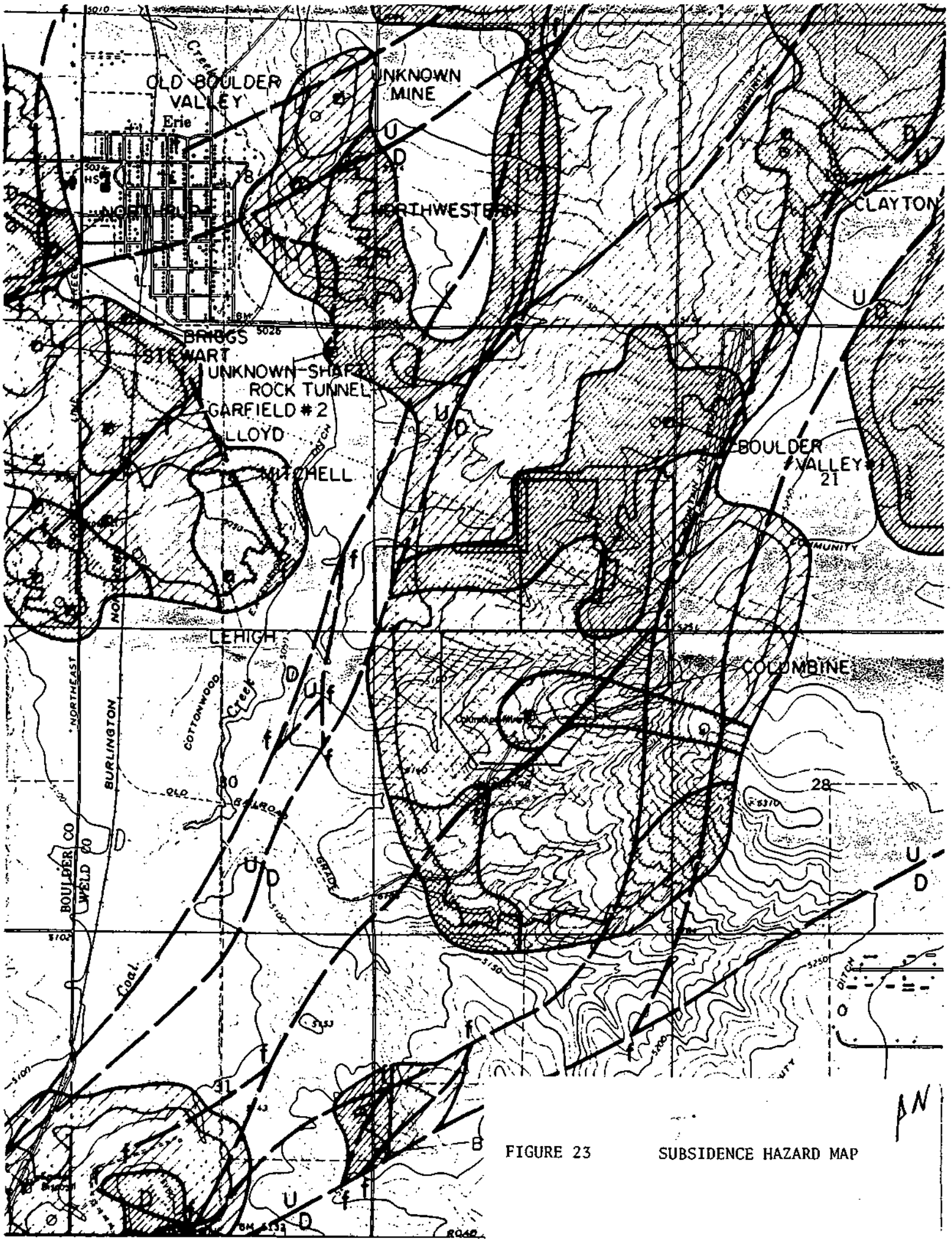
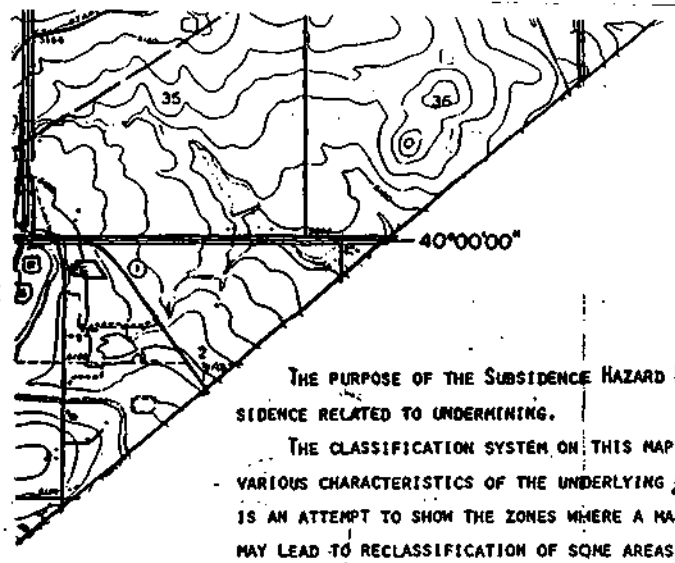


FIGURE 23 SUBSIDENCE HAZARD MAP

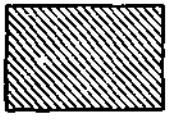


SUBSIDENCE HAZARD MAP

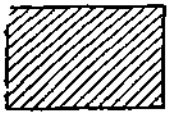
THE PURPOSE OF THE SUBSIDENCE HAZARD MAP IS TO LABEL THOSE AREAS WHERE THE LAND SURFACE WILL BE AFFECTED BY SUBSIDENCE RELATED TO UNDERMINING.

THE CLASSIFICATION SYSTEM ON THIS MAP IS BASED UPON THE DEGREE OF HAZARD WHICH MAY BE EXPECTED AS A RESULT OF THE VARIOUS CHARACTERISTICS OF THE UNDERLYING OR ADJACENT MINE WORKINGS AND THE PRESENCE OF FAULTING. THIS INTERPRETATION IS AN ATTEMPT TO SHOW THE ZONES WHERE A MAJORITY OF THE AREA CONFORMS TO THE GIVEN CATEGORY. FURTHER DETAILED ANALYSIS MAY LEAD TO RECLASSIFICATION OF SOME AREAS.

SEVERE - ZONES LABELED SEVERE ARE AREAS IN WHICH THE EFFECTS OF RAPID SUBSIDENCE SUCH AS FAILURE OF BUILDING FOUNDATIONS, ROADWAYS, GAS MAINS, AND SIMILAR FREQUENTLY USED, OR POTENTIALLY DANGEROUS FEATURES MAY ENDANGER LIVES OF PERSONS IN THE IMMEDIATE VICINITY. SUCH AREAS HAVE BEEN UNDERMINED AND ARE CHARACTERIZED BY 1) THE PRESENCE OF PILLARS AND PHYSICAL EVIDENCE OF VOID SPACE, OR 2) BY ABSENCE OF EVIDENCE OF SURFACE SUBSIDENCE. THE COLLAPSE OF DECOMPOSED PILLARS COULD INDUCE ALMOST INSTANTANEOUS SUBSIDENCE OR DISPLACEMENT WITH EQUALLY OR ALMOST EQUALLY RAPID DESTRUCTION OF STRUCTURES AT THE SURFACE. THE ONLY ACCEPTABLE LAND USE FOR THESE AREAS IS AGRICULTURAL OR OPEN SPACE.



MODERATE - AREAS SUBJECT TO MODERATE SUBSIDENCE ARE DEFINED BY POTENTIAL SURFACE DISRUPTION OF SUFFICIENT MAGNITUDE TO DAMAGE STRUCTURES TO SUCH AN EXTENT AS TO RENDER THEM UNSAFE OR UNUSABLE. THE RATE OF SUCH DISRUPTION HOWEVER IS SLOW ENOUGH TO ALLOW TIME FOR RECOGNITION OF THE PROBLEM AND SAFE, ORDERLY ABANDONMENT OF SURFACE STRUCTURES. THESE AREAS ARE CHARACTERIZED BY EVIDENCE OF PREVIOUS SUBSIDENCE OVER UNDERMINED AREAS WHERE PILLARS WERE LEFT. THIS CONDITION PRODUCES THE POTENTIAL FOR FURTHER SMALL SCALE COLLAPSE AND DIFFERENTIAL SETTLEMENT. APPROPRIATE LAND USES MIGHT BE AGRICULTURE, OPEN STORAGE SUCH AS STOCKPILES, LUMBER YARDS, OR UNOCCUPIED WAREHOUSES, AND OPEN SPACE.



LOW - ZONES OF LOW HAZARD ARE AREAS IN WHICH THE RATE AND MAGNITUDE OF ANY SURFACE DISPLACEMENT WOULD BE SMALL ENOUGH TO WARRANT REPAIR OF DAMAGE TO EXISTING STRUCTURES AND APPLICATION OF ADEQUATE ENGINEERING DESIGN TO FUTURE STRUCTURES SO THEY CAN WITHSTAND SMALL AMOUNTS OF FOUNDATION DISPLACEMENT. THESE ARE AREAS BELOW WHICH ALL OR ESSENTIALLY ALL PILLARS HAVE BEEN REMOVED ALLOWING THE POSSIBILITY OF RELATIVELY UNIFORM AND COMPLETE SUBSIDENCE TO HAVE OCCURRED. PROBLEMS IN SUCH AREAS SHOULD BE REDUCED TO POST-SUBSIDENCE COMPACTION AND RELATED SURFACE SETTLING, AND TO SMALL-SCALE EFFECTS OF SUB-SURFACE SHIFTING RESULTING FROM ANY SMALL RESIDUAL OR SECONDARY VOIDS. THE ONLY RESTRICTIONS PLACED ON LAND USE WOULD BE THE REQUIREMENT FOR ADEQUATE STRUCTURAL DESIGN OF ANY STRUCTURES PLANNED FOR THESE AREAS.

AMUEDO AND IVEY

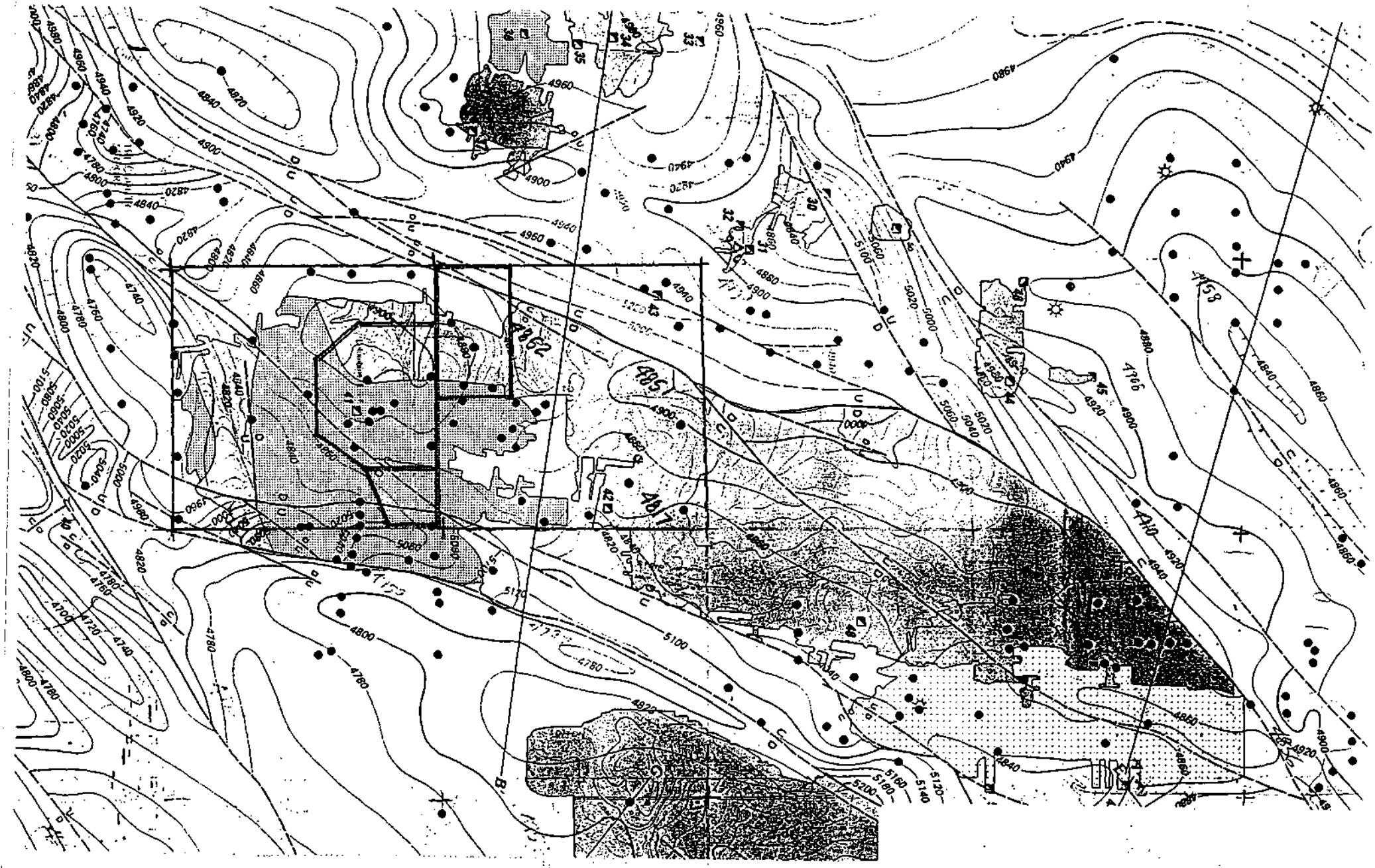


FIGURE 24 LARAMIE FORMATION STRUCTURE MAP

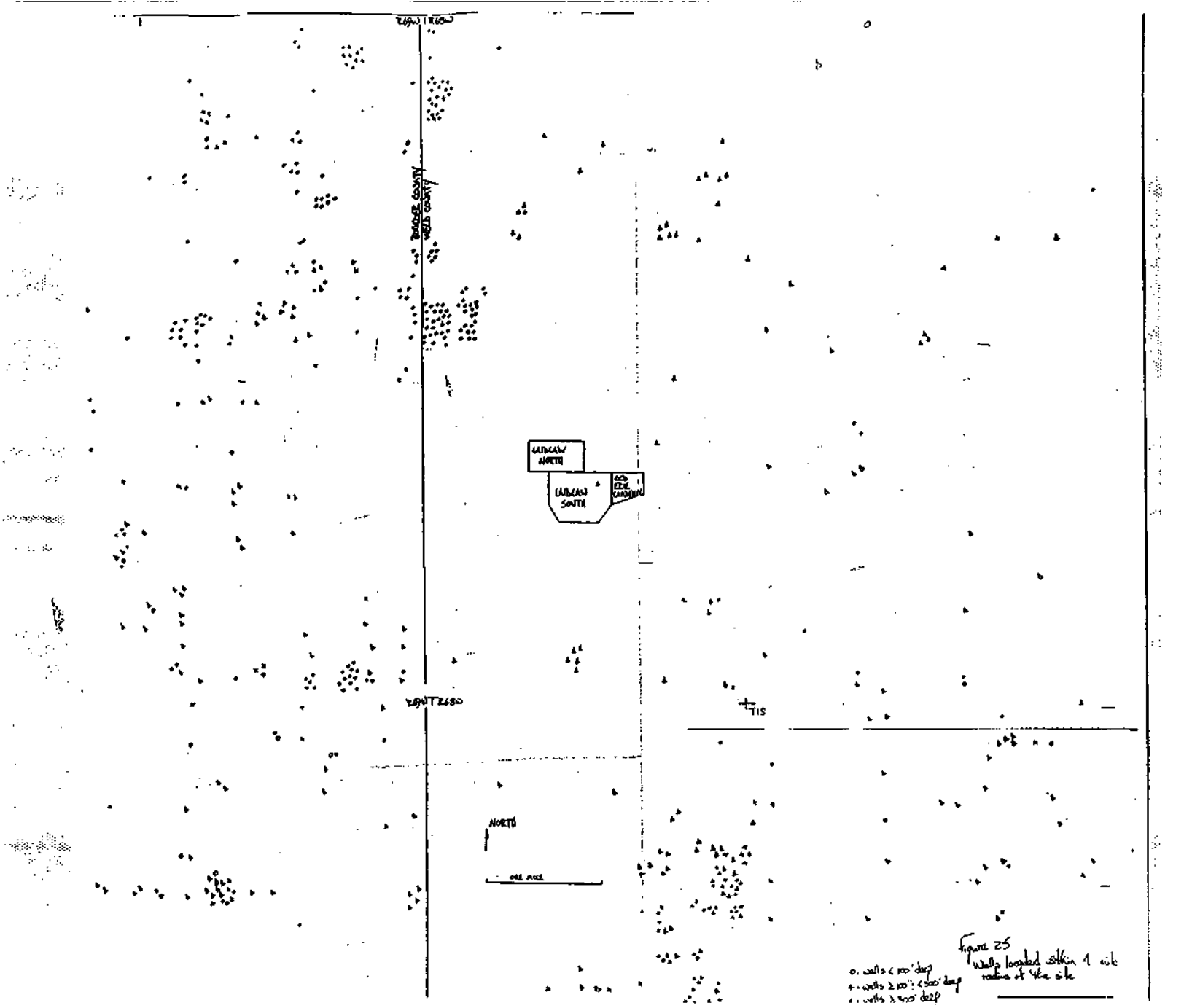


Figure 25
Wells located within 1 mile radius of the site

o. wells < 100' deep
+. wells ≥ 100' < 300' deep
•. wells ≥ 300' deep

WELL 203

MONITOR FUNCTION = BEDROCK
TOTAL DEPTH = 29.9'
DEPTH TO BEDROCK = 12'
SCREEN INTERVAL 17.5' - 27.5'

203 TOC = 5167.46'

SUMMARY OF WATER CHEMISTRY FOR WELLS 203 and 204 LAIDLAW N

SAMPLE DATE	12/21/84	03/15/85	06/13/85	09/19/85	01/24/86	05/14/86	09/12/86	12/04/86	03/05/87	06/04/87	09/13/87	12/07/87	03/27/88	06/22/88	09/29/88	12/22/88	03/28/89	06/27/89	09/21/89	12/20/89	03/30/90
TEMP (C)		12	13	13	18				12	15	14	13	10.5	13	13	10	10.5		13	11	12
pH		7.4	7.4	7.5	7.3				7.4	7.3	7.5	6.5	6.5	6.2	7.3	7.5	6.4		7.5	6.8	7.4
SP.COND.		10000	10440	9960	9750				8930	9400	9400	10000	10000	9800	7800	9100	8400		8900	7400	9500
DEPTH WATER		24.75	17.95	17.6	28.35	20.35	25.19	17.65	18.5	16.92	16.54	16.45	16.28	15.94	16.42	17	17.28	17.12	16.93	17.21	19.59
PARAMETERS																					
TOC		82	81	91	74	92	71	71	70	67	84	107	75	83	63	72	72		56.6	64	65
TOI (ug/l)		260	105	254	380	10	299	202	*	*	348	373	410	415	338	245	199		254	221	264
TDS		8520	8030	*	*	9430	9260	9340	9390		9790	9700	9650	10100	9030	9520	9290		8080	9020	8920
CALCIUM		550	550	550	*	520	550	550	540		510	520	550	570	530	530	514		507	475	450
MAGNESIUM		267	262	266	*	285	280	344	281		310	300	340	400	360	360	331		360	370	246
SODIUM		1820	1750	1610	*	1920	2080	1910	1990		1970	1845	2020	2100	2030	2100	2110		2125	1850	1800
POTASSIUM		27	25	22	*	20.8	18.8	22	28		25	23	19.8	20	20	18.7	18.3		18	17	21
BICARBONATE		270	272	*	*	264	275	286	278		392	377	660	433	427	430	345		457	450	420
CARBONATE		-1	-1	*	*	-1	-1	-1	-1		-1	-1	-1	-1	-1	-1	-1		-1	-1	-1
SULFATE		4530	4750	*	*	4950	5090	5350	5320		5870	5930	5740	5980	5980	5900	5257		5210	5080	5710
CHLORIDE		975	856	860	860	860	760	690	690		500	136	520	630	450	340	300		244	254	329
NO2+NO3		90.10	60.42	27.53	74.02	67.01	90.02	68	53		35	24.2	17.62	3.42	13.23	15.72	15.6		13	2006	1903
KJELDAHL N		3.47	1.65	2.70	4.23	4.73	4.03	4.18	1.15		8.1	4.96	5.3	5.2	4.5	3.9				3	3
COPPER		0.01	-0.01	-0.01	*	-0.01	*	0.02	0.02		0.02	0.02	0.02	0.02	0.02	0.03	-0.005		-0.005	-0.01	-0.01
IRON		-0.05	-0.05	-0.05	*	-0.05	-0.05	0.08	-0.05		-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.006		-0.006	-0.03	-0.02
MANGANESE		0.04	0.03	-0.01	*	-0.01	-0.01	0.02	-0.01		-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.004		-0.004	-0.01	-0.01
STRONTIUM									11		11	10.4	11.6	12.6	12.8	11.4	9.09		11	9.65	8.3
ZINC		0.03	0.01	0.08	*	-0.01	-0.02	0.02	-0.01		0.02	0.01	0.02	-0.01	0.02	-0.01	-0.003		0.082	-0.01	0.01
CATION-ANIONS		1.10	-0.36			0.6	3.68	1.4	0.87		-1.65	-0.74	-0.13	1.83	0.74	2.53	7.08		8.84	-2.44	-4.77

WELL 204

MONITOR FUNCTION = BEDROCK
TOTAL DEPTH = 74'
DEPTH TO BEDROCK = 14.5'
SCREEN INTERVAL 32.2 - 72.4

AKA KH14 TOC = 5089.20'
204 TOC = 5059.50'
204A TOC= 5083.42'

	204																				
												204A									
SAMPLE DATE	12/21/84	03/15/85	06/13/85	09/19/85	01/24/86	05/31/86	09/12/86	12/04/86	03/05/87	06/04/87	09/13/87	12/07/87	03/27/88	06/22/88	09/29/88	12/22/88	03/28/89	06/27/89	09/21/89	12/20/89	03/30/90
TEMP (C)						15	14	10	13	13	13	12	12.5	13	13	9	13		13	12	4
pH						7	6.9	6.9	7.1	6.9	7.2	6.6	6.5	7.5	6.8	6.8	6.5		6.7	6.7	6.2
SP.COND.						3760	4140	3370	4350	4170	3910	4410	3800	7800	6400	6500	3100		3400	7243	7600
DEPTH WATER						24.27	24.31	23.88	25.47	24.76	25.18	26.04	24.52	24.42	25.41	26.3	26.93	27.29	27.49	27.66	32.6
PARAMETERS																					
TOC						44	12	11	21	17	15	66	20	29	38	61	18		16.4	25	30
TOI (ug/l)							20	40	36	39	48	37	26	8	17	140	11		25	41	21
TDS						3965	3410	3310	3420	3430	3210	3380	6640	6560	6800	6950	7220		6570	6560	7110
CALCIUM						120	151	144	131	150	147	135	224	250	215	280	283		319	235	277
MAGNESIUM						109	125	120	112	114	112	104	233	271	280	308	298		326	295	228
SODIUM						860	840	840	890	820	820	750	1510	1780	1720	1900	1920		1940	1460	1670
POTASSIUM						9.3	8.3	9.6	9.4	9.8	9.8	9.6	19	19	11.6	12.9	10.1		19.9	10	21
BICARBONATE						1010	992	928	942	924	929	915	3550	1470	1590	1400	1230		1470	1400	1490
CARBONATE						-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1		-1	-1	-1
SULFATE						1460	1710	1680	1730	1680	1520	1440	3600	4200	3950	3700	3995		3870	3870	4040
CHLORIDE						51	83	92	100	111	109	134.4	76	78	78	82	96		70.1	72	110
NO2+NO3						5.09	9.89	9.38	10.4	9.12	16.2	17.3	0.03	1.71	3.12	4.65	2.7		3	4.96	2.85
KJELDAHL N						2.31	1.56	0.86	2.4	2.4	1.7	2.05	2.65	1.8	1.64	1.8			1	2	1
COPPER						-0.01	-0.01	-0.01	0.01	0.01	-0.01	0.01	-0.01	-0.01	-0.01	-0.01	-0.005		-0.005	-0.001	-0.01
IRON						-0.01	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.006		-0.006	-0.003	0.11
MANGANESE						0.1	0.1	0.08	0.09	0.08	0.07	0.07	0.16	0.05	0.22	0.19	-0.004		0.102	0.15	0.3
STRONTIUM									2.6	2.42	2.35	2.23	4.37	4.76	5.5	5.25	4.48		5.62	4.15	4.3
ZINC						-0.01	-0.01	0.02	-0.01	-0.01	0.02	-0.01	0.02	-0.01	0.04	0.02	-0.003		0.17	-0.01	0.01
CATION-ANIONS								0.22	0.53	-0.44	2.18	-1.47	-3.04	-2.03	-0.76	4.76	5.3		8.84	-2.99	-2.9

FIGURE 26 SUMMARY OF WATER CHEMISTRY FOR WELLS 203 and 204, LAIDLAW NORTH

TABBED PAGE

APPENDIX A

ATTACHMENT C

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: CO | 02 SITE NUMBER: D980635379

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Columbine Landfill	17500 Weld County Rd 6				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Erie	CO	80516	Weld	123	04

09 COORDINATES — LATITUDE: 40 03 04.0 | LONGITUDE: 105 01 30.0

10 TYPE OF OWNERSHIP (Check one): [X] A. PRIVATE [ ] B. FEDERAL [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 06.13.84 (MONTH DAY YEAR)
02 SITE STATUS: [X] ACTIVE [ ] INACTIVE
03 YEARS OF OPERATION: about 1965 / Present (BEGINNING YEAR / ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): [ ] A. EPA [ ] B. EPA CONTRACTOR ___ (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR ___ (Name of firm) [X] E. STATE [ ] F. STATE CONTRACTOR ___ (Name of firm) [ ] G. OTHER ___ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Scott Winters	Geologist	Colo Dept of Health	(303) 320-8333
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Dennis Hatovec	"	Colo Dept of Health	(") " "
Mark Mullis	Consultant	E+E	(303) 757-9984
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Steve Orzyaski	Tech Services Director	7333 West 120th Suite 210 (Northglenn, CO)	(303) 450-2276
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one): [X] PERMISSION [ ] WARRANT
18 TIME OF INSPECTION: 06/12/84 1315; 06/13/84 0830; 06/14/84 0900
19 WEATHER CONDITIONS: Basically clear w/some Rain w/Temps ranging from 70°F to 90°

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Steve Orzyaski	Kiewit Corporation	(303) 450-2255

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Scott Winters	CDH	WMD	303-320-8333	10.24.84 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

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 (3)
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS ± 1500 — 85,000 gallons

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			
OLW	OILY WASTE			
SOL	SOLVENTS *	Unknown	Unknown	Total vol is about
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS *	"	Unknown	84,000 gallons
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
Sol	MEK, MIBK, cyclohexane ?		Drums	unknown	—
OCC	Unknown	Unknown	unknown	"	
IOC	"	"	"	"	
ACD	"	"	"	"	
BAS	"	"	"	"	

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)

EPA & State files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: CO | 02 SITE NUMBER: D980635379

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

From groundwater sampling, before EPA QA/QC review; may indicate contaminants in the system.

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2300 — 04 NARRATIVE DESCRIPTION

Because the shallow alluvial groundwater eventually daylights probably flows toward Coal Creek, about ½ mile from site. These conditions provide the potential for surface water contam.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

" " " "

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None reported

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: total acreage 195 (ACRES) — 04 NARRATIVE DESCRIPTION

Possible if drums are leaking

01 ☒ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Same statements as given in groundwater and surface water.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None reported

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

" "

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: CO
02 SITE NUMBER: D980685379

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Not observed

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
" "

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
" "

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills, Runoff, Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
" "

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None reported

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
" "

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
" "

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None reported or observed

III. TOTAL POPULATION POTENTIALLY AFFECTED: Total could be about 8300

IV. COMMENTS
None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
EPA & State files
Site inspection + conversations w/ facility contact

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)	Certificate of designation		none	
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL w/drums below ground	±1500	drums
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION N/A
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER.

☒ A. BUILDINGS ON SITE: 3-4

06 AREA OF SITE: 195 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE Potentially ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

the drums were disposed of on a 10 to 25 acre site in the late 60's and early 70's

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

Drums have been buried for at least 10 yrs. Several 10's of feet of solid waste

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

EPA & State Files
Site Contacts

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)	SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☐	B. ☐	A. ☐	B. ☐	C. ☐	A. ____ (mi)
NON-COMMUNITY	C. ☐	D. ☐	D. ☐	E. ☐	F. ☐	B. ____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER within 1 to 2 miles 100 to 200 03 DISTANCE TO NEAREST DRINKING WATER WELL ≈ 1½ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
about 40-50 (ft)	probably west	50 to 50 or 400 (ft)	unknown (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

The majority of the wells within this area are used for principally irrigation ~~and~~ and some domestic uses.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS Unknown	☐ YES ☐ NO	COMMENTS Unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☒ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Coal Creek	☐	½ (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN: ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE	02 DISTANCE TO NEAREST POPULATION
A. 30 to 50 (NO. OF PERSONS)	B. 100 to 200 (NO. OF PERSONS)	C. 2300 (NO. OF PERSONS)	½ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
50 to 60	½ (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)

In the immediate vicinity is a rural ~~farm~~ farm & ranch area with the town of Erie about 2 to 3 miles to the northwest.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: CO 02 SITE NUMBER: D980685379

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
exact depth unknown anything to 10-15 feet (ft)	Unknown (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
8 to 12 (in)	Unknown (in)	2-5 %	West	about 5 %

09 FLOOD POTENTIAL not in ~~SITE IS IN~~ 100 YEAR FLOODPLAIN

10 N/A ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. N/A (mi) OTHER: B. 1/2 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species): Unknown (mi)

ENDANGERED SPECIES: Unknown

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 1/2-3/4 (mi)	B. about 2-3 (mi)	C. adjacent to property (mi)	D. (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The facility is located ~~about~~ above an old ~~coal~~ coal mine with several faults existing in this area. The overall topography is an upland area characterized by ~~gentle~~ gentle slopes with a maximum slope of about 10%. Relief in this area is approx 80 feet from the top of the landfill down to Coal Creek. 3 surface water containment ponds are situated on site with 2 additional stock ponds downslope, downdrainage, of the site about 1/2 mile.

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

State Files
On site inspection
Conversation with facility contact

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE: CO | 02 SITE NUMBER: 0980635379

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	~~4~~ 5	All inorganic samples were	Organics
SURFACE WATER	2	submitted to Cambridge	Inorganics
WASTE		Analytical Assoc. located at	received
AIR		222 Arsenal St. in Watertown,	Sept 12, 1984
RUNOFF		Mass	
SPILL		Organic samples were sent to	Inorganics
SOIL		Spectrum Corp located at	not received
VEGETATION		3911 Fondren, Suite 100 in Houston	at time of
OTHER		Texas	report.

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
pH	~~[illegible]~~ values ranged from 6.7 to 8.9
Conductivity	" " " 2400 to 17200

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Colo Dept of Health (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS Colorado Dept of Health

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

No ~~soil~~ other data collected

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

Onsite inspection
EPA + State Files
Laboratory Data

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

II. CURRENT OWNER(S) old Property of this New

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Kenneth Pratt		Same	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
1921 Panorama Circle			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Longmont	CO	80501			

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Kerrea Corporation		Same	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
1333 West 120th Suite 210			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Northglenn	CO	80234			

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

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

III. PREVIOUS OWNER(S) (Last First)

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

IV. REALTY OWNER(S) (Last First)

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

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

State Files
Facility Contacts

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

II. CURRENT OPERATOR (Provide if different from owner) Same as Part 7

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 / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

OPERATOR'S PARENT COMPANY (If applicable)

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 / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
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 / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
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 / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980635379

II. ON-SITE GENERATOR Not applicable

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

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

IV. TRANSPORTER(S)

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

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CO	D980635379

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
Not reported

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CO	0980635379

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
Not reported

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION " "

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
" "

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CO	D980635379

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

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

EPA FORM 2070-13 (7-81)

TABBED PAGE

APPENDIX B

3012 SITE INSPECTION REPORT

DATE OF INSPECTION:	June 12, 13, 14, 1984
FACILITY:	Columbine Landfill
EPA ID #:	COD980635379
LOCATION:	The facility is at the intersection of Weld County Roads 5 and 6, about 9 miles north of I-25 and 120th Ave., Denver, Colorado. (See attached map)
CONTACT:	Steve Orzynski, Director Technical Services (303) 450-2755 or 2756, Kierns Corporation 1333 West 120th, Suite 210 Northglenn, Colorado 80234
INSPECTORS:	Scott Winters, Team Leader Dennis Hotovec, Team Member Mark Mullis, Team Member (E&E)
WEATHER CONDITIONS:	June 12, 1984 Partly Cloudy, 75°F to 80°F June 13, 1984 Clear, 75°F changed cloudy; rain 65°F June 14, 1984 Clear, Muggy, 75°F to 80°F
TIME IN:	June 12, 1984: 1310 June 13, 1984: 0830 June 14, 1984: 0900
TIME OUT:	June 12, 1984: 1700 June 13, 1984: 1900 June 14, 1984: 1324

Site History: This facility is an active landfill which began operations around 1965 and was originally owned by Mr. Kenneth Pratt (303) 776-6822. This operation occupied about 25 acres of land and accepted 84,000 gallons of chemical wastes from IBM from 1965 to 1969. These wastes included solvents and unspecified organics, inorganics, acids and bases. The old operation was shut down in 1970.

In 1980 the Kiernes Corporation aquired about 170 acres of land west of the old "Pratt Property". The company applied for and received a Certificate of Designation from the Weld County Commissioners, with the appropriate recommendation for approval for the Colorado Department of Health. In 1983 the present company requested an expansion of their operational area to include the old property. Currently this landfill operation occupies a total of 195 acres of land.

Beneath this active landfill is the old Columbine Coal Mine which is now inactive. This mine area is classified by the Colorado Geological Survey as having a high hazard potential for subsidence. Above and below the mine area are three saturated intervals that have been identified by the facility's consultants. The first interval is near surface, at a depth of about 25 to 30 feet and is reported to be a very thin saturated interval which is confined to the drainages in which this system exists. On site are no indications of any surface expression for this saturated interval. Directly beneath this aquifer, at a depth of about 40 to 60 feet is a second perched ground water system. Both shallow systems have been reported as probably discharging into Coal Creek or the associated alluvium. Beneath the entire site at a depth of 400 to 450 feet is the Laramie Fox Hills Aquifer. The potentiometric surface for this aquifer is approximately 200 to 270 feet below land surface which indicates that the aquifer is under artesian conditions.

This facility is located in an upland area characterized by gently sloping topography with a maximum slope of about 10 percent. Topographic relief for this area is about 80 feet with three surface water runoff containment ponds located onsite. About 1/2 mile west of this property are two dry stock watering ponds which were constructed across the principal drainage, discharging offsite. All 5 ponds are about 15 feet deep and are about 100 x 100 feet in extent.

The existing landuse around this site is principally agricultural. About 1 1/2 miles northwest of this site is the town of Erie. The present population for this town is about 2,300 with approximately 10 people residing within 1 mile of the site. All of these residences are located upgradient from the site. Therefore, the principal population at risk for this area is the town of Erie. Because the original wastes were disposed of below ground surface by several layers of municipal wastes the principal pathway for human exposure would be either groundwater or surface water.

From review of the water wells registered with the State Engineers Office, within a 1 mile radius of this site two principal sources of ground waters are used by the residents in this area. These sources of water are the Coal Creek Alluvium and the Laramie-Fox Aquifer. These wells have been registered for domestic and livestock uses and are about 35 feet deep in the alluvium and 700 feet deep into the Laramie-Fox Hills Aquifer.

On June 12, 1984, the inspectors met Mr. Steve Orzynski, (Director of Technical Services for Colorado Landfill System Inc,) on site to take a tour of the facility, locate and establish the depths of all monitoring wells and to inspect the surface water runoff containment ponds located on site. Further, the inspectors were onsite to evacuate the monitoring wells prior to sampling the next day. It was discovered that are were six test holes actually used as monitoring wells, located on site. Of these six holes only three contained water of sufficient quantity that could be collected for groundwater sampling purposes. All three ponds located on site contained sufficient water to be sampled the next day. Delete

On June 13 the inspectors returned to this facility and began sampling. Test holes one, eight and six were sampled as well as two of the three surface water ponds located onsite.

No waters were contained within the offsite ponds at the time of inspection and they could not be sampled. All surface water samples were collected by using a stainless steel clamp attached to a 4 foot metal rod and clamping the individual bottles in this device. Once the bottles were secured they were lowered, inverted, into the surface water until the desired sampling depth was reached. At that time they were turned over and allowed to fill. Once filling was completed they were removed and capped for shipment. All soil samples collected at this facility were obtained by using a decontaminated plastic scoop.

All groundwater samples were collected using a stainless steel bailer with a dedicated rope for each monitoring well. After the samples were collected, in a stainless steel bucket they were poured into either a sample bottle or into a barrel filter for collection of the inorganic samples. These samples were then filtered using a 45 micron filter. The samples were then placed into the sample bottles and acidified using nitric acid. (Note: Groundwater wells used were probably not constructed with low level organic chemical sampling in mind.)

The equipment was then decontaminated using a tap water rinse and scrubbing brush, then a triple rinse in acetone, air dried and then a triple deionized water rinse before reuse. The rope and all waste material was disposed of at the site in plastic bags.

Groundwater sample number 1 located along the east boundary of the entire site, including the old Pratt Property. This sample was at a depth of about 90 feet and was collected as a composite grab sample. The pH and conductivity for these samples were 6.8 at a tempertature 26°C and 10250 umhos/cm respectively.

Test hole number 8 was the location for groundwater sample number 2. The water level for this hole was approximately 24 feet. Again a composite grab sample was collected from this location and a pH and conductivity were obtained from this sample. The pH was 6.9 at a temperature of 22°C and the conductivity was 8600 umhos/cm. This sample was very turbid due to the method employed in obtaining the necessary samples. The method used was to drop the bailer down hole continuously and splash the liquid into the bailer until the necessary amount of sample was collected.

A groundwater blank was submitted to the laboratories assigned this facility. The organic samples were prepared using organic free water-obtained from Fisher Scientific, Lot number 732033. The conductivity for this sample ranged between 6.4 & 7.8 at a temperature of 22°C and had a conductivity of 5.4 umhos/cm. The inorganic sample was prepared using deionized water obtained from the Colorado Department of Health's Laboratory Division. No pH or conductivity was obtained for this sample because of acidification of the sample before the analysis could be conducted.

Surface water sample number 1 was collected from the designated leachate collection pond located at the bottom the major drainage which is used for disposal of the municipal wastes. Although this pond is about 55 feet in depth only 2 to 3 feet of liquid was contained within the pond. This 2 to 3 feet of liquids was about 15 x 30 feet in areal extent.

The sample was collected at a depth of about 6 to 8 inches. After collection of this sample a pH and conductivity reading were taken with the following results. The pH of this sample was 8.1 at a temperature of 23°C and the conductivity was 2400 umhos/cm.

Surface water sample number 2 is a pond designated as a surface water runoff control pond. This pond is the north runoff control containment area and the sample was collected on the south side of this pond. The sample was collected at a depth of about 6 inches. Again pH and conductivity readings were obtained for this sample. The pH at 22°C was 8.9 and the conductivity was 1250 umhos/cm.

On June 14, 1984, the inspectors again arrived on site and proceeded to the remaining test hole which was scheduled for sampling. This hole, test hole 6, was about 60 feet deep with the water level at 33 1/2 feet. Because this hole had been bailed 2 days previously it was decided that the inspectors would need to evacuate this casing again to insure a valid groundwater sample. After this test hole had been bailed and allowed to recover groundwater sample number 3 and 30 (a duplicate sample of number 3) were collected. These samples were collected at an approximate depth of 45 to 50 feet and were composite grab samples. For both of these samples the pH was 6.7 at a temperature of 24°C and a conductivity of 17250/cm. umhos

All samples collected at this facility were split with the current owners/operators of this operation and were specifically given to Mr. Orzynski. The groundwater samples were pressure filtered using nitrogen gas and a 45 micron filter paper contained within a barrel filter. The surface water samples were not filtered.

After samples were collected they were placed into plastic bottles, acidified, labeled, taped, tagged, bagged and placed into coolers containing ice. These samples were then sent via Federal Express, using the appropriate chain of custody procedures, to the assigned laboratories. The inorganic samples were sent to Cambridge Analytical Associates located at 222 Arsenal Street in Watertown, Mass. The organic analyses were performed by Spectrix Corporation located at 3911 Fondren, Suite 100, in Houston, TX. All samples were sent to the laboratories on June 14, 1984.

On September 17, 1984, the Colorado Department of Health received the laboratory data for the organic analyses. Below are the reported values for the organic constitutents detected in the samples submitted.

Organics (Surface Water)
ug/l

	SW-1	SW-2
Bis (2-Ethythexyl) Phthalate	1200	
Chloroform	9	No constituants present Above
Methylene Chloride	5**	established detection limits.

(Note: ** Indicates amount has been corrected for the amount detected in the sample blank.)

Organics (Groundwater)
ug/l

Groundwater Flow

	GW-1	GW-3 and 30
Bis (2-Ethythexyl)Phthalate	0	25
Acetone	210	0
Dieldrin	10*	0

Pat, I need to have this page include all possible analytical results. Could we reformat this page to include the data listed on the next page?

Thanks,
Scott

Heptachlor	10*	0	0
BHC-Gamma	14.1	0	0
Chloroform	0	15	200**
Oxybismethane	310	0	0
1,2-Propandiol, 3,3 - Oxydi, Tetranitrate	90	0	0
1-Butene	130	0	0
Dimethoxy Methane	33	0	0
Methylene Chloride	0	6**	10**
Specific Conductivity	10250 umhos/cm	17250 umhos/cm	17250 umhos/cm

Groundwater Flow

	GW-2	GW-B
Oxybis methane	370	0
Dimethoxy Methane	37	0
Tetrahydrofuran	41	0
Chloroform	0	39
Methylene Chloride	0	6**
Specific Conductivity	8600 umhos/cm	5.4 umhos/cm

(Note: 1) * indicates compound present but below detection limit.
2) ** indicates value has been corrected for amount found in laboratory blank.)

From review of this analytical data it is the inspectors opinion that several organic compounds detected were due to field sampling and laboratory errors. The specific compounds were;

1. Acetone - this compound is present due to the use of acetone during the field sampling/decontamination procedures. Acetone was used as a final "rinse" to help clean the stainless steel sample containers prior to sample collection.

2. Chloroform and Methylene chloride - these compounds were not only detected in the field samples collected but were also present in the laboratory blank. Because these compounds were detected in the laboratory blank and are commonly found in the laboratory it is assumed that these constituents were present due to laboratory error.

The pesticides that were detected at this location were Dieldrin, Heptachlor and Gamma BHC. These pesticides have been banned from use for several years. Based upon their presence near the old fill area and not down gradient in the new fill it is the inspectors opinion that these materials were used during the old landfilling operation for vector/pest control. Specifically BHC Gamma was used for cattle dips, fly and maggot control and for household use on lawns, gardens and rose beds.

Tetrahydrofuran and Bis (2-Ethylhexyl) Phthalate were detected in groundwater samples. These constituents are probably a result of degradation of plastic products and the release of these products from the PVC pipe and glue used in

the construction of the monitoring wells. Further, Bis (2-ethylexal) Phthalate was found in one surface water sample which again could be due to plastic degradation and transported to the pond via onsite surface water precipitation runoff.

The last four constituents were tentatively identified compounds and are not necessarily correctly identified. These compounds are;

1. 1,2 - Propandiol 3,3, - Oxydi, Tetranitrate is an exotic compounds which is probably not found in typical municipal landfills. From conversations with the Colorado Department of Health laboratory personnel it was discovered that the GC/MS scan for this compound is so difficult to interpret that several other compound could be readily substituted, particularily if the match was made using a computer. Therefore, the inspectors decided that this information could not be considered as appropriate information for evalution of this site.

2. Methane, Dimethoxy (Formal, Methylal) is reportedly used in perfumes and artifical resins. This compound is made from methonal and formaldehyde and is highly soluble in water. It is possible that the constituent tentatively identified may not be the one present.

3. 1-Butene is used as a polymer and alkylate gasoline which is obtained from the distillation of refinery gases. This compound could be from the disposal of old gasoline products or because the compound is again tentatively identified the reliability of this identification procedure is questionable. Therefore, the inspectors do not feel that this data should be strictly considered in any folowup work. However, the data does indicate the presence of organic compounds whic should be considered if further work is done at the facility.

4. Oxybis Methane is a volitle material which is probably due to the operation of this landfill. This material was used in spray cans as a propellent, a refridgerent, solvent, catalyst and a stablizer for potymerization of plastics. Therefore, even though this constituent was only tentatively identified it is the inspectors opinion that the presence of this compound is probable for this location.

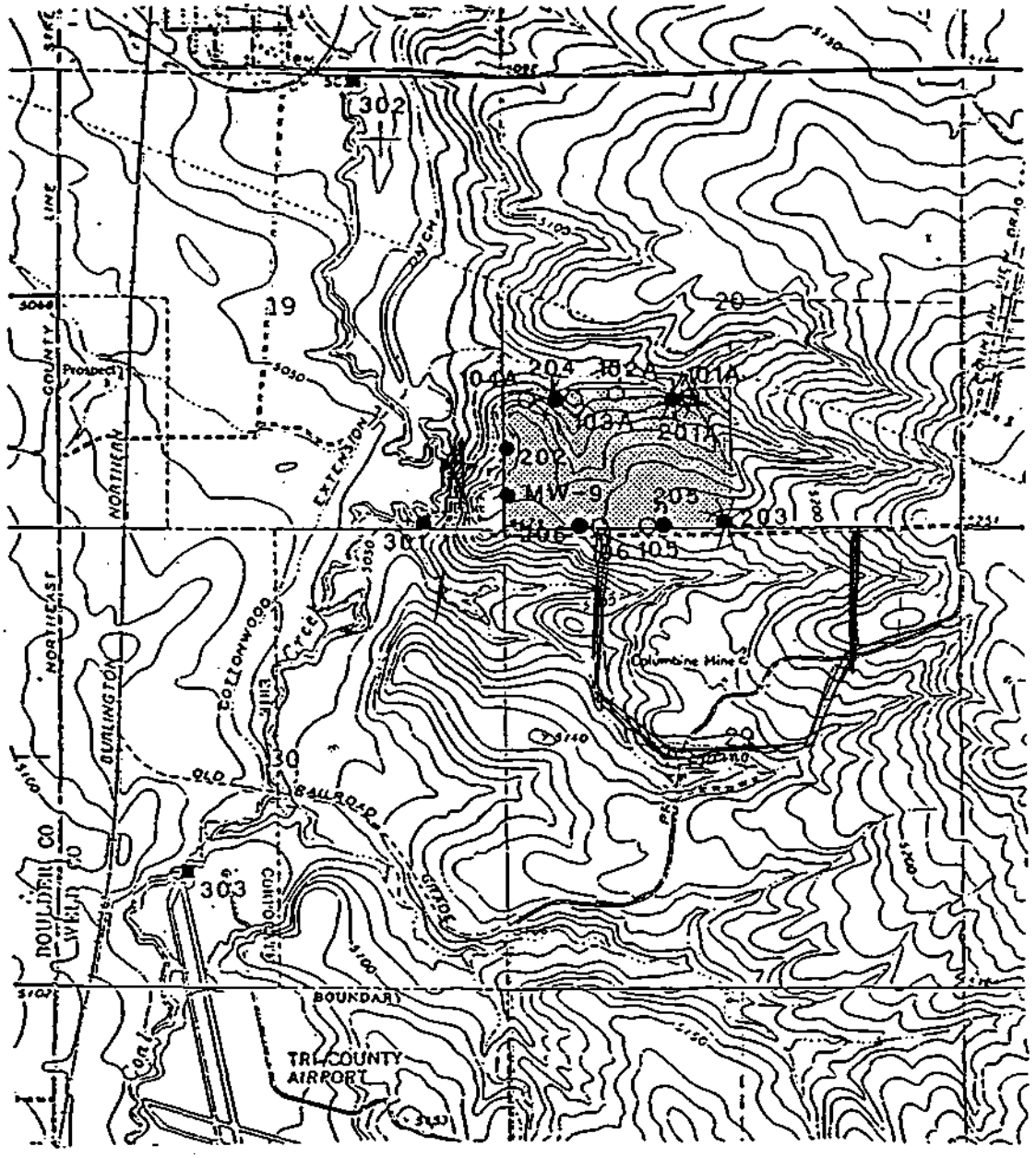
Based upon the field conductivty data it is the inspectors opinion that the landfill is producing leachate, specifically from data obtained from test holes 1 and 6. Further, because both test holes indicate high specific conductivity it is likely that some mounding may be occurring thus allowing leachate to migrate offsite, upgradient. Once the inorganic analysis is received the soluble ionic constituents may help identify the compounds responsible for this high conductivity. However, if this data doesn't provide the necessary information it is the inspectors opinion that the inorganic parameters list should be expanded to include anions to help identify the problem constituents.

Based upon these facts it is the inspectors opinion that further followup work is needed at this site to accurately determine the presence of the organic constituents identified at this site. Further, the followup program should be

designed to confirm the source of these compounds, the rate(s) and flow direction of any contaminant migration and provide an accurate determination of the potential for human exposure via surface and groundwater migration, the principal pathways of exposure, specifically to the alluvial aquifer associated with Coal Creek.

Figure 6

MONITORING SYSTEM



■ surface water station

o soil well

• bedrock well

SCALE 1:24,000

TABBED PAGE

APPENDIX C

Do not make entries in shad areas

OMB #: 2050-0005 Expires: 3-31-83

ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1981.

AFFIX LABEL HERE

Please print/type with elite type (12 characters per inch)

GENERAL INSTRUCTIONS: If you received a preprinted label attached to the mailing envelope in which this form was enclosed, affix it in the space provided. If any of the information on the label is incorrect, draw a line through it and provide the correct information in the appropriate section below. If the information is correct and complete, leave Sections I, II, and III below blank. If you did not receive a preprinted label, complete all sections. REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM. The information requested in this report is required by law (Section 3002 of the Resource Conservation Recovery Act).

I. GENERATOR'S EPA I.D. NUMBER

T.A.C.

F C O D 0 0 1 8 8 3 1 6 4 1

1 2 13 14 15

II. NAME OF INSTALLATION

I N T E R N A T I O N A L B U S I N E S S M A C H I N E S C O R P .

30 69

III. INSTALLATION MAILING ADDRESS

3 P . O . B O X 1 9 0 0

15 16 45

Street or P.O. Box

4 B O U L D E R C O 8 0 3 0 2

15 16 41 42 47 51

City or Town State Zip Code

IV. LOCATION OF INSTALLATION (if different than section III above)

5 6 3 0 0 D I A G O N A L H I G H W A Y

15 16 45

Street or Route number

6 B O U L D E R C O 8 0 3 0 2

15 16 41 42 47 51

City or Town State Zip Code

V. INSTALLATION CONTACT

2 C A M P B E L L , G A R Y 7 0 4 / 0 1 0 - 4

15 16 45

Name (last and first)

3 0 3 - 4 4 7 - 6 5 9 7

46 55

Phone No. (area code & no.)

VI. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

J. A. Frankovsky General Manager [signature] 1-10-83

Print-Type Name Title Signature of Authorized Representative Date Signed

EPA Form 8700-13A(5-80) (Revised 10-82)

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Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1981.

Date rec'd: _____ Rec'd by: _____

VII. GENERATOR'S EPA I.D. NO.

CAC CID008183164 (1–12, 13–15)

VIII. FACILITY NAME (specify facility in which all wastes on this page were shipped)

Chemical Waste Mgmt, Kettleman Hills, California

IX. FACILITY'S EPA I.D. NO.

FCA T000646117 (16–28)

X. FACILITY ADDRESS

P.O. BOX 157
Kettleman City, CA 93239

XI. TRANSPORTATION SERVICES USED (list the name and EPA identification number of all transporters whose services were used during 1981. This section to be completed only once. Do not repeat on supplemental sheets.)

US Pollution Control - OKT 410010474 & OKT 410010466
ThoroProducts Co. COD007065576 Ringsby - COD006915987

XII. WASTE IDENTIFICATION

Sequence (32)	Line #	A. Description of Waste	B. TOXIC Hazard code (33–34)	C. EPA Hazardous Waste No. (see instructions) (35–42)	D. Amount of Waste (51–59)	E. Unit of Measure (60)
	1	Waste magnetic coating solution used to make magnetic tape prod (Solids and liquids)	0 9	D 0 0 1	7 1 9 0 2 4	K
	2	Waste corrosives, acids and caustics used in plating, cleaning, processing	0 2	D 0 0 2	1 5 7 9 6	K
	3	Waste halogenated cleaning solutions, freons, Chlorethane, Methyl Chloroform	1 5	F 0 0 2	3 1 2 2 2	K
	4	Waste ethylene diamine	0 2	P 0 5 3	9 1	K
	5	Waste potassium cyanide	1 7	P 0 9 8	4 1 5	K
	6	Waste Zinc cyanide	1 7	P 1 2 1	2 6 2	K
	7					
	8					
	9					
	10					
	11					
	12					

XIII. COMMENTS (enter information by section number—see instructions)

Tear out here

Do not make entries in shaded

ENVIRONMENTAL PROTECTION AGENCY

Generator Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1981.

Date rec'd: _____ Rec'd by: _____

VII. GENERATOR'S EPA I.D. NO.

GC 0 D 0 0 1 8 8 3 1 6 4 1 1

VIII. FACILITY NAME (specify facility to which all wastes on this page were shipped)

ENERGY SYSTEMS (ENSCO)

IX. FACILITY'S EPA I.D. NO.

FA R D 0 6 9 7 4 8 1 9 2

X. FACILITY ADDRESS

AMERICAN ROAD
El Dorado, Arkansas 71730

XI. TRANSPORTATION SERVICES USED (List the name and EPA identification numbers of all transporters whose services were used during 1981. This section to be completed only once. Do not repeat on supplemental sheets.)

Matlack - PAD046548756
Liquid Waste Transport - COT 090010216

XII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
	1	Waste flammable liquids from manufacture of magnetic product	0 9	D 0 0 1	3 3 5	T
	2	containing= toluene, methyleth-retone, plasticizers, iron oxide,				
	3	tetrahydrofuran				
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

XIII. COMMENTS (enter information by section number—see instructions)

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ENVIRONMENTAL PROTECTION AGENCY

Generator Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1981.

Date rec'd: _____ Rec'd by: _____

VII. GENERATOR'S EPA I.D. NO.

T/A C

G C O D 0 0 1 8 8 3 1 6 4 1

1 2 13 14 15

VIII. FACILITY NAME (specify facility to which all wastes on this page were shipped)

Rollins Environmental Services

IX. FACILITY'S EPA I.D. NO.

F T X D 0 5 5 1 4 1 3 7 8

16 28

X. FACILITY ADDRESS

P.O. Box 609

Deer Park, Texas 77536

XI. TRANSPORTATION SERVICES USED (List the name and EPA identification numbers of all transporters whose services were used during 1981. This section to be completed only once. Do not repeat on supplemental sheet.)

Chem. Waste Mgmt - COD 000 695 007

Oil and Solvent Process Co. COD 000 695 171

XII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
32	1	Waste flammable liquids from mfg of magnetic products	33 34	D001 (35 38 / 39 42) 43 46 / 47 50	161 (51 59)	T (60)
	2	containing THF, MEK, toluene, plasticizers, iron oxides				
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

Tear out here

XIII. COMMENTS (enter information by section number—see instructions)

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1981.

Date rec'd: _____ Rec'd by: _____

VII. GENERATOR'S EPA I.D. NO.

C O D 0 0 1 2 8 3 1 6 4 1 (1/A C)

VIII. FACILITY NAME (specify facility to which all wastes on this page were shipped).

Thoro Products

IX. FACILITY'S EPA I.D. NO.

F C O D 0 0 7 0 6 5 5 7 6

X. FACILITY ADDRESS

P.O. Box 504
Arvada, Co. 80002

XI. TRANSPORTATION SERVICES USED (List the name and EPA identification numbers of all transporters whose services were used during 1981. This section to be completed only once. Do not repeat on supplemental sheets.)

XII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
	1	Waste flammable liquids from manufacture of magnetic product containing Tetrahydrofuran	0 9	D 0 0 1	2 3 3	T
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

XIII. COMMENTS (enter information by section number—see instructions)

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1981.

Date rec'd: _____ Rec'd by: _____

VII. GENERATOR'S EPA I.D. NO.

T/A C

G C O D 0 0 1 2 8 3 1 6 4 1

1 2 13 14 15

IX. FACILITY'S EPA I.D. NO.

F C A D G 0 9 4 5 2 6 5 7

16 28

VIII. FACILITY NAME (specify facility to which all wastes on this page were shipped)

Romic Chemical Co.

X. FACILITY ADDRESS

2081 Bay Rd.
E. Palo Alto, CA 94303

XI. TRANSPORTATION SERVICES USED (List the name and EPA identification numbers of all transporters whose services were used during 1981. This section to be completed only once. Do not repeat on supplemental sheets.)

XII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard Code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
32	1	Waste flammable liquids from magnetic products manufacture; containing THF, ferric oxides.	0 9 (33 34)	D 0 0 1 (35 38 / 39 42 / 43 46 / 47 50)	1 9 6 (51 59)	T (60)
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

XIII. COMMENTS (enter information by section number—see instructions)

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IIOL 025

Tier Two
EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY
Specific Information by Chemical

Facility Identification
Name: IBM Corp.
Street Address: 6800 Diagonal Hwy.
City: Boulder State: CO Zip: 80302
SIC: 3357 Dun & Bradstreet #: 00-136-8083

Owner/Operator
Name: IBM Corp.
Mail Address: PO Box 1900
Boulder, CO 80302
Phone: (303) 924-1900

Emergency Contacts
Name: LaRay Leinweber
Title: Security Project Manager
Phone: (303) 924-6999
24 Hrs/Day Phone: (303) 924-4155

Important: Read all instructions before completing form

Reporting Period: From January 1 to December 31, 1987

Chemical Description	Circle all that apply	Max. Amount (Enter code)	Avg. Daily Amount (Enter code)	Physical Hazards: Combustible Liq.	Compressed Gas	Corrosive	Explosive	Flammable	Organic Peroxide	Oxidizer	Pyrophoric	Unstable-Reactive	Water Reactive	Health Hazards: Carcinogen	Highly Toxic	Irritant	Sensitizer	Toxic	Blood Toxin	Eye Hazard	Kidney Toxin	Liver Toxin	Lung Toxin	Nervous Sys. Toxin	Reproductive Tox.	Skin Hazard	Location: Non-Confidential: Site Location	Storage Codes
Chem Name: No. 1 Fuel Oil; CAS: 80082-06	Pure / Mix; Sol / Liq / Gas	05	05	X			X									X		X			X	X	X	X		X	G6 [TANK]	A (2.4)
																											E6 [012]	F (1.4)
Chem Name: No. 2 Fuel Oil; CAS: 68476-32	Pure / Mix; Sol / Liq / Gas	04	04	X			X									X		X								X	F8 [TANK]	A (2.4)
																											D7 [TANK]	A (2.4)
Chem Name: No. 6 Fuel Oil; CAS: 68553-04	Pure / Mix; Sol / Liq / Gas	05	05	X			X									X		X								X	E6 [TANK]	A (2.4)
																											E6 (19 TANKS)	B (2.4)
Chem Name: Liquid Nitrogen; CAS: 7727-37-9	Pure / Mix; Sol / Liq / Gas	04	04		X															X				X		X	E8 [030]	A (2.7)
																											F8 [030]	A (2.7)
																											C5 [022]	L (2.7)
Chem Name: Methyl Ethyl Ketone; CAS: 78-93	Pure / Mix; Sol / Liq / Gas	03	03				X	X								X		X		X	X	X	X	X	X	X	E6 [012]	D (1.4)
																											E8 [031]	D (1.4)
Chem Name: Trichlorotrifluoroethane; CAS: 76131	Pure / Mix; Sol / Liq / Gas	03	03		X											X				X			X	X		X	E6 [012]	D (1.4)
																											[ ]	(.)
Chem Name: 1,1,1 trichloroethane; CAS: 71556	Pure / Mix; Sol / Liq / Gas	03	03													X				X	X	X		X		X	E6 [012]	D (1.4)
																											[ ]	(.)
Chem Name: Toluene; CAS: 108883	Pure / Mix; Sol / Liq / Gas	03	03				X	X								X			X	X	X	X	X	X	X	X	E8 [031]	A (2.4) D (1.4)
																											E6 [012]	D (1.4) M (1.4)
Chem Name: Tetrahydrofuran; CAS: 110999	Pure / Mix; Sol / Liq / Gas	04	03				X	X								X		X		X	X	X	X	X		X	E8 [031]	A (2.4) D (1.4)
																											E6 [012]	D (1.4) M (1.4)
Chem Name: Methylene Chloride; CAS: 75092	Pure / Mix; Sol / Liq / Gas	03	02				X									X		X	X	X	X	X	X	X	X	X	E6 [012]	D (1.4) M (1.4)
																											C4 [023]	D (1.4) M (1.4)

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

R. L. PATNOE
Name of Owner or Operator or Owner's or Operator's authorized representative

Signature

10/16/87
Date Signed

Attachments *(Check one)*
☒ I have attached a site plan
☐ I have attached a list of site coordinate determinations

Tier Two

EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

Specific Information by Chemical

Facility Identification

Name: IBM Corp.
Street Address: 6800 Diagonal Hwy.
City: Boulder State: CO Zip: 80302
SIC: 3577 Dun & Bradstreet #: 00-136-8083

Owner/Operator

Name: IBM Corp.
Mail Address: PO Box 1900
Boulder, CO 80302
Phone: (303) 924-1900

Emergency Contacts

Name: Larry Leinweber
Title: Security Project Manager
Phone: (303) 924-6999
24 Hour/Day Phone Number: (303) 924-4155

Important: Read all instructions before completing form

Reporting Period: from January 1 to December 31, 1987

Chemical Description	Circle all that apply	Max. Amount (Enter code)	Avg. Daily Amount (Enter code)	Physical Hazards: Combustible Liq.	Compressed Gas	Corrosive	Explosive	Flammable	Organic Peroxide	Oxidizer	Pyrophoric	Unstable/Reactive	Water Reactive	Health Hazards: Carcinogen	Highly Toxic	Irritant	Sensitizer	Toxic	Blood Toxin	Eye Hazard	Kidney Toxin	Liver Toxin	Lung Toxin	Nerv. Sys. Toxin	Reproductive Tox.	Skin Hazard	Location: Non-Confidential — Site Location	Storage Codes
Chem. Name: n-Butylamine CAS #: 109739	Pure, Mix; Sol, Liq, Gas	03	02			X	X									X		X		X			X	X		X	E8 [031]	A (2.4)
																											E6 [012]	M (1.4)
Chem. Name: Ethylene Diamine CAS #: 107153	Pure, Mix; Sol, Liq, Gas	03	02			X		X								X	X	X	X	X	X	X	X			X	E8 [031]	A (2.4) D (1.4)
																											E6 [012]	D (1.4) M (1.4)
Chem. Name: Ammonia CAS #: 7664417	Pure, Mix; Sol, Liq, Gas	01	01		X	X							X			X	X	X		X			X	X		X	E6 [012]	L (2.4)
																											[021]	L (2.4)
Chem. Name: Sulfuric Acid CAS #: 7664939	Pure, Mix; Sol, Liq, Gas	03	03			X	X						X	X		X	X	X		X			X	X			C5 [021]	G (1.4) M (1.4)
																											E7 [011]	G (1.4)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										D4 [024]	R (1.4)
																											D8 [006]	R (1.4)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										[ ]	(.) (.)
																											[ ]	(.) (.)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										[ ]	(.) (.)
																											[ ]	(.) (.)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										[ ]	(.) (.)
																											[ ]	(.) (.)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										[ ]	(.) (.)
																											[ ]	(.) (.)
Chem. Name: CAS #:	Pure, Mix; Sol, Liq, Gas																										[ ]	(.) (.)
																											[ ]	(.) (.)

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

R.L. Payne
Name and Title of Owner or Owner's Authorized Representative

Signature

10/16/87
Date Signed

Attachments *(Check one)*

- [X] I have attached a site plan
- [ ] I have attached a list of site coordinate abbreviations

IBM-Boulder
original dated 09.21.83

Source: IBM Corp. Permit file
RCRA

Section C

Waste Characteristics and Information

C - 1

Waste Information

IBM Boulder hazardous wastes are produced from various activities and processes. The information provided below describes these processes, the types of waste generated, and specific information about each waste stream. Recent analysis of each of the stream is also provided. This information is provided in accordance with the requirements of 40 CFR 270.25 (a)(2) and (3).

Accept as otherwise noted, each of the waste streams listed below are considered hazardous due to testing for flashpoint. This characteristic test is the parameter used to evaluate these streams. This parameter is used based on the known formulation of the wastes based primarily on solvents such as tetrahydrofuran (THF), toluene, and methyl isobutyl ketone (MIBK). All wastes are tested using the procedures prescibed in 40 CFR 261, EPA publication number SW-846, and standard methods.

Magnetic media manufacture- Magnetic media operations involve the production of flexible magnetic material for use as computer tape, magnetic diskettes and other similar products. The process involves the coating of solvent based oxides onto long rolls of mylar plastic. The coating, or ink, is prepared in a

mix room by bending finely ground metallic oxides, plasticizers, and solvents. Following the application of the ink to the mylar, the media is dried in a large oven. The volatilized solvents are controlled by a solvent recovery plant that utilizes carbon adsorption to reduce the emissions of solvents. Wastes are generated from three areas of the operation. These wastes are:

tetrahydrofuran (THF)- used to wash equipment in the mix room
coating solution waste- a sludge-like material
rags and filters- used to clean equipment and filter the coating solutions

The THF wash solvent is used in a coatings preparation mix room. The solvent is pumped from the mix room to Tank B 21-2 where it is stored until ready for shipment. The waste is loaded into transport vehicles at the loading station near the tanks. All piping is above ground. The waste is transported for reclaiming and eventual return to IBM for reuse. The solvent solution will contain primarily THF with small amounts of the oxide coating material cleaned from the process equipment.

The coating solution waste is primarily THF based coating solution that is either off spec or the end of a batch that is not needed. The often sludge-like material is placed into bung type steel 55 gallon drums in the mix room by mix room personnel. The drums are then placed outside the mix room where Chemical Control personnel transport the drums to the Chemical Storage Building. When about 100 drums accumulate at the Chemical Storage Building, the drums are

until empty? what [illegible]

vacuum pumped into a bulk transport vehicle. The waste is then transported to a reclaimer. The cleaned solvent is returned to IBM for reuse. The separated oxides are secure landfilled even though they no longer meet the criteria of hazardous waste. The drums are reused here on site for the same material until any unpumpable sludge builds up in the drum to a point where the drum is unusable. Absorbant is then added and the drum is buried at a secure landfill as an ignitable solid.

The rags and filters are saturated with THF based wash solvent and waste coating solution. The waste is drummed in open top steel drums by mix room personnel. Each drum has 40 pounds of absorbant added to assure any free liquids are solidified. The drums are picked up by Chemical Control personnel and transported to the Chemical Storage Building. The drums are disposed of as an ignitable solid at a secure landfill.

Photoconductor manufacture - Photoconductor is manufactured using a process similar to that used to make magnetic media. A mylar plastic material is coated with three layers of different solvent based coatings. Photoconductor is used as the image transfer media in IBM Copiers. The waste from this process includes:

Waste amine containing coating solutions

Waste non-amine containing coating solutions

Waste coating from this process are generated when batches of solutions are off spec or left over from a production run. The solutions contain varying

quantities of solids in either THF or mixtures of THF and ethyene diamine, or n-butylamine. Amine containing wastes are sent from the mix room by above ground piping to the 10,000 gallon amine waste tank (TK-105). Non-amine wastes are sent to the 6,000 gallon waste tank (TK-106). Both waste streams are sent off site to be incinerated.

Pilot coating operations - There are three pilot coating operations on site. These are used for experimental and development work prior to production on the manufacturing coaters discussed above.

The Building 023 development coating area generates waste from the experimental coating of photoconductor materials. This small coater generates waste similar to that from the above discussed Photoconductor manufacturing process, but at a much lower volume. These wastes are generally drummed in steel drums and transported by chemical control personnel to the Chemical Storage Building. Waste liquids may be pumped by underground double walled piping to tank XXX located west of Building 022. These wastes are bulk loaded and transported for incineration. Solids such as rags, filters and glassware are drummed and sent for burial at a secure landfill as ignitable solids. Liquid solvents and coating solutions are either reclaimed or incinerated off site.

The Building 022 pilot coating area generates wastes from the experimental coating of magnetic media materials. This small coater generates waste similar to that from the above discussed magnetic media manufacturing process. Wastes are normally drummed and transported by Chemical Control personnel to the CDC. Waste solutions can be directed by underground piping to the B 022 above ground

waste storage tank located outside just west of the coater area.

The Building 021 pilot coating area is similar to the B 023 operation only it is much smaller and rarely used. All wastes are drummed and transported by CDC personnel.

Laboratory operations - There are numerous laboratories in several buildings at IBM Boulder. These labs generate wastes from a variety of experimental and testing activities. The wastes generally include glassware, small bottles of solvents and other chemicals, gloves, rags, paper and other typical lab wastes. This material is disposed of as "lab packs" as prescribed in section 265.316 of the RCRA regs.

Air emission control device condensate - Two small adsorption devices ~~are~~ used to control air emission of volatile organic compounds are in use at IBM Boulder. These devices generate a mixture of waste water and solvent. This waste has at times met the RCRA characteristics for hazardous waste due to flash point. One unit is located in Building 004 on a process that manufactures magnetic diskette machine components. The other unit is on the development coater in Building 023. Both units are plumbed to carry the condensate mixture to separate storage tanks. The waste contains water and solvents and is transported offsite and incinerated. A recent analysis is attached.

Process containment collected waters - Several processing and loading areas on site have spill containment structures which collect rain water. This material may be contaminated with small quantities of solvents used in the particular area. These waters are tested when generated for key parameters. If the concentration of waste is low, then the water is pumped to our IWRF. If the level exceeds the capabilities of the IWRF, then the waters are pumped into bulk transport vehicles and either incinerated, treated, or evaporated at a secure facility. The collected waters are tested and removed soon after accumulation. Some evaporation of the water takes place prior to removal, but such evaporation is not a part of IBM Boulder's waste management program. Should a spill of hazardous waste occur, the collected material is immediately removed for transport to a secure facility for final disposal.

how soon is soon?

Empty drums - Empty drums that have contained hazardous materials, wastes, or materials IBM Boulder considers improper for removal to steel scrap dealers, are either crushed on site or transported to a secure facility for crushing prior to burial.

Cleaning solvents - Several chlorinated cleaning solvents are used throughout the site. The materials are used to clean parts, tools, and other process equipment. When the materials become contaminated or spent, they are prepared for disposal. These materials include:

Freon VG (1,1,1 Trichloroethane, methyl chloroform)

Freon TE

Freon TF

Freon TWD

methylene chloride

trichloroethylene

These wastes are removed from the area of use in either steel drums or safety cans of 1 to 5 gallon capacity. The material is combined into drums at the CDC into 55 gallon drums for eventual transport to reclamation or incineration. Testing of these materials include metals content by the EP Toxicity method.

Plating operations - One small plating line is in operation in Building 004. This plating operation generates small amounts of waste solutions which are drummed and transported for neutralization, treatment, or incineration. These wastes may include the common plating materials such as:

acids - sulfuric, nitric

plating baths - nickel, silver, gold, copper

other material - ferric chloride, xxx ?

These wastes are tested for pH, metals by EP Toxicity, and flashpoint.

Industrial Waste Reclamation Facility (IWRF) - The IWRF generates waste into the surface impoundments. See the section that deals with the IWRF and impoundments for detailed information. Additional waste from these operations is generated only when certain sludges are removed from processing equipment. None of these wastes are expected to meet the RCRA hazardous waste standards but are tested and disposed of as hazardous wastes.

These wastes are tested for pH, metals by EP Toxicity, and flashpoint.

organics is [illegible]

Off site facility - IBM Boulder operates some minor waste generating activity in a leased building located about one mile south of the main plant site. The building is designated 910. Processes at the site result in waste that qualifies the building as a small quantity generator under section 261.5 of the RCRA regs. The wastes are generated from parts cleaning operations and from the finishing of magnetic diskettes. Wastes materials generated do not normally meet the RCRA hazardous waste standards. The wastes are, however, managed as hazardous waste. The wastes include:

Freons
Texo brand LP-803 cleaning solution
lubricating oils

These wastes are transported by common carrier to the Chemical Storage Building for accumulation and eventual transport to reclamation or disposal. The raw

chemicals and the waste containers are supplied by CDC, the processes generating the wastes are IBM operated, and the areas are included in site audit procedures. Therefore, additional testing of the waste is only conducted when there is evidence of possible variation in the wastes or labeling discrepancies are noted.

Other Wastes-

Various site operations produce small amounts of other wastes. Some of these wastes meet the RCRA hazardous waste standards. The wastes include off spec solvents from the solvent recovery plants, quality control rejected solvents, paints, inks, hydraulic oils, metal shavings, plastics, and other non hazardous wastes. All waste generated at IBM Boulder is evaluated against the hazardous waste standards either by formulation knowledge, testing, or manufacturers information. Non hazardous manufacturing process wastes are referred to by IBM Boulder as "industrial waste".

All IBM waste is evaluated for reclamation. Almost all solvent based waste is now sent to selected reclamation vendors for recycling back to IBM Boulder. Waste hydraulic oils are in the process of being evaluated for recovery. Paper and metals have been recovered for several years.

With the exception of one waste stream, all IBM Boulder non hazardous industrial waste is sent to secure hazardous waste facilities for treatment, burial or incineration. The one waste stream sent to local landfill is waste toner and carrier. These products are manufactured in Building 030. Toner is the fine black plastic powder that forms the image on an IBM copier reproduction. Carrier is the fine steel shot that carries the toner onto the paper. Both have been tested extensivly and determined not to meet the RCRA hazardous waste standards. A recent analysis is attached for both wastes.

While not regulated by RCRA, IBM Boulder generates PCB waste. This waste is primarily from the removal of small PCB capacitors that are removed from used IBM copiers prior to dismantle and salvage.
These small capacitors are placed in 55 gallon drums and stored on a special pad inside the Chemical Control and Distribution building. The drums are eventually sent to be incinerated in El Dorado Arkansas.
There are several PCB cooled high voltage capacitors in use on site. When these are discarded they are also sent for incineration. IBM Boulder has no PCB transformers in use or storage.

C - 2

Waste Analysis Frequency

IBM Boulder's major processes and the wastes from those processes are stable and remain generally unchanged. Periodic operation audits by Environmental Programs Engineering and Chemical Control identify significant changes in the processes or the wastes. All chemical usage on site is controlled by the Chemical Distribution and Control department. This procedure assures constant knowledge of the materials used, and thus wasted, from all operations on site. Waste analysis is conducted randomly to further audit the waste streams. Testing is also conducted when ever any process modification indicates a particular batch of waste have changed. This procedure applies to hazardous waste and other waste that does not qualify as hazardous waste but that IBM chooses to manage through our waste tracking program.

will this ensure accurate and up to date analysis

C - 3

IBM Internal Waste Management Procedures

The IBM Corporation has established a system to assure all IBM hazardous wastes are properly managed. This system uses the attached form as the basis for information about each waste stream. The form is called a Schedule A. The Schedule A is completed by the Chemical Control department when a waste is to be generated from the site. The form is reviewed by Boulder Environmental Programs Engineering to assure the waste will be managed in an method that minimizes environmental impacts. The form is then sent to selected disposal, treatment, or reclamation companies as described below. Those companies

determine the cost and practicality of managing the waste at their facility. The form is then returned to Boulder for evaluation. Additionally, the form is sent to IBM Corporate Environmental Programs at Tarrytown, New York for review. Following these approvals a waste management facility is chosen and the waste may then be transported offsite for disposal, treatment, or reclamation.

C- 4

Waste Management Vendor Selection Process

IBM uses selected waste management firms for the disposal, treatment or reclamation of wastes. IBM Corporate policy allows IBM Boulder to use only firms that have been evaluated and selected for use. The selection process involves a visit to the waste management facility by Corporate Environmental staff and an IBM contractor specializing in hazardous wastes. IBM Boulder also visits the company to assure all IBM waste will be properly managed. Each of these visits is repeated at least annually. The visit includes a review of records, observation of operations, discussions of issues related to government inspection of the site, design of the site, and site geology. Finally, contacts are made with the government agencies responsible for inspecting the site. IBM is committed to proper management of our wastes and deals only with firms that can consistently provide that level of performance.

Needs to include test methods & sampling methods - a minimum frequency for testing must be specified. And out line of a detailed chemical & physical analysis should be included. Are there existing records?

TABBED PAGE

APPENDIX D

WELD COUNTY
SHERIFF'S OFFICE

INVESTIGATIVE ACTIVITY REPORT

CASE NUMBER: 8112-83

VICTIM: AOA-U.S. Attorney

DATE OF RPT:

ASSIGNED: Capt. R.G. Dill

SUSPENSE DATE:

ASSIGNED:

SUSPENSE DATE:

DATE	TIME	ACTIVITY	INTIALS
092983	1035	Contacted by NOACK, Ned, Colorado Department of Health, regarding	
		some additional information located in research. Memo located in	
		Boulder County file dated July 26th, 1968, from CDH employee	
		SORRELS to the Boulder County Health Department which describes	
		his response to a dump fire involving the burning of approximately	
		3,000 gallons of an unknown chemical at the Neuhauser Dump Site in	
		July of 1968. NOACK also stated that the name was also spelled	
		NEWHOUSER on other related documents. In the SORRELS memo, there	
		are allegedly cryptic references to two (2) companies owning the	
		waste chemicals at the dump-site; one of which was IBM. SORRELS	
		also indicated in the memo that four (4) photographs of the site	
		were taken but NOACK said he could not locate said photos. NOACK	
		advised that Colorado Files show an operator's certificate was	
		issued to John F. Neuhauser to operate a dump site in Section 29,	
		TN 1N, Range 68E by the Weld County Commissioners which is the	
		location of the old Erie Dump which does conflict with the infor-	
		mation provided earlier regarding ROWEDER operating at the site.	
		NOACK advised that the certificate was revoked by the Commissioners	
		in July of 1968. The Colorado Department of Health has been col-	
		lecting groundwater samples in the area of the Erie Dump for	

NOTES: (USE BACK FOR ADDITIONAL NOTES)

RECEIVED
SANITATION DIVISION
OCT 05 1983
WELD COUNTY HEALTH DEPT.

OFFICER	EMP #	STATION	DATE	SUPERVISOR	DATE	PAGE
Rick Dill	01640	NORTH	093083			1 OF 3

830-79-317 (Rev 040182)

WELD COUNTY
SHERIFF'S OFFICE

INVESTIGATIVE ACTIVITY REPORT

CASE NUMBER: 8112-83

VICTIM: AOA-U.S. Attorney

DATE OF RPT:

ASSIGNED: Capt. R.G. Dill

SUSPENSE DATE:

ASSIGNED: " "

SUSPENSE DATE:

DATE	TIME	ACTIVITY	INTIALS
092983	1035	sometime to moniter any waste contamination from the site with	
		results expected soon.	RGD
092983	1100	Checked files at Weld County Clerk to the Board's Office regard-	
		ing the operator's permit for NEUHAUSER. Located a large file on	
		a firm called Sanitation Engineering Corp., majority owned by	
		John F. Neuhauser. I found several Polariod color photographs in	
		the file of the Erie Dump with two photos of particular interest.	
		One photo, dated 12-27-68 @ 1345 hours, shows a pile of what	
		appears to be black-colored 55 gallon drums, some with the tops	
		bulging, burning. The second photo, dated 02-06-69 @ 1145 hours,	
		shows another pile of 55 gallon drums, black in color, with the	
		stencil "PROTEX" visible on the sides of some drums. Red colored	
		labels also appear on some of the tops and bottoms of the drums,	
		but the printing on the labels can not be distinguished. Some of	
		these drums, while not shown burning also have bulged tops from	
		apparent internal drum pressure. In examining the transcript of	
		a change of zone hearing dated 04-14-69, contained in the file,	
		specific reference is made on page 33 to a contract between IBM	
		and Sanitation Engineering Corp. for trash removal to the Erie	
		Dump Site and a reference to "cans" being hauled to the site from	

NOTES: (USE BACK FOR ADDITIONAL NOTES)

OFFICER	EMP #	STATION	DATE	SUPERVISOR	DATE	PAGE
Rick G. Dill	01644	NORTH	092083			2 OF 3

830-79-317 (Rev 040182)

WELD COUNTY
SHERIFF'S OFFICE

INVESTIGATIVE ACTIVITY REPORT

CASE NUMBER: 8112-83

VICTIM: AOA-U.S. Attorney

DATE OF RPT:

ASSIGNED: Capt. R.G. Dill

SUSPENSE DATE:

ASSIGNED:

SUSPENSE DATE:

DATE	TIME	ACTIVITY	INTIALS
092983	1100	from Sunstrand in Denver and IBM. I obtained copies of the rele-	
		vant pages of the transcript. I also found that the operator's	
		certificate mentioned by NOACK earlier had merely been suspended	
		for 33 days and not revoked in July of 1968. Although operating,	
		Sanitation does appear to be in poor financial condition as of the	
		zoning hearing on 04-14-69.	RGD

NOTES: (USE BACK FOR ADDITIONAL NOTES)

OFFICER	EMP #	STATION	DATE	SUPERVISOR	DATE	PAGE 3 OF 3
Richard G. Dill	01644	NORTH	093083			

830-79-317 (Rev 040182)

TABBED PAGE

APPENDIX E

35

[illegible]	I 62 [illegible]		S	D	8/12/71			6.00	500	30													
49059	I 62 DRIVER HAROLD L & BAKER DIANE M RT 1 BOX 142 ERIE, CO 80516		S	D	10/ 4/71			15.00	390	100	3960S	3960E	SENW	34	2	N	68	W	S				
78844	I 62 BARTHEN BRUCE L. 4357 WELD CO. RD 14 ERIE, CO 80516		S	D	2/ 1/76		5.00	15.00	390	80	2120N	2000W	SENW	34	2	N	68	W	S				
80805	I 62 LOVATO ERNEST A. 123 JACKSON DR. FIRESTONE, CO 80520		S	D	6/ 3/76		1.00	12.00	400	70	1710N	2200W	SENW	34	2	N	68	W	S				
73227	A I 62 HOPP HOWARD 6624 WELD CNTY RD #7 ERIE, CO 80516 GRANDVIEW HIGHLAND																						
	NP 1/23/89		6	D							1960N	190W	SWNW	34	2	N	68	W	S				
40840	I 62 CURRAN STANLEY T 3174 HOLLY ST ERIE, CO 80516		6	D	4/27/70			25.00	255	60	1450N	920W	SWNW	34	2	N	68	W	S				
73227	I 62 HOPP HOWARD A. & LINDA L. R.R.1 BOX 141 ERIE, CO 80516		S	D	3/25/74		1.00	15.00	340	90	1980N	150W	SWNW	34	2	N	68	W	S				
85837	I 62 PARRIOTT DEAN & SANDRA 5005 W. 80TH AVE. WESTMINSTER, CO 80030		S	H	6/22/76			15.00	405	65	2180N	450W	SWNW	34	2	N	68	W	S				
90880	I 62 SIGG HAROLD 2 EAST MOUNTAIN VIEW LONGMONT, CO 80501		6	H	6/28/77			8.00	400	55	2461N	925W	SWNW	34	2	N	68	W	S				
9729	I 62 HINRICHS NORMAN L 3447 LAURENCE DENVER, CO 80202		S	D	9/10/61			10.00	29	16			SWSW	34	2	N	68	W	S				
58935	I 62 TORRES JOHN E 255 1/2 BRIGGS ERIE, CO 80516		S	D	5/18/72			8.00	135	25			SWSW	34	2	N	68	W	S				
100581	I 62 NELSON LAWRENCE A 335 CRESTLINE LA LONGMONT, CO 80501		S	I	8/16/65			1200.00	136	37			SWSW	35	2	N	68	W	S				
23577	I 62 GASPOR DONALD RT 2 BOX 194 BRIGHTON, CO 80601		S	S	5/ 2/65			10.00	30	20			NWNW	1	1	N	68	W	S				
51508	I 62 HENFELD KEITH 6486 BRENTWOOD ST ARVADA, CO 80002		S	D	2/16/72			12.00	802	360			NWSE	2	1	N	68	W	S				
142368	I 62 NAAB J. ARVADA, CO 80003																						
	NP 11/12/85 WA		6	D					GW				SENW	3	1	N	68	W	S				
2574	I 62 BROWN JAMES S ERIE, CO 80516		S	D	11/12/58			3.00	32	12			SWNW	3	1	N	68	W	S				
58932	I 62 WOODS EDWARD A. & LORETTA A. RT 1, BOX 144B ERIE, CO 80516		S	D	7/ 7/72		1.00	15.00	425	50			SWNW	3	1	N	68	W	S				

Dave Lauten Schaps

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REPORT DATE 3/31/90 — APPLICATION AND PERMITS LOCATION LISTING — COLORADO DIVISION OF WATER RESOURCES — PAGE 5354

PERMIT	D CO OWNER INFORMATION / ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC COORDINATES	LOCAT'N QTRS	SC	TOWN SHIP	RANGE	P M
20426R	I 62 RIEDER LAURENCE & ARTHUR RT 1 ERIE, CO 80516																	
			6	I	6/27/55					1347.00	227	68		SWSE	3	1 N	68 W	S
26051F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										NENE	4	1 N	68 W	S
	I 62 ROCKY MTN ENER BROOMFIELD, CO 80020																	
		AP 1/19/81 AR 1/28/81	6	O										SWNE	4	1 N	68 W	S
25574F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				GW	2.00	180		2150N 1950E	SWNE	4	1 N	68 W	S
25574F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				GW	2.00	180		2150N 1950E	SWNE	4	1 N	68 W	S
26049F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SWNE	4	1 N	68 W	S
25567F	I 62 ROCKY MTN ENER DENVER, CO 80212																	
		NP 11/10/80	6	O										NWNW	4	1 N	68 W	S
25568F	I 62 ROCKY MTN ENER DENVER, CO 80212																	
		NP 11/10/80	6	O										SENW	4	1 N	68 W	S
25569F	I 62 ROCKY MTN ENER DENVER, CO 80212																	
		NP 11/10/80	6	O										SENW	4	1 N	68 W	S
26050F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SENW	4	1 N	68 W	S
26048F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										NWSE	4	1 N	68 W	S
26053F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SESE	4	1 N	68 W	S
26052F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SESE	4	1 N	68 W	S
26059F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SWSE	4	1 N	68 W	S
26058F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SWSE	4	1 N	68 W	S
25570F	I 62 ROCKY MTN ENER DENVER, CO 80212																	
		NP 11/10/80	6	O										NWSW	4	1 N	68 W	S
25581F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				SKLFE	20.00	280		2300S 500W	NWSW	4	1 N	68 W	S
25581F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				SKLFE	20.00	280		2300S 500W	NWSW	4	1 N	68 W	S
26055F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										NWSW	4	1 N	68 W	S
	I 62 ROCKY MTN ENER BROOMFIELD, CO 80020																	
		AP 1/19/81 AR 2/ 9/81	6	O										SESW	4	1 N	68 W	S
25571F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				GW	1.00	250		1000S 300W	SWSW	4	1 N	68 W	S
25571F	I 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020																	
		NP 9/30/81 SA	6	O	7/28/88				GW	1.00	250		1000S 300W	SWSW	4	1 N	68 W	S
26054F	I 62 RKY MTN ENERGY BROOMFIELD, CO 80020																	
		NP 11/ 2/81	5	O										SWSW	4	1 N	68 W	S
100651	I 62 BROWN JOSEPH E 1758 HWY 52 ERIE, CO 80516																	
		NP 6/22/78 AR 7/ 5/78	6	D					GW				1500N 1650E	SWNE	5	1 N	68 W	S

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REPORT DATE 3/31/90 — APPLICATION AND PERMITS LOCATION LISTING — COLORADO DIVISION OF WATER RESOURCES — PAGE 5355

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
114409	I	62							PAGE PAUL E PO BOX 458 ERIE, CO 80516													
					6			D		1/ 1/68		1.00		15.00	38		2450N 240OE	SWNE	6	1 N	68 W	S
108408	I	62							ARCHULETA E P 1301 JEFFERSON AV LONGMONT, CO 80501													
					6			I						800.00	35	29		NWNW	6	1 N	68 W	S
28084	I	62							BECKY J D M D RT 2 BOX 304 LONGMONT, CO 80501													
					6			D		7/19/66				20.00	50	4		NWNW	6	1 N	68 W	S
97265	I	62							ERIE WAT DIST ERIE, CO 80516													
	NP	2/ 6/78	RC		6			H										SENW	6	1 N	68 W	S
122244	A I	62							ELTINE/WHEELER ERIE, CO 80516													
	NP	9/10/81			6			DS										SWNW	6	1 N	68 W	S
52165	I	62							ANDERSON PAUL V BOX 452 ERIE, CO 80516													
					6			D		4/22/72				15.00	30	8		SWNW	6	1 N	68 W	S
108354D	I	62							MULLENIX G LAFAYETTE, CO 80026													
	AD	4/15/85			6			H										NESW	6	1 N	68 W	S
140144	I	62							MULLENIX G BOULDER, CO 80301													
	NP	6/14/85			6			H					GW					NESW	6	1 N	68 W	S
39514	I	62							BROOMFIELD REALTY 6890 W 120TH AVE BROOMFIELD, CO 80020													
					6			D		9/24/69				30.00	95	8		NESW	6	1 N	68 W	S
51654D	I	62							KERSBERGEN JOHN JAY LAFAYETTE, CO 80026													
	AD							H										NWSW	6	1 N	68 W	S
35457	I	62							HEFNER JOHN D RT 1 BOX 164 AA ERIE, CO 80516													
					6			D		9/21/68				20.00	55	8		NWSW	6	1 N	68 W	S
43613	I	62							CRANER A L 8975 W 49TH PL ARVADA, CO 80001													
					6			D		11/ 2/70				20.00	29	5		NWSW	6	1 N	68 W	S
44714	I	62							WATTERS HARRY BOX 265 FREDERICK, CO 80530													
					6			D		2/17/71				14.00	24	5		NWSW	6	1 N	68 W	S
48322	I	62							DIETZ GUSTAV 1075 KOHL ST BROOMFIELD, CO 80020													
					6			D		8/24/71				15.00	29	5		NWSW	6	1 N	68 W	S
48612	I	62							EVENS RALPH D 1241 BALSAM #6 BOULDER, CO 80302													
					6			D		9/25/71				15.00	43	4		NWSW	6	1 N	68 W	S
67096	I	62							ELLSWORTH JACK E 1661 E 86TH PLACE DENVER, CO 80229													
					6			H		11/11/74				15.00	42	11	2090S 1200W	NWSW	6	1 N	68 W	S
73155	I	62							BRUNTZ BENNIE D. 12205 N PERRY ST. BROOMFIELD, CO 80020													
					6			H		3/ 1/74				15.00	50	8	2340S 695W	NWSW	6	1 N	68 W	S
78375	I	62							LANCKRIET TERRY 5213 MCINTYRE ST. GOLDEN, CO 80401													
					6			H		3/28/76				10.00	80	11	2095S 690W	NWSW	6	1 N	68 W	S
80328	I	62							DOGGER HARVIN H & THELMA @ 8771 N ESSEX ST DENVER, CO 80229													
					6			H		5/15/77		2.00		3.00	125		2100S 612W	NWSW	6	1 N	68 W	S
83653	I	62							GANTENBEIN DONALD G. 10105 W. 44TH AVE. WHEATRIDGE, CO 80033													
					6			H		5/ 7/76				10.00	45	12	2780N 185W	NWSW	6	1 N	68 W	S
83654	I	62							GANTENBEIN K. M. 13431 W. FLORIDA AVE. LAKEWOOD, CO 80228													
					6			H		5/ 8/76				10.00	45	12	2840N 435W	NWSW	6	1 N	68 W	S
84412	I	62							STERTZ VICTOR 7671 KNOX CT. WESTMINSTER, CO 80030													
					6			H		7/ 2/76				15.00	52	10	1800S 260W	NWSW	6	1 N	68 W	S
92103	I	62							TWENTY ONE INC. 650 5TH AVE. LONGMONT, CO 80501													
					6			H		9/ 8/77				15.00	40	80	3193N 1310W	NWSW	6	1 N	68 W	S
96758	I	62							DIRSCHL WILLIAM LEE 4685 TELLER WHEATRIDGE, CO 80033													
					6			H		1/17/79				12.00	190	10	1851S 730W	NWSW	6	1 N	68 W	S

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PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
96746	I	62							STADLER R D LONGMONT, 00000													
	NP	1/ 9/78			6			H		5/ 9/86				12.00	175	20		SWSW	6	1 N	68 W	S
131237	I	62							HAYDEN D L LONGMONT, CO 80501													
	NP	5/ 2/83	SU	1/31/85	6			I		2/11/85				15.00	100	2		SWSW	6	1 N	68 W	S
137278	I	62							SHONK P ERIE, CO 80516													
	NP	7/10/84	AR	9/10/84	6			H										SWSW	6	1 N	68 W	S
120469	I	62							MOREHOUSE B D LONGMONT, CO 80501													
	NP	6/24/85			6			H					GW					SWSW	6	1 N	68 W	S
142199	I	62							CRUST P T BROOMFIELD, CO 80020													
	NP	11/ 5/85	RC	11/25/85	3			H					GW					SWSW	6	1 N	68 W	S
26755	I	62							OVERTON ROBT S RT 3 BOX 135 LONGMONT, CO 80501													
					6			D		4/12/66				30.00	45	9		SWSW	6	1 N	68 W	S
28052	I	62							COLEMAN BASILE RT 2 BOX 252A LONGMONT, CO 80501													
					6			D		7/14/66				30.00	50	4		SWSW	6	1 N	68 W	S
37391	I	62							DANIEL ROBERT BOX 56 ERIE, CO 80516													
					6			D		4/25/69				30.00	30	10		SWSW	6	1 N	68 W	S
48510	I	62							FINLEY JACK W RT 2 BOX 84 LOVELAND, CO 80537													
					6			D		9/25/71				15.00	15	5		SWSW	6	1 N	68 W	S
49076	I	62							BLOUNT RALPH E P O BOX 5 BROOMFIELD, CO 80020													
					6			D		9/25/71				15.00	38	5		SWSW	6	1 N	68 W	S
35457	A I	62							HEFNER J D ERIE, CO 80516 WESTVIEW ESTATES													
	NP	7/18/83			6			D					GW					WSW	6	1 N	68 W	S
109116	I	62							CITO DANNIE 1874 PIKES PEAK ST ERIE, CO 80516													
	NP	5/ 9/79	WA		6			H					GW				570S 812E	SE	7	1 N	68 W	S
124560	A I	62							LAWLEY W ERIE, CO 80516													
	NP	2/10/82			6			D										SWNW	7	1 N	68 W	S
8887AD	I	62							REIN VERNON ERIE, CO 80516													
	AD				6			H										NESE	7	1 N	68 W	S
142263	I	62							IHRIG R. ALAMOSA, CO 81101													
	NP	11/ 6/85	PI		6			H					GW					NESE	7	1 N	68 W	S
147329	I	62							VENDEGNA CHERYL ERIE, CO 80516													
	NP	3/ 2/87	PI		2			H					GW					NESE	7	1 N	68 W	S
48238	I	62							EDWARDS PAUL T & CAROL JEAN 4285 CTY RD 3 ERIE, CO 80516													

28052		1 62 COLEMAN BASILE RT 2 BOX 252A LONGMONT, CO 80501																		
			6	D	7/14/66			30.00	50	4				SWSW	6	1 N	68 W	S
37391		1 62 ODANIEL ROBERT BOX 56 ERIE, CO 80516																		
			6	D	4/25/69			30.00	30	10				SWSW	6	1 N	68 W	S
48510		1 62 FINLEY JACK W RT 2 BOX 84 LOVELAND, CO 80537																		
			6	D	9/25/71			15.00	15	5				SWSW	6	1 N	68 W	S
49076		1 62 BLOUNT RALPH E P O BOX 5 BROOMFIELD, CO 80020																		
			6	D	9/25/71			15.00	38	5				SWSW	6	1 N	68 W	S
35457	A	1 62 HEFNER J D ERIE, CO 80516 WESTVIEW ESTATES																		
	NP	7/18/83	6	D			GW							WSW	6	1 N	68 W	S
109116		1 62 CITO DANNIE 1874 PIKES PEAK ST ERIE, CO 80516																		
	NP	5/ 9/79 WA	6	W			GW					570S	812E	SE	7	1 N	68 W	S
124560	A	1 62 LAULEY W ERIE, CO 80516																		
	NP	2/10/82	6	D										SWNW	7	1 N	68 W	S
8887AD		1 62 REIN VERNON ERIE, CO 80516																		
	AD		6	W										NESE	7	1 N	68 W	S
142263		1 62 IHRIG R. ALAMOSA, CO 81101																		
	NP	11/ 6/85 PI	6	W			GW							NESE	7	1 N	68 W	S
147329		1 62 VENDEGNA CHERYL ERIE, CO 80516																		
	NP	3/ 2/87 PI	2	W			GW							NESE	7	1 N	68 W	S
48238		1 62 EDWARDS PAUL T & CAROL JEAN 4285 CTY RD 3 ERIE, CO 80516																		
			6	D	8/29/71			10.00	310	70	1600S	225E	NESE	7	1 N	68 W	S
61452		1 62 MACK JAMES RT 1 201 F ERIE, CO 80516																		
			6	DS	6/30/72			14.00	325	80				NESE	7	1 N	68 W	S
80797		1 62 STEVENSON ED 4970 OLIVE ST. COMMERCE CY, CO 80022																		
			6	H	7/22/77			10.00	282	58	2440S	1200E	NESE	7	1 N	68 W	S
110870		1 62 LEMBERG J BOULDER, CO 80303																		
	NP	8/27/79	6	H										SESE	7	1 N	68 W	S
29654		1 62 VANTAGE BUILDERS 6301 W 44TH ST DENVER, CO 80202																		
			6	D	1/31/67			12.00	300	150				SESE	7	1 N	68 W	S
34333		1 62 EBERT LAURENCE J 109 CANNON ST LAFAYETTE, CO 80026																		
			6	D	7/ 1/68			10.00	330	60				SESE	7	1 N	68 W	S
161891		1 62 PARK LAND ASSOC WELD CTY 3953 FULLER CT BOULDER, CO 80303																		
			5	M	1/ 9/73	336.00		16.00	478	45	430N	1903E	NWNE	8	1 N	68 W	S
161881		1 62 PARK LAND ASSOC WELD CTY 3953 FULLER CT BOULDER, CO 80303																		
			5	I	1/ 6/73	336.00		11.50	355	16	170N	390W	NWNW	8	1 N	68 W	S

PERMIT	D CO OWNER INFORMATION ACTIVITY CO	DATE	STATUS CO	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
	1 62 ROBERTS BILL 1380 RUE DE TRUST ERIE, CO 00000 LOT 8 FILING 1 PARK ISLAND ESTATES																				
	AP	10/19/89	AR	2/ 6/90	6		G					GW				2050W 2480N	SENW	8	1 N	68 W	S
17523F	1 62 PARK LAND ASSOCIATES 11145 CHEROKEE NORTHGLEN, CO 80234																				
					6		M		8/21/74				25.00	576	122	2540N 1850W	SENW	8	1 N	68 W	S
60050	1 62 SMITH LELAND F 261 ELBERT WAY DENVER, CO 80221																				
					5		DS		6/17/72				15.00	590	160		NENE	9	1 N	68 W	S
47138	1 62 PROPP JOHN BOX 196 RT 1 ERIE, CO 80516																				
					5		D		7/ 6/71				15.00	550	110		NWNE	9	1 N	68 W	S
81991	A	1 62 HENRY J H ERIE, CO 80516																			
	NP	11/18/81			6		D		3/28/85								SWNE	9	1 N	68 W	S
70451	1 62 ROLOFF RONALD R 10935 VERNA LN NORTHGLENN, CO 80234																				
					5		D		8/ 8/73				15.00	580	170	2145N 1779E	SWNE	9	1 N	68 W	S
81991	1 62 HENRY JOHN H. 4701 PEAKVIEW DR. ERIE, CO 80516																				
					5		D		4/22/76		1.00		10.00	556	180	1695N 1750E	SWNE	9	1 N	68 W	S
145423	1 62 BELL J./SUTHERLAND B. 7777 W C R 2 BRIGHTON, CO 80601																				
	EX	8/ 6/86			6		D					KA					SENW	9	1 N	68 W	S
139401	1 62 WHITE RUTH M & HADLEY BETTY JO 2000 W 92 #259 DENVER, CO 80202																				
					5		C		4/18/69				25.00	624	180		SENW	9	1 N	68 W	S
70622	1 62 KAUFFMANN MARGARET RT 1 BOX 201C ERIE, CO 80516																				
					5		D		8/30/73		1.00		15.00	512	180	1390N 2639W	SENW	9	1 N	68 W	S
104228	1 62 COBURN E P ENGLEWOOD, CO 80110																				
	NP	11/30/78			6		H										SWNW	9	1 N	68 W	S
	1 62 SHONE V P ERIE, CO 80516																				
	AP	9/19/83	AU	10/ 7/83	6		H										SWNW	9	1 N	68 W	S
	1 62 WEIDENHAMER D WESTMINSTER, CO 80030																				
	AP	9/21/83	AU	10/ 7/83	6		H										SWNW	9	1 N	68 W	S
66499	1 62 CATON V V 5060 W QUARLES DR LITTLETON, CO 80123																				
					6		D		7/18/73				15.00	600	180	2400S 1700E	NWSE	9	1 N	68 W	S
113279	1 62 BAKER N J ERIE, CO 80516																				
	NP	8/ 9/79	AR	2/15/80	5		C										NWSW	9	1 N	68 W	S
113279	A	1 62 BAKER N J ERIE, CO 80516																			
	NP	11/ 4/82			5		C										NWSW	9	1 N	68 W	S
61760	1 62 WEBB FRED B 3012 QUITMAN DENVER, CO 80212																				
					6		D		9/14/72				15.00	545	275	500S 1750W	SESW	9	1 N	68 W	S
45095	A	1 62 SHOLTS D ERIE, 00000																			
	NP	6/13/80			5		D										SWSW	9	1 N	68 W	S
14151	1 62 HEATER LEWIS S 1660 W 82 PL DENVER 21, CO 80221																				
					6		D		2/23/63				10.00	540	240		SWSW	9	1 N	68 W	S
20329	1 62 STAN JOHN J 3507 W 73RD AVE WESTMINSTER, CO 80030																				
					6		D		6/22/64				20.00	595	220		SWSW	9	1 N	68 W	S
23756	1 62 SEITH RICHARD A RT 1 BOX 127 C ERIE, CO 80516																				
					5		D		5/17/65				15.00	600	200		SWSW	9	1 N	68 W	S
41793	1 62 SALLEE TERRY L 2 MILES E OF ERIE ERIE, CO 80516																				
					5		D		6/29/70				15.00	550	265		SWSW	9	1 N	68 W	S
45095	1 62 SHULTZ DON 995 S EATON DENVER, CO 80202																				
					6		D		7/26/71				12.00	540	220		SWSW	9	1 N	68 W	S
207121	1 62 THE IMPERIAL COAL CO RT 1 ERIE, CO 80516																				
					5		N		5/ /26				300.00			900S 2900E	SESW	10	1 N	68 W	S

PERMIT	D CO OWNER INFORMATION / ACTIVITY CD DATE	STATUS CD DATE	WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
602140	1 63 COLORADO SERUM CO. DENVER, CO 80216		AD I									SESE	11	1 N	68 W	S
186721	1 7 BUTLAND GEORGE M. RT 3, BOX 184-B BRIGHTON, CO 80601	NP 5/ /74 EP 8/ 1/75	S C									SESW	11	1 N	68 W	S
96122	1 62 BUTLAND GEORGE 4281 WELD CTY RD 10 ERIE, CO 80516		S C	4/ 2/78				15.00	577	255	200S 2500W	SESW	11	1 N	68 W	S
158624	1 62 GARAMELLA M. A. DENVER, CO 80206	NP 12/21/84 PI	S D									SENE	12	1 N	68 W	S
37257	1 62 MIDDLETON MAPOLO RT 1 BOX 60B ERIE, CO 80516		S D	3/22/69				20.00	44	23		SENE	12	1 N	68 W	S
47540	1 62 WEAVER FLOSSIE R R D 1 BOX 119 ERIE, CO 80516		S D	7/13/71				15.00	63	21		SENE	12	1 N	68 W	S
162781	1 62 STONEBRAKER AUSTIN P. BOX 187 DACONA, CO 80514		S I	5/ 1/73	100.00			400.00			2000N 2450E	SWNE	12	1 N	68 W	S
62026	A 1 62 STONEBRAKER W ERIE, CO 80516	NP 2/11/81 AR 3/25/81	S DS									SWNW	12	1 N	68 W	S
62026	1 62 STONEBRAKER AUSTIN P BOX 187 DACONO, CO 80514		S DS	7/ 1/36	106.00			10.00			2000N 400W	SWNW	12	1 N	68 W	S
49232	1 62 LEWIS DARRELL D 2091 S KNOX CT DENVER, CO 80219		S D	3/ 3/72				15.00	610	225		SWSE	12	1 N	68 W	S
71954	1 62 HAMILTON FRANCIS W RT 1 BOX 171 ERIE, CO 80516		S DS	1/ /47	1.00			15.00	250		50S 50W	SWSW	12	1 N	68 W	S
156234	1 1 GAHAGEN DAVID 15055 YORK ST BRIGHTON, CO 80601	NP 12/ 5/89 AR 12/28/89	2 DS				GW		65		980N 60E	NENE	14	1 N	68 W	S
156234	A 1 1 GAHAGEN DAVID 15055 YORK ST BRIGHTON, CO 80601	NP 12/ 5/89 AR 12/28/89	2 DS				GW				980N 60E	NENE	14	1 N	68 W	S
255731	1 62 ROCKY MTN ENER DENVER, CO 80212	NP 11/10/80	S O									NWNE	14	1 N	68 W	S
	1 62 ROCKY MTN ENER BROOMFIELD, CO 80020	AP 1/19/81 AR 1/28/81	S O									NWNE	14	1 N	68 W	S
255821	1 62 ROCKY MOUNTAIN ENERGY CO 10 LONGS PEAK DRIVE BROOMFIELD, CO 80020		S O					2.00	280		450N 2050E	NWNE	14	1 N	68 W	S
255761	1 62 ROCKY MTN ENER DENVER, CO 80212	NP 11/10/80	S O									SESW	14	1 N	68 W	S
255771	1 62 ROCKY MTN ENER DENVER, CO 80212	NP 11/10/80	S O									SESW	14	1 N	68 W	S
	1 62 ROCKY MTN ENER BROOMFIELD, CO 80020	AP 1/19/81 AR 1/28/81	S O									SESW	14	1 N	68 W	S
255831	1 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020	NP 9/30/81 SA	S O	7/28/88			KLF	2.00	290		1100S 2600W	SESW	14	1 N	68 W	S
255831	1 62 ROCKY MTN ENER 10 LONGS PEAK DR BOX 2000 BROOMFIELD, CO 80020	NP 9/30/81 SA	S O	7/28/88			KLF	2.00	290		1100S 2600W	SESW	14	1 N	68 W	S
255841	1 62 ROCKY MOUNTAIN ENERGY CO 10 LONGS PEAK DRIVE BROOMFIELD, CO 80020		S O					2.00	238		1000S 2550W	SESW	14	1 N	68 W	S
207141	1 62 THE IMPERIAL COAL CO RT 1 ERIE, CO 80516		2 N	11/ 4/60				60.00			850S 850W	SWSW	14	1 N	68 W	S
113278	1 62 MUELLER LAVERNE 7129 OTIS CT. ARVADA, CO 80003		S DS	7/15/82	1.00			8.00	600	340	2050N 600W	S2NW	15	1 N	68 W	S

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98100	1 62 MEDDLES R M ARVADA, CO 80005	NP 2/16/78 AR 4/ 4/78	6 D									SWNW	15	1 N	68 W	S
	1 62 MUELLER L ARVADA, CO 80003	AP 2/ 5/80 AR 2/25/80	S DS									SWNW	15	1 N	68 W	S
	1 62 JOSEPH DAVID J. (CO.) ERIE, CO 80516	AP 7/17/85 AU 7/23/85	6 H				GW					SWSE	15	1 N	68 W	S
39171	1 62 IMPERIAL COAL CO & EAGLE MINE RT 1 ERIE, CO 80516		2 D	3/ 5/63				18.00	850	330		SWSE	15	1 N	68 W	S
207131	1 62 THE IMPERIAL COAL CO RT 1 ERIE, CO 80516		5 N	/ /38				175.00			540S 1500E	SWSE	15	1 N	68 W	S
114803	1 62 COUFAL MICHAEL J. 5470 WELD CO. RD. 7 ERIE, CO 80516		6 D	4/12/82	40.00			10.00	615	340	2220S 200W	NWSW	15	1 N	68 W	S
32107	1 62 PLOUSSE EARNEST L JR RT 1 ERIE, CO 80516		2 D	9/23/67				16.00	600	380		NENE	16	1 N	68 W	S
	1 62 WEBBER G E ERIE, CO 80516	AP 10/27/78	S DS									NWNE	16	1 N	68 W	S
151241	1 62 SANDEN EDWIN H. BOX 215 MORRISON, CO 80465	NP 7/29/70 EP 8/ 5/71	C									SENE	16	1 N	68 W	S
27835	1 62 YOUNG EVERT W 105 CHEESMAN ERIE, CO 80516		6 D	6/25/66				1.00	40	21		SWNE	18	1 N	68 W	S
114371	1 62 PAGE PAUL E. P.O. BOX 458 ERIE, CO 80516		6 D	1/ 1/61	1.00			15.00	52		2110N 2100E	SWNE	18	1 N	68 W	S
	1 62 ERIE WTR & SAN DIST P O BOX 390 ERIE, CO 80516	AP 11/24/89 AU 2/26/90	6 O				GW				700N 1600W	NENW	18	1 N	68 W	S
37299	1 62 ZIEGLER ROBERT RT 2 LONGMONT, CO 80501		6 D	4/11/69				20.00	47	15		NWNW	18	1 N	68 W	S
37526	1 62 LEWIS MERLE B RT 1 BOX 263 ERIE, CO 80516		6 D	5/ 5/69				30.00	45	10		NWNW	18	1 N	68 W	S
37641	1 62 SOSA JOHN & PATRICA RT 1 ERIE, CO 80516		6 D	5/ 2/69				35.00	50	11		NWNW	18	1 N	68 W	S
45554	1 62 LEWIS MERLE B RT 1 BOX 263 ERIE, CO 80516		6 D	6/ 1/71				30.00	43	9		NWNW	18	1 N	68 W	S
46259	1 62 LEWIS JUNE M RT 1 BOX 263 ERIE, CO 80516		6 D	6/ 7/71				15.00	40	19		NWNW	18	1 N	68 W	S

			6	D	4/1/82													
32107	I 62 PLOUSSE EARNEST L JR RT 1 ERIE, CO 80516																	
			2	D	9/23/67			16.00	600	380				NENE	16	1 N	68 W	S
	I 62 WEBBER G E ERIE, CO 80516																	
	AP 10/27/78		5	DS										NWNE	16	1 N	68 W	S
15124F	I 62 SANDEN EDWIN H. BOX 215 MORRISON, CO 80465																	
	NP 7/29/70 EP 8/ 5/71			C										SENE	16	1 N	68 W	S
27835	I 62 YOUNG EVERT W 105 CHEESMAN ERIE, CO 80516																	
			6	D	6/25/66			1.00	40	21				SWNE	18	1 N	68 W	S
114371	I 62 PAGE PAUL E. P.O. BOX 458 ERIE, CO 80516																	
			6	D	1/ 1/61		1.00	15.00	52			2110N 2100E		SWNE	18	1 N	68 W	S
	I 62 ERIE WTR & SAN DIST P O BOX 390 ERIE, CO 80516																	
	AP 11/24/89 AU 2/26/90		6	D							GW		700N 1600W	NENW	18	1 N	68 W	S
37299	I 62 ZIEGLER ROBERT RT 2 LONGMONT, CO 80501																	
			6	D	4/11/69			20.00	47	15				NWNW	18	1 N	68 W	S
37526	I 62 LEWIS MERLE B RT 1 BOX 263 ERIE, CO 80516																	
			6	D	5/ 5/69			30.00	45	10				NWNW	18	1 N	68 W	S
37641	I 62 SOSA JOHN & PATRICA RT 1 ERIE, CO 80516																	
			6	D	5/ 2/69			35.00	50	11				NWNW	18	1 N	68 W	S
45554	I 62 LEWIS MERLE B RT 1 BOX 263 ERIE, CO 80516																	
			6	D	6/ 1/71			30.00	43	9				NWNW	18	1 N	68 W	S
46259	I 62 LEWIS JUNE M RT 1 BOX 263 ERIE, CO 80516																	
			6	D	6/ 7/71			15.00	40	19				NWNW	18	1 N	68 W	S
47327	I 62 LEWIS RALPH E RT 2 BOX 305 LONGMONT, CO 80501																	
			6	D	7/28/71			15.00	42	6				NWNW	18	1 N	68 W	S
78623	I 62 CRISPIN CHARLOTTE B BOX 121 ERIE, CO 80516																	
			6	D	10/31/10			10.00						NWNW	18	1 N	68 W	S
78624	I 62 CRISPIN CHARLOTTE B BOX 121 ERIE, CO 80516																	
			6	D	12/31/62			10.00						NWNW	18	1 N	68 W	S
41508	I 62 PRICE JOHN D BOX 375 ERIE, CO 80516																	
			6	D	5/ 1/75		1.00	20.00	31	10		2250N 2500W		SENW	18	1 N	68 W	S
60170	I 62 CANADAY ARCHIE R 704 HOLBROOK ST ERIE, CO 80516																	
			6	D	5/ 5/72		2.00	18.00	24			2576N 1397W		SENW	18	1 N	68 W	S
3052AD	I 62 CRUNN VERNON W. ERIE, CO 80516																	
	AD			D										SWNW	18	1 N	68 W	S
3173AD	I 62 KING HOWARD G. ERIE, CO 80516																	
	AD			D										SWNW	18	1 N	68 W	S

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COLORADO DIVISION OF WATER RESOURCES

PERMIT	D CO OWNER INFORMATION ACTIVITY CO	DATE	STATUS CD	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
30504D	I 62 HELLER EMANUEL H. ERIE, CO 80516																				
	AD							D									NESW	18	1 N	68 W	S
20499	I 62 ERIE CEMETERY ASSOC ERIE, CO 80516																				
			6					D	7/ 2/64				20.00	50	7		NESW	18	1 N	68 W	S
21522	I 62 JABO: CHARLES 544 HOLBROOK ERIE, CO 80516																				
			6					D	9/15/64				5.00	52	25		NESW	18	1 N	68 W	S
21620	I 62 GREEN ROBERT 405 HOLBROOK ERIE, CO 80516																				
			6					D	9/21/64				10.00	52	8		NESW	18	1 N	68 W	S
30335	I 62 MCDONALD GERTRUDE HOLBROOK & MOFFAT ERIE, CO 80516																				
			6					D	4/ 8/67				6.00	45	18		NESW	18	1 N	68 W	S
30383	I 62 JOHNSON ALLEN L 575 HOLBROOK ERIE, CO 80516																				
			6					D	4/ 7/67				20.00	40	20		NESW	18	1 N	68 W	S
30474	I 62 PAYNE ALBERT G 564 HOLBROOK ERIE, CO 80516																				
			6					D	4/12/67				20.00	41	23		NESW	18	1 N	68 W	S
30539	I 62 ERIE METHODIST CHURCH 6TH & HOLBROOK ERIE, CO 80516																				
			6					D	4/27/67				20.00	53	20		NESW	18	1 N	68 W	S
30668	I 62 EVANS FRANK E 420 BRIGGS ST ERIE, CO 80516																				
			6					D	4/18/67				20.00	41	7		NESW	18	1 N	68 W	S
59821	I 62 CORDOVA SANTIAGO E 415 HOLBROOK ST ERIE, CO 80516																				
			6					D	6/ 1/72				13.00	50			NESW	18	1 N	68 W	S
78512	I 62 TRENBATH WILLIAM K & MARGARET J 425 BRIGGS ST ERIE, CO 80516																				
			6					D	6/ 1/53				9.00			1611S 2350W	NESW	18	1 N	68 W	S
82429	I 62 MARTINEZ RICHARD B & EMMA L PO BOX 247 ERIE, CO 80516																				
			6					D	3/31/63				5.00			2636S 2565W	NESW	18	1 N	68 W	S
107333	A I 62 LOUIS A D ERIE, CO 80516																				
	NP 4/ 9/80		6					D									NWSW	18	1 N	68 W	S
5677	I 62 MCALLISTER WM ERIE, CO 80516																				
			6					D	4/27/60				17.00	53	10		NWSW	18	1 N	68 W	S
15068	I 62 WRIGHT SISTERS 564 MAIN ST ERIE, CO 80516																				
			6					D	5/ 8/63				15.00	53	20		NWSW	18	1 N	68 W	S
15691	I 62 GLOVER ARTHUR MAIN & WELLS ERIE, CO 80516																				
			6					D	6/ 5/63				10.00	50	25		NWSW	18	1 N	68 W	S
16892	I 62 GREEN ROBERT D 515 MOFFET BX266 ERIE, CO 80516																				
			6					D	8/29/63				5.00	50	30		NWSW	18	1 N	68 W	S
18074	I 62 REGNIER JAMES 565 MAIN BOX 65 ERIE, CO 80516																				
			6					D	11/19/63				5.00	48	26		NWSW	18	1 N	68 W	S
18934	I 62 MAY HARVEY F 455 MAIN ST ERIE, CO 80516																				
			6					D	3/14/64				10.00	50	14		NWSW	18	1 N	68 W	S
19751	I 62 CASTRO RALPH 575 MAIN ST ERIE, CO 80516																				
			6					D	5/14/64				5.00	50	22		NWSW	18	1 N	68 W	S
20899	I 62 BROWN CARL 645 MAIN ERIE, CO 80516																				
			6					D	7/24/64				20.00	50	15		NWSW	18	1 N	68 W	S
23675	I 62 KOBOBEL BILL 666 MOFFETT ERIE, CO 80516																				
			6					D	5/23/65				15.00	39	24		NWSW	18	1 N	68 W	S
24248	I 62 ERIE SCHOOL DISTRICT HOUSE 374 MAIN ST ERIE, CO 80516																				
			6					D	6/ 2/65				2.00	48	35		NWSW	18	1 N	68 W	S
30475	I 62 MCWILLIAMS J D 615 MAIN ST ERIE, CO 80516																				
			6					D	4/13/67				20.00	41	30		NWSW	18	1 N	68 W	S

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PERMIT	D CO OWNER INFORMATION / ACTIVITY CD DATE	STATUS CD DATE	WD MO DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
30541	T 62 FOREMAN FRED BOX 116 ERIE, CO 80516		6 D	4/29/67				7.00	48	16		NWSW	18	1 N	68 W	S
22421	T 62 ST VRAIN VALLEY SCHOOL DIST & ERIE 395 S PRATT PKWY LONGMONT, CO 80501		6 D	5/ 9/56				17.00	49	22		NWSW	18	1 N	68 W	S
55848	T 62 GRUMM JOHN W JR & MARY A 545 MOFFAT ST ERIE, CO 80516		6 D	8/30/72				14.00	321	50		NWSW	18	1 N	68 W	S
80005	T 62 MILLER RUBY & THELBERT 484 MAIN ST. BOX 184 ERIE, CO 80516		6 D	/ /55		1.00		15.00	30		1750S 700W	NWSW	18	1 N	68 W	S
89240	T 62 KOBOBEL ALLEN E. 504 MAIN ERIE, CO 80516		6 D	6/ 7/77				10.00	40	25	1900S 700W	NWSW	18	1 N	68 W	S
107555	T 62 LOUIS ANDREW DAVID PO BOX NO 363 ERIE, CO 80516		6 D	12/12/30		1.00		15.00	32		1650S 650W	NWSW	18	1 N	68 W	S
26971	T 62 LEWIS MERLE 480 PIERCE ST ERIE, CO 80516		6 D	4/29/66				15.00	40	7		SESW	18	1 N	68 W	S
30584	T 62 MORGAN LYNN 704 MAIN ST ERIE, CO 80516		6 D	4/ 7/67				20.00	38	19		SESW	18	1 N	68 W	S
30475	T 62 MONARES HENRY 340 BRIGGS ERIE, CO 80516		6 D	4/ 9/67				30.00	41	6		SESW	18	1 N	68 W	S
30476	T 62 MUNOZ SANTOS 325 PIERCE ST ERIE, CO 80516		6 D	4/13/67				20.00	41	7		SESW	18	1 N	68 W	S
30477	T 62 MANALIC DONALD MRS 375 BRIGGS ST ERIE, CO 80516		6 D	4/13/67				20.00	34	6		SESW	18	1 N	68 W	S
68957	T 62 CASTRO MIKE & DORA 230 HOLBROOK ST ERIE, CO 80516		6 D	7/23/73		1.00		15.00	45	15	1250S 1450W	SESW	18	1 N	68 W	S
76785	T 62 SMITH NEIL 1400 BALSAM BOULDER, CO 80302		6 D	3/ /45				15.00	30		1200S 1400W	SESW	18	1 N	68 W	S
78507	T 62 SWOPE STELLA M BOX 277 ERIE, CO 80516		6 D	5/15/69				30.00				SESW	18	1 N	68 W	S
78508	T 62 SWOPE STELLA M BOX 277 ERIE, CO 80516		6 D	4/10/72				30.00				SESW	18	1 N	68 W	S
142317	T 62 VANTINE ALVIN D. & BETTY A. 1921 LINCOLN ST. LONGMONT, CO 80501		6 D	/ /62				6.00	40		140S 2300W	SESW	18	1 N	68 W	S
	T 62 STEWART HAROLD ERIE, CO 80516	AP 1/27/82 AU 4/20/87	6 M				GW					SWSW	18	1 N	68 W	S
47450	T 62 WOODMAN L A 374 MAIN ERIE, CO 80516		6 D	7/20/71				15.00	60	19		SWSW	18	1 N	68 W	S
47585	T 62 WILSON FRED R 525 HOLBROOK ST ERIE, CO 80516		6 D	7/23/71				15.00	50	20		SWSW	18	1 N	68 W	S
53218	T 62 ZAROBA DONALD W. 444 MAIN ST. BOX 87 ERIE, CO 80516		6 D	3/15/72				15.00	36	20	215N 190E	SWSW	18	1 N	68 W	S
54480	T 62 BEIERLE ARNOLD J. 625 MAIN ST. ERIE, CO 80516		6 D	5/29/72				15.00	50	21		SWSW	18	1 N	68 W	S
54774	T 62 RAY BENNIE BOX 254 ERIE, CO 80516		6 D	4/22/72				15.00	40	20	2000S 150W	SWSW	18	1 N	68 W	S
58427	T 52 MATHEWS HOWARD 625 MOFFAT ERIE, CO 80516		6 I	5/24/72				15.00	50	21		SWSW	18	1 N	68 W	S
58742	T 62 MAZZINI ADDELEN 484 HOLBROOK ST ERIE, CO 80516		6 D	5/10/72				15.00	51	20		SWSW	18	1 N	68 W	S

PERMIT	D CO OWNER INFORMATION / ACTIVITY CD DATE	STATUS CD DATE	WD MO DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
60128	T 62 TITTLE WILLIAM J 424 HIGH ST ERIE, CO 80516		6 D	5/19/72				15.00	50			SWSW	18	1 N	68 W	S
110461	T 62 BAKER LEROY J 5416 FIR AVE ERIE, CO 80516		6 D	/ /34		1.00		20.00	40		1175S 1000W	SWSW	18	1 N	68 W	S
31502F	T 62 LANDFILL SYSTEMS ERIE, CO 80516	NP 7/22/86 SP 4/18/88	6 C				ELF					NWSW	21	1 N	68 W	S
27996F	T 62 LANDFILL SYSTEMS INC 2240 WELD CNTY RD 5 ERIE, CO 80516	NP 1/11/84 EP 12/13/85	6 C				ELF					NWSW	21	1 N	68 W	S
23267	T 62 HORST DANIEL R 2240 WELD COUNTY RD 5 ERIE, CO 80516		2 DS	4/13/65				8.00	700	300	1610S 216W	NWSW	21	1 N	68 W	S
24982F	T 62 RICKERS HENRY J & MARJORIE L 2497 I-25 FRONTAGE R ERIE, CO 80516		5 I	7/15/68		68.00		359.00	20		2140S 50E	NESE	22	1 N	68 W	S
24983F	T 62 RICKERS HENRY J & MARJORIE L 2497 I-25 FRONTAGE R ERIE, CO 80516		5 I	7/15/68		68.00		10.00	20		2400S 500E	NESE	22	1 N	68 W	S
29719	T 62 BELL J B 8990 N FEDERAL DENVER, CO 80202		2 D	2/ 3/67				10.00	558	380		SESE	22	1 N	68 W	S
32364	T 62 VANNOY ANDY 5225 ADAMS #5 DENVER, CO 80202		2 D	10/21/67				4525.90	375			SESE	22	1 N	68 W	S
15774F	T 62 ALTMEN & BOYER 836 E. 17TH AVE DENVER, CO 80218		2 N	4/13/56				12.00	680		225S 290W	SWSW	23	1 N	68 W	S
18269R	T 62 LAURIDSON CLARENCE RT 2 BX 201 BRIGHTON, CO 80601		2 I	5/ 7/50				575.00				SENE	24	1 N	68 W	S
19096F	T 62 WASHINGTON TURKEY FARM R R 1, BOX 112 ERIE, CO 80516	NP 12/ 2/74 EP 12/19/75	2 C									NWNW	25	1 N	68 W	S
17464F	T 62 ADOLPH COORS CO. GOLDEN, CO 80401	NP 7/ 5/73 EP 8/ 9/74	2 I									SESW	25	1 N	68 W	S
102492	T 62 ADOLPH COORS COMPANY LAND & WATER RES DEPT. GOLDEN, CO 80401		5 C	4/30/74				.20	805	310	225S 1650W	SESW	25	1 N	68 W	S
	T 62 FURBER T ARVADA, CO 80003	AP 6/22/83 AU 5/10/84	2 M									SWSW	25	1 N	68 W	S
92254	T 62 ROBERTS C. J. 1163 BIRDIE RD. BROOMFIELD, CO 80020		2 D	7/ 7/81		1.00		5.00	355	85	2605N 170E	SENE	26	1 N	68 W	S
23903	A T 62 GOLTL WALTER J 1291 W C R 11 ERIE, CO 80516	NP 7/12/88	2 DS				ELF				2200S 320E	NESE	26	1 N	68 W	S

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                                5      I   7/15/48          68.00        10.00    20          2400S  300E NESE 22  1 N  68 W S
29719     T 62 BELL J B  8990 N FEDERAL  DENVER, CO  80202
                                2      D   2/ 3/67                      10.00   558    380                 SESE 22  1 N  68 W S
32364     T 62 VANNOY ANDY  5225 ADAMS #5  DENVER, CO  80202
                                2      D  10/21/67                    4525.90   375                         SESE 22  1 N  68 W S
157774F   T 62 ALTHEN & BOYER  836 E. 17TH AVE  DENVER, CO  80218
                                2      W   4/13/56                      12.00   680          225S  290W SWSW 23  1 N  68 W S
18269R    T 62 LAURIDSON CLARENCE  RT 2 BX 201  BRIGHTON, CO  80601
                                2      I   5/ 7/50                     575.00                               SENE 24  1 N  68 W S
19096F    T 62 WASHINGTON TURKEY FARM  R R 1, BOX 112  ERIE, CO  80516
          NP 12/ 2/74 EP 12/19/75  2      C                                                                NWNW 25  1 N  68 W S
174641F   T 62 ADOLPH COORS CO.    GOLDEN, CO  80401
          NP  7/ 5/73 EP  8/ 9/74  2      I                                                                SESW 25  1 N  68 W S
102492    T 62 ADOLPH COORS COMPANY  LAND & WATER RES DEPT  GOLDEN, CO  80401
                                5      C   4/30/74                       .20   805    310  225S 1650W SESW 25  1 N  68 W S
          T 62 FURBER T    ARVADA, CO  80003
          AP 6/22/83 AU  5/10/84  2      M                                                                SWSW 25  1 N  68 W S
92254     T 62 ROBERTS C. J.  1163 BIRDIE RD.  BROOMFIELD, CO  80020
                                2      D   7/ 7/81        1.00          5.00   355     85 2605N  170E SENE 26  1 N  68 W S
23903     A T 62 GOLTL WALTER J  1291 W C R 11  ERIE, CO  80516
          NP  7/12/88             2      DS                   KLF                                         2200S  320E NESE 26  1 N  68 W S
13369F    T 62 CALLICOTT PERRY  2000 W 92ND #344  DENVER, CO  80202
                                2      C  11/ 4/68                     25.00   675    200                 NWNE 27  1 N  68 W S
113861    T 62 BAKER A    ERIE, CO  80516
          NP  3/24/80 AR  4/16/80 5      DS                                                               SENE 27  1 N  68 W S
          T 7 ZIGAN TED  C/O 8745 W 14TH AVE # 216  LAKEWOOD, CO  80215
          MH  2/21/90             6      O                    GW                                             28  1 N  68 W S
114405    T 62 COLORADO LANDFILL INC.  4710 W. 12TH ST.  GREELEY, CO  80631
                                6      D   7/15/80        1.00         15.00   690    200   80N 2620E NWNE 29  1 N  68 W S
30296M    T 62 WESTERN DISPOSAL    ERIE, CO  80516
          NP  6/23/86             6      O                    GW                                             SWNE 29  1 N  68 W S
32027F    T 62 CO LANDFILL  1333 W 120 AVE STE 210  DENVER, CO  80234
          NP  1/28/85 EP  7/23/88 6      C                    KLF                                   80N 2010E NENW 29  1 N  68 W S
30297M    T 62 WESTERN DISPOSAL    ERIE, CO  80516
          NP  6/23/86             6      O                    GW                                             NENW 29  1 N  68 W S
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PERMIT     D CO OWNER INFORMATION
           ACTIVITY     STATUS                    1ST USED  ANNUAL  ACRES  GEOL   WELL   WELL   WATER SEC LOCAT'N        TOWN       P
           CD   DATE    CD   DATE   WD MD DB USE   DATE     APROP   IRR    AQFR   YIELD  DEPTH  LEVEL COORDINATES OTRS SC SHIP RANGE M

10923AD    T 62 KEITH R    ERIE, CO  80516
           AD  9/ 3/85 AR  9/25/85  6      D                    KLF                                         SWNE 31  1 N  68 W S
11024AD    T 62 KEITH R R    ERIE, CO  80516
           AD  1/16/86             6      H                    KLF                                         SWNE 31  1 N  68 W S
147811MM   T 62 SMITH ENERGY SERVICES  C/O 7950 S LINCOLN ST  LITTLETON, CO  80122
           MH  1/24/89             6      O                    GW                                           SE 31  1 N  68 W S
10922AD    T 62 DENT W V    ERIE, CO  80516
           AD  8/20/85 AR  8/27/85  6      D                    KLF                                         NWSE 31  1 N  68 W S
15937      T 62 JUNGFERMAN VALDAMAR  BOX 15  LAFAYETTE, CO  80026
                                6      D   6/21/63                     10.00   480    140                 NESW 31  1 N  68 W S
10675F     T 62 FIELD ENTERPRISES INC  BOX 176  LAFAYETTE, CO  80026
                                6      M   3/15/66                     25.00   875     80                 SWSE 32  1 N  68 W S
63868      T 62 SMITH MARSHALL D  2261 NC DOUGAL  DENVER, CO  80229
                                6      DS  8/16/73                     10.00   310    120 1550S 1920W NESW 32  1 N  68 W S
72111      T 62 CROTTY LEO E.  4390 W. 82 ND. AVE.  WESTMINSTER, CO  80030
                                2      D   2/ 1/74        1.00         15.00   660    200 1800S 2300W NESW 32  1 N  68 W S
90524      T 62 HOWE DOLORES BETTY  1340 HOLLY DR. WEST  BROOMFIELD, CO  80020
                                6      W   5/14/77                      6.00   320    100 1350S 1880W NESW 32  1 N  68 W S
70304      T 62 PICRAUX LYLE J  7927 W 106TH AVE  BROOMFIELD, CO  80020
                                6      D   9/25/73                      6.00   515    215 2560S  600W NWSW 32  1 N  68 W S
151382     T 62 JENKINS THOMAS  250 W C R 3  BRIGHTON, CO  80601
           NP  5/24/88             6      A                1.00        KLF                                 1280S  120W SWSW 32  1 N  68 W S
96121      T 62 PICRAUX LYLE J.  P.O. BOX 70  LAFAYETTE, CO  80026
                                6      C   3/27/78                     15.00   740     90  200S  150W SWSW 32  1 N  68 W S
115155     A T  1 ROCKWELL L H    ERIE, CO  80516
           NP  6/ 7/82             6      DS                                                               SE  33  1 N  68 W S
10630      R T 62 NORTH HURON WATER CO.  3348 RD 4  ERIE, CO  80516
           EX  1/ 5/87             6      M                    KLF                                   1296N   78E NENE 33  1 N  68 W S
27743      T 62 PORTER LAWRENCE  RT 1 P O BOX 85  BROOMFIELD, CO  81052
                                2      D   6/14/66                     30.00   854    135                 NWNE 33  1 N  68 W S
38854      T 62 KAILER FRED F  RT 1 BOX 79  ERIE, CO  80516
                                2      D   8/19/69                      1.00    63      9                 NWNE 33  1 N  68 W S
58621      T 62 WEST WILSON W  7442 BEACH CT  WESTMINSTER, CO  80030
                                5      D   7/12/74                     15.00   889    120                 NWNE 33  1 N  68 W S
38853      T 62 KINKEL ALLEN J  RT 1 BOX 72A  ERIE, CO  80516
                                2      D   8/27/69                   4525.90   103                         NENW 33  1 N  68 W S
118667     T 62 POOLE R N    LAKEWOOD, CO  80215
           NP  2/27/81             6      D                                                               NWNW 33  1 N  68 W S
138952     T 62 REINHOLDT JOHN H.    BROOMFIELD, CO  80020
           EX  2/14/85 EX          6      C                    KLF                                         SWNW 33  1 N  68 W S
23574      T 62 MOHLE WALTER  RT 1  LAFAYETTE, CO  80026
                                2      D   4/22/65                     20.00   250    135                 SESE 33  1 N  68 W S
34971      T 62 MOHLE WALTER  RT 1  LAFAYETTE, CO  80026
                                2      D   8/15/68                     20.00   390    120                 SESE 33  1 N  68 W S
115155     T 62 ELZI JR CHARLES J & WILLIAM H & CO  10338 BRIAR DR  HOUSTON, TX  77042
                                5      DS    / /10        1.00         15.00   700          250S  250E   SW 33  1 N  68 W S
138951     T 62 REINHOLDT JOHN H.    BROOMFIELD, CO  80020
           EX  2/14/85 EX          6      C                    KLF                                         SWSW 33  1 N  68 W S
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PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
11865F	1	62			NORTH HURON WATER COMPANY 1 RT 1 BOX 81 ERIE, CO 80516	2		M		6/31/67				40.00	990	135		NENW	34	1 N	68 W	S
132242	1	62	NP	7/15/83	ZAHN J H ERIE, CO 80516	5		H										NWNW	34	1 N	68 W	S
10287AD	1	62	AD		ARP MAX H. WHEAT RIDGE, CO 80033	6		D										SENW	34	1 N	68 W	S
135049	1	62	NP	3/21/84	DELGADO D A THORNTON, CO 80229 AR 4/ 6/84	5		D										SENW	34	1 N	68 W	S
135205	1	62	NP	4/ 4/84	ARP M H WHEAT RIDGE, CO 80033	6		H										SENW	34	1 N	68 W	S
137058	1	62	EX	6/28/84	ARP MAX H. WHEATRIDGE, CO 80033 LOT 1 BLOCK 4 FILING 2 RANCH EGGS INC EX	5		D										SENW	34	1 N	68 W	S
70630F	1	62			NORTH HURON WATER COMPANY 1 RT 1 BOX 81 ERIE, CO 80516	2		M		3/ 2/66				40.00	1002	208		SENW	34	1 N	68 W	S
32022F	1	62			NORTH HURON WATER CO. 3348 ROAD 4 ERIE, CO 80516	2		M										SENW	34	1 N	68 W	S
56095AD	1	62	AD		CHICHESTER JR. L. G. ERIE, CO 80516			C										SWNW	34	1 N	68 W	S
120961	1	62	NP	6/11/81	ROCKWELL E L BRIGHTON, CO 80601 AU 7/ 1/81	2		H										SWNW	34	1 N	68 W	S
124804	1	62	EX	3/15/82	BARNETT J K ERIE, CO 80516	2		H										SWNW	34	1 N	68 W	S
147072	1	62	EX	1/26/87	BARNETT JAMES K. 794 WELD CO RD 7 ERIE, CO 80516 LOT 2 BLOCK 5 FILING 2 RANCH EGGS INC	2		H					GW				1600N 200W	SWNW	34	1 N	68 W	S
12428	1	62			CALVERT ROBERT S 5350 E 52ND AVENUE COMMERCE CY, CO 80022	2		D		8/11/62				15.00	800	200		SESE	34	1 N	68 W	S
25077	1	62			K & R LIVESTOCK RT 1 BOX 204 BROOMFIELD, CO 80020	2		D		8/25/65				5.00	40	8		SESE	34	1 N	68 W	S
35017	1	62			HEIRS COSSLETT 4TH & MAIN ST LONGMONT, CO 80501	2		D		8/19/68				4525.90	325		1550S 350W	NWSW	34	1 N	68 W	S
124684	A 1	62	NP	2/24/82	CHANA R A AURORA, CO 80015 AR 3/24/82	2		DS										NNE	35	1 N	68 W	S
133371	1	62	NP	10/ 3/83	JOHNSON R L ENGLEWOOD, CO 80112 RC 10/28/85	5		D										NENE	35	1 N	68 W	S
65122	1	62			CONCELMAN CLAUDE 775 WELD CO. RD. 11 ERIE, CO 80516	5		H		10/ 5/72		1.00		9.00	780	310	1252N 187E	NENE	35	1 N	68 W	S
8011	1	62			NELSON LAWRENCE LONGMONT, CO 80501	2		S		3/13/61				10.00	54	6		SESE	35	1 N	68 W	S
45846	1	62			TROSTEL WILLARD RT 2 BOX 195 BRIGHTON, CO 80601	2		D		7/14/71				12.00	30	10		SESE	35	1 N	68 W	S
78388AD	1	62	AD		SHARPE WILLIAM S. WESTMINSTER, CO 80030			C										NWSW	35	1 N	68 W	S
17007F	1	62			WILCOX FRANK E (LAWRENCE KIM) 1011 ELEVENTH AVE GREELEY, CO 80631	2		C		2/14/75		160.00		20.00	915	337	500S 1000W	SWSW	35	1 N	68 W	S
69657	1	62			JACOBUCCI VICTOR L RT 2 BOX 192 BRIGHTON, CO 80601	2		H		11/ 1/73				7.00	751 (A)	295	300S 600E	SESE	36	1 N	68 W	S
93947	A 1	18	NP	9/26/77	WILLIAMS E H SELALIA, CO 80135	8		D		12/16/85								SENE	27	S	68 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
	1	1	AP	6/17/83	TUMOLO M A NORTHGLENN, CO 80233 AU 8/ 3/83	2		H												1 S	68 W	S
50G	1	1	NP	2/24/nd	LOWE DONALD BRIGHTON, CO 80601 BLOCK 1 WIENER NP	2		D					GW					SENE	1	1 S	68 W	S
96051	1	1		11/21/77	WOLFE E A BRIGHTON, CO 80601	2		S						8.00	28			SWNE	1	1 S	68 W	S
141966	1	1	NP	4/ 2/85	DOYLE S.G. THORNTON, CO 80229	2		D										NWNW	1	1 S	68 W	S
	1	1	AP	7/ 6/88	GARNER WALTER 5435 ADAMS DENVER, CO 80205 LOT 5 PREBLE AU 7/25/88	2		A									820N 970W	NWNW	1	1 S	68 W	S
41236	1	1			GASPAR DONALD R R 2 BX 185 B BRIGHTON, CO 80601	2		D		5/13/70				4525.90	40			NWNW	1	1 S	68 W	S
100857	1	1			CURTIS PARES K. & SALLY J. 541 E. 56TH DENVER, CO 80216	2		DS		9/26/78				15.00	832	425	300N 700W	NWNW	1	1 S	68 W	S
20252	1	1			HAYES ELLSWORTH C 695 QUARTZWAY BROOMFIELD, CO 80020	2		D		6/17/64				11.00	130	25		SENW	1	1 S	68 W	S
91770	1	1	NP	6/ 8/77	WILSON D T BRIGHTON, CO 80601	2		D										SWNW	1	1 S	68 W	S
104500	A 1	1	NP	1/25/79	NEHRING A E BRIGHTON, CO 80601	2		D										SWNW	1	1 S	68 W	S
135931	1	1			WIESNER FRED 5100 PERRY ST DENVER, CO 80202	2		C		1/ 6/69				60.00	950	112		SWNW	1	1 S	68 W	S
85933	1	1			QUINLAN EDWARD L. 16480 FILMORE BRIGHTON, CO 80601	2		D		8/23/78		1.00		10.00	610		2000N 700W	SWNW	1	1 S	68 W	S
94044	1	1			HERNANDEZ ISMAEL RT. 2, BOX 16520 BRIGHTON, CO 80601	2		D		9/19/79				14.00	840	400	1700N 700W	SWNW	1	1 S	68 W	S
104500	1	1			NEHRING ALFRED E 16450 YORK BRIGHTON, CO 80601	2		D		4/27/79				15.00	817		2240N 54W	SWNW	1	1 S	68 W	S
85177	1	1			PERRY RUSSEL RT. 2 BOX 17 BRIGHTON, CO 80601	2		D		8/24/76		1.00		10.00	900	400	800S 2550E	SWSE	1	1 S	68 W	S
	1	1	AP	5/30/79	164TH+BASELINE DENVER, CO 80203	2		DS										ESE	2	1 S	68 W	S
144721	1	1			WRITE MARLIN A 5112 E PARRIE ST OLATHE, KS 00000	2		C		2/27/70				25.00	995	220		NWNW	2	1 S	68 W	S

100857		1	1 CURTIS PARES K. & SALLY J. 541 E. 56TH DENVER, CO 80216																				
				2	DS	9/26/78				15.00	832	425	500N	700W	NWNW	1	1	S	68	W	S
20232		1	1 HAYES ELLSWORTH C 695 QUARTZWAY BROOMFIELD, CO 80020																				
				2	D	6/17/64				11.00	130	25			SENW	1	1	S	68	W	S
91770		1	1 WILSON D T BRIGHTON, CO 80601																				
	NP	6/ 8/77		2	D										SWNW	1	1	S	68	W	S
104500	A	1	1 NEHRING A E BRIGHTON, CO 80601																				
	NP	1/25/79		2	D										SWNW	1	1	S	68	W	S
135931		1	1 WIESNER FRED 5100 PERRY ST DENVER, CO 80202																				
				2	C	1/ 6/69				60.00	950	112			SWNW	1	1	S	68	W	S
85933		1	1 QUINLAN EDWARD L. 16480 FILMORE BRIGHTON, CO 80601																				
				2	D	8/23/78			1.00	10.00	610		2000N	700W	SWNW	1	1	S	68	W	S
94044		1	1 HERNANDEZ ISMAEL RT. 2, BOX 16520 BRIGHTON, CO 80601																				
				2	D	9/19/79				14.00	840	400	1700N	700W	SWNW	1	1	S	68	W	S
104500		1	1 NEHRING ALFRED E 16450 YORK BRIGHTON, CO 80601																				
				2	D	4/27/79				15.00	817		2240N	540	SWNW	1	1	S	68	W	S
83177		1	1 PERRY RUSSEL RT. 2 BOX 17 BRIGHTON, CO 80601																				
				2	D	8/24/76			1.00	10.00	900	400	800S	2550E	SWSE	1	1	S	68	W	S
		1	1 164TH+BASELINE DENVER, CO 80203																				
	AP	5/30/79		2	DS										ESE	2	1	S	68	W	S
14472F		1	1 WHITE MORLIN A 5112 E PARRIE ST OLATHE, KS 00000																				
				2	C	2/27/70				25.00	995	220			NWNW	2	1	S	68	W	S
136557		1	1 SPARROW B ARVADA, CO 80003																				
	NP	5/17/84 AR 7/24/84		6	D										NESE	2	1	S	68	W	S
60909		1	1 FOSSETT EMERY E 7401 QUITMAN ST WESTMINSTER, CO 80030																				
				2	D	8/17/72			1.00	15.00	805	333			NESE	2	1	S	68	W	S
104171		1	1 DEWCKLAU R C BROOMFIELD, CO 80020																				
	NP	11/17/78		2	H										SESE	2	1	S	68	W	S
131986		1	1 FIRST BAPTIST EASTLAKE, CO 80614																				
	NP	5/31/83 AR 8/ 2/83		2	D										SESE	2	1	S	68	W	S
28686F		1	1 FIRST BAPTIST EAST LAKE, CO 80614																				
	NP	6/ 6/84 SA		2	H	12/ 9/87			1.00	KLF	15.00	860	320		SESE	2	1	S	68	W	S
120038		1	1 HOLEMAN J A BRIGHTON, CO 80601																				
	EX	4/24/81 AR 5/15/81		2	H										SWSE	2	1	S	68	W	S
90510		1	1 GINDLING.E W DENVER, CO 80229																				
	NP	4/26/77		2	D	8/27/85			1.00		15.00	880	425		SWSE	2	1	S	68	W	S

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COLORADO DIVISION OF WATER RESOURCES

PERMIT	D	CO	OWNER INFORMATION	ACTIVITY CO	ACTIVITY DATE	STATUS CO	STATUS DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
115350		1	1 COTTONWD CONST DENVER, CO 80120																					
	NP		6/ 5/80 AR 7/ 7/80	2	D															SWSE	2	1	S	68 W S
		1	1 COTTONWOOD CST THORNTON, CO 80233																					
	AP		11/13/84	2	H															SWSE	2	1	S	68 W S
155140		1	1 REHFELD KEITH 16200 HWY 7 BRIGHTON, CO 80601																					
	NP		12/14/88	2	A										KLF	5.00	835	575	1200S 1775E	SWSE	2	1	S	68 W S
		1	1 CARROLL ELAINE 2001 HWY 7 BRIGHTON, CO 80601																					
	AP		3/22/90	2	DS										KLF				1100S 1385E	SWSE	2	1	S	68 W S
87902		1	1 ROCKY MTN TRUCK LEASING CO 16250 N WASHINGTON BROOMFIELD, CO 80020																					
				6	D	11/24/76					10.00	754	430	1528S 200E	NWSW	2	1	S	68 W S
112407		1	1 ANDERSON G LOUISVILLE, CO 80027																					
	NP		11/30/79	2	D															SWSW	2	1	S	68 W S
5458AD		1	1 EVERGREEN MEM. GARDENS INC. DENVER, CO 80211																					
	AD				I															NENE	3	1	S	68 W S
4462F		1	1 EVERGREEN MEMORIAL GARDENS 2600 16TH ST DENVER 11, CO 00000																					
				2	I	6/28/63					40.00	801			NENE	3	1	S	68 W S
16691F		1	1 EVERGREEN MEMORIAL GARDENS BOX 11128, HIGHLAND STA. DENVER, CO 80211																					
	NP		9/ /72 EP 11/30/73		I															NWNW	3	1	S	68 W S
8678		1	1 WEBBER HENRY RT 1 BOX 136 BROOMFIELD, CO 80020																					
				2	D	5/20/61					4525.90	52			NWSW	3	1	S	68 W S
21573F		1	1 TALLARICO R/PICKLEY G/PROVANCE W 948 E 115TH PLACE NORTHGLENN, CO 80233																					
	NP		5/10/76	2	M															SESW	3	1	S	68 W S
70632		1	1 HIGBY CLYDE J 4380 SHAW WESTMINSTER, CO 80030																					
				2	DS	6/24/75					5.00	215		720N 600W	SWSW	3	1	S	68 W S
51870		1	1 PERSICHETTE WILLIAM & ROSE LEE 11397 LARSON LANE NORTHGLENN, CO 80233																					
				2	D	2/20/73					15.00	80	22		SWNE	4	1	S	68 W S
8027AD		1	1 JERMAND JERRY DENVER, CO 80221																					
	AD				M															SESE	4	1	S	68 W S
35058		1	1 HICKS JOHN M RT 1 BOX 145 BROOMFIELD, CO 80020																					
				2	D	8/21/68					4525.00	100			SESE	4	1	S	68 W S
2398		1	1 NORDSTROM PAUL L ERIE, CO 80516																					
				2	D	11/20/58					13.00	855	325		SWSE	5	1	S	68 W S
132532		1	1 CLARK W H WHEAT RIDGE, CO 80034																					
	NP		7/18/83 AR 8/ 9/83	6	D									GW						NWNE	6	1	S	68 W S
141975		1	1 CLARK W H WHEATRIDGE, CO 80033																					
	NP		10/10/85 AR 10/29/85	6	D									GW						NWNE	6	1	S	68 W S
21012F		1	1 WESTLAKE WATER & SANITATION 13520 NEWTON CT BROOMFIELD, CO 80020																					
				6	M	8/ 7/76					65.00	1050	432	100S 1700E	SWSE	6	1	S	68 W S
80797	A	1	62 REIN VERNON ERIE, CO 80516																					
	NP		3/26/87	6	H									KLF						NESE	7	1	S	68 W S
116694		1	1 FURBER T R ARVADA, CO 80003																					
	NP		8/25/80	6	D															NESE	8	1	S	68 W S
129085		1	1 FUCHS R NORTHGLENN, CO 80233																					
	NP		2/17/83	6	D															NESE	8	1	S	68 W S
128950		1	1 PENNINGTON K BROOMFIELD, CO 80020																					
	NP		11/10/82	6	H															NESE	8	1	S	68 W S
79079		1	1 MARTIN ROBERT L. 1321 CARROL CT THORNTON, CO 80229																					
				2	D	10/ 1/75				1.00		7.00	836	420	2500S 250E	NESE	8	1	S	68 W S

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PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
89036	I	I			CURTIS ALAN LEE 1705 DOVER ST. BROOMFIELD, CO 80020	6		D		7/16/77		1.00		5.00	350	160	1650S 400E	NESE	8	1 S	68 W	S
96139	I	I			CURTIS WILLIAM E. & MORINE R. 1705 DOVER ST BROOMFIELD, CO 80020	6		H		10/15/77				5.00	330	96	1930S 100E	NESE	8	1 S	68 W	S
111986	I	I			BLACK D P BROOMFIELD, CO 80020													SESE	8	1 S	68 W	S
	NP	9/11/79	AR	11/ 8/79		6		D														
	I	I			MARINI ROMANO 2081 W 149TH AVE BROOMFIELD, CO 80020 LOT 5 BLOCK 1 ZUNI LTD TRACT												160S 200E	SESE	8	1 S	68 W	S
	AP	11/14/88	AU	11/17/88		6		H					KA									
94045	I	I			MARINI ROMANO 2081 W. 149TH AVE. BROOMFIELD, CO 80020																	
						2		D		11/ 9/77				4.00	260	60	160S 200E	SESE	8	1 S	68 W	S
102792	I	I			TAUCHE R C 6651 NIAGRA COMMERCE CY, CO 80022 LOT 7 BLOCK 1 MUSTANG ACRES																		
	NP	8/11/78	NS			2		H		10/ 7/88			GW				750S 750W	NENE	9	1 S	68 W	S
24143	I	I			WAILES LAKIN RT 1 BOX 224 HENDERSON, CO 80640																	
						2		D		8/ 2/65				12.00	570	170		NENE	9	1 S	68 W	S
99290	I	I			WEENS A AURORA, CO 80010																	
	NP	4/28/78				2		D										SENE	9	1 S	68 W	S
87722	I	I			FURBER THOMAS R. 9910 RALSTON RD. ARVADA, CO 80002																	
						6		D		7/13/77				15.00	285	23	2060N 150E	SENE	9	1 S	68 W	S
92694	I	I			STRAUCH RUEBEN & DOROTHY 9758 YUKON CT., BX 53 BROOMFIELD, CO 80020																	
						6		D		10/27/77		1.00		15.00	260	46	2350N 150E	SENE	9	1 S	68 W	S
95726	I	I			EVERSMAN JOHN L. 10211 URALANE 6 - 108 THORNTON, CO 80221																	
						6		D		3/14/78							2490N 1007E	SENE	9	1 S	68 W	S
98570	I	I			PATZER SIGFRIED 13371 SHERIDAN BROOMFIELD, CO 80020																	
						2		D		5/19/78		1.00		30.00	290	60	2450N 700E	SENE	9	1 S	68 W	S
102168	I	I			LAURITA DENNIS E 1163 W 156TH AVE BROOMFIELD, CO 80020																	
						2		D		10/13/79				14.00	315	58	2450N 1150E	SENE	9	1 S	68 W	S
102169	I	I			LAURITA P A DENVER, CO 80221																	
	NP	8/ 3/78				2		D						14.00	315	50		SWNE	9	1 S	68 W	S
102187	I	I			EVING M P 4250 W 56TH WAY ARVADA, CO 80002 LOT 2 BLOCK 2 NORTH WEST ESTATES																		
	NP	8/ 8/78	NS			2		D		7/19/88		1.00	GW	12.00	325	22	2490N 2177E	SWNE	9	1 S	68 W	S
108473	I	I			CISNEROS DONALD L 917 E 111TH PL. ARVADA, CO 80233 LOT 1 BLOCK 2 NORTHWEST ESTATES																	
	NP	4/ 9/79				2		D		2/10/86			KA	10.00	250	28	2460N 2790W	SWNE	9	1 S	68 W	S
96962	I	I			CHILDERS MURRY NEAL 4337 E. 113TH PLACE THORNTON, CO 80233																	
						6		D		8/ 5/78				7.00	300	51	2460N 1900E	SWNE	9	1 S	68 W	S
2126	I	I			NORDSTROM GUST RT 1 BROOMFIELD, CO 80020																	
						2		DS		10/ 6/58				15.00	832	260		NWNW	9	1 S	68 W	S
88206	I	I			BISHOP JAMES W. 0675 WELD CTY.RD.28 LONGMONT, CO 80501																	
						6		D		6/20/77				8.00	975	550	200N 200W	NWNW	9	1 S	68 W	S
97103	I	I			FURBER N D ARVADA, CO 80004																	
	NP	1/19/78				6		D				1.00		15.00	350	52		SENW	9	1 S	68 W	S
108938	I	I			BARLOW R R ARVADA, CO 80004																	
	NP	1/25/79	AR	4/ 9/79		2		D										SENW	9	1 S	68 W	S
137662	I	I			BLACK D P BROOMFIELD, CO 80020																	
	NP	10/ 3/84	RC	10/30/84		2		D										SENW	9	1 S	68 W	S
146540	I	I			BRUCE PAUL D. 2191 W 156TH AVE BROOMFIELD, CO 80020 LOT 5 BLOCK 1 NORTHWEST ESTATES																	
	NP	10/ 3/86				6		D					KLF					SWNW	9	1 S	68 W	S
90995	I	I			RINK J L ARVADA, CO 80002																	
	NP	5/10/77				6		D						3.00	390	90		SWNW	9	1 S	68 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
121278	I	I			BEFUS SAMUEL E 11580 HOLLY ST NORTHGLENN, CO 80233 LOT 39 WILCOX SUBDIVISION																		
	NP	7/13/81	CA	11/17/89		6		H					GW				1550N 900W	SWNW	9	1 S	68 W	S
90980	I	I			BRUCE PAUL D. 386 POLARIS PL. DENVER, CO 80221																	
						2		D		5/21/80				2.50	400	90	2493N 662W	SWNW	9	1 S	68 W	S
96138	I	I			GRAZIANO JAMES M & LYNN C 2001 W 156TH AVE BROOMFIELD, CO 80020																	
						6		DS		3/ 8/79		1.00		6.00	325	85	2300N 1650W	SWNW	9	1 S	68 W	S
93695	I	I			GROSSART J J BROOMFIELD, CO 80020																	
	NP	8/ 2/77				2		D		11/15/85				15.00	300	36		NESE	9	1 S	68 W	S
81073	A	I	I		GALE J BROOMFIELD, CO 80020																	
	NP	5/ 1/78	AU	5/17/78		2		D		9/25/78								NESE	9	1 S	68 W	S
32175	I	I			LUTZ EDWARD RT 1 BOX 196C BROOMFIELD, CO 80020																	
						2		D		9/22/67				10.00	70	6		NESE	9	1 S	68 W	S
74782	I	I			REED CHARLES L RT 1 BOX 123 BROOMFIELD, CO 80020																	
						2		D		10/ 1/77		1.00		10.00	288	26	2600S 1180E	NESE	9	1 S	68 W	S
76129	I	I			MARTINEZ EUSEBIO 965 W 154TH AVE. BROOMFIELD, CO 80020																	
						2		D		9/ 2/75		1.00		15.00	140	29	1535S 655E	NESE	9	1 S	68 W	S
76348	I	I			GRABER LARRY R 1045 W 154TH AVE BROOMFIELD, CO 80020																	
						2		D		2/22/75				15.00	106	25	1585S 780E	NESE	9	1 S	68 W	S
81072	I	I			ROE JESSE T. 1168 W. 156 AVE. BROOMFIELD, CO 80020																	
						2		D		7/14/77		1.00		15.00	205	12	2600S 1180E	NESE	9	1 S	68 W	S
81073	I	I			GALE JOSEPH R. & PATRICIA L. RT. 1, BOX 121 BROOMFIELD, CO 80020																	
						2		D		7/ 7/80		1.00		10.00	300	16	2300S 1180E	NESE	9	1 S	68 W	S
89833	I	I			TOWNDROW CARL W. 864 W. 154TH AVE. BROOMFIELD, CO 80020																	
						6		D		6/ 4/77		1.00		15.00	170	45	1500S 100E	NESE	9	1 S	68 W	S
92952	I	I			RAY DONALD L 968 WEST 156TH AVE BROOMFIELD, CO 80020																	
						2		D		4/18/78		1.00		15.00	255	20	2600S 600E	NESE	9	1 S	68 W	S
99967	I	I			O'CONNELL TERRY 15527 HURON BROOMFIELD, CO 80020																	
						2		D		8/ 1/78		1.00		2.50	240	38	2510S 300E	NESE	9	1 S	68 W	S
103909	I	I			DIVIRGILIO A F BROOMFIELD, CO 80020																	
	NP	10/24/78				2		D										NWSE	9	1 S	68 W	S
111739	I	I			MORTON T BROOMFIELD, CO 80020																	
	NP	9/21/79	AR	10/29/79		2		D										NWSE	9	1 S	68 W	S
91147	A	I	I		MORTON T BROOMFIELD, CO 80020																	
	NP	9/24/79	AR	3/ 7/80		2		D										NWSE	9	1 S	68 W	S

74782	I	I	REED CHARLES L RT 1 BOX 123 BROOMFIELD, CO 80020																			
				2		D	10/ 1/77		1.00	10.00	288	26	2600S	1180E	NESE	9	1	S	68	W	S
76129	I	I	MARTINEZ EUSEBIO 965 W 154TH AVE. BROOMFIELD, CO 80020																			
				2		D	9/ 2/75		1.00	15.00	140	29	1535S	655E	NESE	9	1	S	68	W	S
76348	I	I	GRABER LARRY R 1045 W 154TH AVE BROOMFIELD, CO 80020																			
				2		D	2/22/75			15.00	106	25	1585S	780E	NESE	9	1	S	68	W	S
81072	I	I	ROE JESSE T. 1168 W. 156 AVE. BROOMFIELD, CO 80020																			
				2		D	7/14/77		1.00	15.00	205	12	2600S	1180E	NESE	9	1	S	68	W	S
81073	I	I	GALE JOSEPH R. & PATRICIA L. RT. 1, BOX 121 BROOMFIELD, CO 80020																			
				2		D	7/ 7/80		1.00	10.00	300	16	2300S	1180E	NESE	9	1	S	68	W	S
89833	I	I	TOWNDROW CARL W. 864 W. 154TH AVE. BROOMFIELD, CO 80020																			
				6		D	6/ 4/77		1.00	15.00	170	45	1500S	100E	NESE	9	1	S	68	W	S
92952	I	I	RAY DONALD L 968 WEST 156TH AVE BROOMFIELD, CO 80020																			
				2		D	4/18/78		1.00	15.00	255	20	2600S	600E	NESE	9	1	S	68	W	S
99967	I	I	O'CONNELL TERRY 15527 HURON BROOMFIELD, CO 80020																			
				2		D	8/ 1/78		1.00	2.50	240	38	2310S	300E	NESE	9	1	S	68	W	S
103909	I	I	DIVIRGILIO A F BROOMFIELD, CO 80020																			
	NP		10/24/78	2		D									NWSE	9	1	S	68	W	S
111739	I	I	NORTON T BROOMFIELD, CO 80020																			
	NP		9/21/79 AR 10/29/79	2		D									NWSE	9	1	S	68	W	S
91147	A I	I	NORTON T BROOMFIELD, CO 80020																			
	NP		9/24/79 AR 3/ 7/80	2		D									NWSE	9	1	S	68	W	S
	I	I	ZITO L BROOMFIELD, CO 80020																			
	AP		7/14/83 AU 1/11/84	2		D									NWSE	9	1	S	68	W	S
111751	I	I	HELBURG D LAFAYETTE, CO 80026																			
	NP		4/16/82 RC 5/13/85	6		H									NWSE	9	1	S	68	W	S
139825	I	I	HELBURG D LAFAYETTE, CO 80026																			
	NP		3/25/85 AU 4/15/85	6		D				KA					NWSE	9	1	S	68	W	S
152586	I	I	DOLPH FAMILY TRUST 15418 NAVAJO ST BROOMFIELD, CO 80020 LOT 17 BLOCK 12 FILING 2 MUSTANG ACRES																			
	NP		9/30/88	2		D				KLF				1500S	1800E	NWSE	9	1	S	68	W	S
67862	I	I	WILLIAMS JOE R. 15489 NAVAJO ST. BROOMFIELD, CO 80020																			
				2		D	3/13/73			15.00	120	25	1900S	2150E	NWSE	9	1	S	68	W	S
81317	I	I	BOMARETO RONALD R. 15538 NAVAJO ST. BROOMFIELD, CO 80020																			
				2		D	9/16/76		1.00	12.00	136	28	2300S	2480E	NWSE	9	1	S	68	W	S
91147	I	I	MORTON THOMAS 15439 NAVAJO ST. BROOMFIELD, CO 80020																			
				2		D	10/ 7/79			12.00	300	80	1900S	1920E	NWSE	9	1	S	68	W	S

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PERMIT	D	CO	OWNER INFORMATION	ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
96136	I	I	DALY EDWARD J. RT 1 BOX 124 BROOMFIELD, CO 80020																					
						6				D		3/17/78		1.00		15.00	230	40	1500S 1335E	NWSE	9	1	S	68 W S
99292	I	I	CLARK JOHN 15419 NAVAJO BROOMFIELD, CO 80020																					
						2				D		8/22/78		1.00		2.50	270	30	1425S 2200E	NWSE	9	1	S	68 W S
139518	I	I	HARRISON W DENVER, CO 80221																					
	NP		3/20/85 PI			6				DS										SESE	9	1	S	68 W S
29339	I	I	GREEN LEROY P O BOX 56 DENVER, CO 80202																					
						2				D		11/18/66				7.00	75	15		SESE	9	1	S	68 W S
34263	I	I	WELCH JOHN 15201 HURON BROOMFIELD, CO 80020																					
						2				D		6/18/68				12.00	70	24		SESE	9	1	S	68 W S
58477	I	I	GABEL VERN & RUTH 1041 W. 152ND AVE BRMFLD, CO 80020																					
						2				D		6/29/72		1.00		12.00	62	32	250S 750E	SESE	9	1	S	68 W S
61470	I	I	ZIAVINSKI ROBERT J 2900 YOUNGFIELD LAKEWOOD, CO 80215																					
						2				D		2/26/73				15.00	107	12		SESE	9	1	S	68 W S
64701	I	I	CIRBO JAMES RT 1 BOX 112 BROOMFIELD, CO 80020																					
						6				D		2/23/73		1.00		15.00	104	11	1100S 300E	SESE	9	1	S	68 W S
89113	I	I	WARD WILLIAM A 15364 LIPAN ST BROOMFIELD, CO 80020																					
						6				DS		6/21/77		5.00		10.00	200		1000S 1125E	SESE	9	1	S	68 W S
170847	I	I	BOHLENDER JERRY J. RT. 1, BOX 122 BROOMFIELD, CO 80020																					
	NP		2/ /73 EP 3/30/75							C										SWSE	9	1	S	68 W S
126518	I	I	FURBER T R ARVADA, CO 80004																					
	NP		4/ 1/82 AR 7/ 6/82			2				D										SWSE	9	1	S	68 W S
103912	A I	I	CLEAVER L W BROOMFIELD, CO 80020																					
	NP		6/14/82			6				D										SWSE	9	1	S	68 W S
153868	I	I	CAMBRIDGE DVLP. 9101 PEARL ST THORNTON, CO 80229 LOT 17 BLOCK 1 MUSTANG ACRES																					
	NP		4/ 5/89 AR 4/13/89			2				H					GW				260S 2540E	SWSE	9	1	S	68 W S
56106	I	I	DAVIS JOHN H RT 1 BOX 120 BROOMFIELD, CO 80020																					
						2				D		6/18/72		2.00		15.00	60	6	1250S 600E	SWSE	9	1	S	68 W S
65036	I	I	BARNEY RICHARD W 15249 NAVAJO BROOMFIELD, CO 80020																					
						2				D		4/ 6/74				10.00	80	22	235S 2309E	SWSE	9	1	S	68 W S
85950	I	I	DAVIS EDWIN C SR 15229 NAVAJO ST BROOMFIELD, CO 80020																					
						6				D		7/ 1/77		1.00		4.00	200		132S 2060E	SWSE	9	1	S	68 W S
110544	I	I	REINKING ARTHUR C. & GLADYS M. 15485 LIPAN BROOMFIELD, CO 80020																					
						2				D		4/29/80				15.00	200	60	1275S 1500E	SWSE	9	1	S	68 W S
151483	I	I	BEFUS SAMUEL 2050 W156TH AVE BROOMFIELD, CO 80020 LOT 2 BEFUS SUBDIVISION																					
	NP		5/16/88 AR 5/27/88			6				D					KLF				2600S 855W	NWSW	9	1	S	68 W S
155297	I	I	BEFUS SAMUEL 2050 W 156TH AVE BROOMFIELD, CO 80020 LOT BEFUS SUBDIVISION																					
	NP		8/17/89			2				DS					KLF	7.00	950	470	2600S 655W	NWSW	9	1	S	68 W S
155904	I	I	GRANIERI FRANK J 2050 W 15TH AVE BROOMFIELD, CO 80020 LOT 3 BEFUS SUBDIVISION																					
	NP		10/31/89			2				D					KLF	8.00	950	400	2050S 1050W	NWSW	9	1	S	68 W S
91742	I	I	HICKS E BROOMFIELD, CO 80020																					
	NP		6/13/77			6				D		10/16/85				5.00	235	32		SESW	9	1	S	68 W S
89206	I	I	KAUER DAVID M 15225 LIPAN ST RT 1 BROOMFIELD, CO 80020																					
						6				D		1/15/79		1.00		8.00	200	60	120S 2460W	SESW	9	1	S	68 W S
59982	I	I	PERCELL VINCENT C 1364 W 154TH AVE BROOMFIELD, CO 80020																					
						2				D		8/20/73		2.00		14.00	102	11		SWSW	9	1	S	68 W S
63856	I	I	CURTIS WORTH 15238 NAVAJO ST BROOMFIELD, CO 80020																					
						2				D		6/ 6/73		1.00		15.00	101	42	305S 100W	SWSW	9	1	S	68 W S

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PERMIT	D CO ACTIVITY CO	DATE	OWNER INFORMATION / STATUS CD	DATE	VD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES		QTRS	SC	TOWN SHIP	RANGE	P M
113132	A I NP	3/ 3/86	I SHARPE WILLIAM S. 8300 IRVING ST WESTMINSTER, CO 80030 WILCOX CA 3/13/89		6		D					GW				90S	10E	SESE	10	1 S	68 W	S
143702	I NP	3/11/86	I SHARPE WILLIAM S. WESTMINSTER, CO 80030 VA		6		D					KLF						SESE	10	1 S	68 W	S
8994F	I		I NORTH WASHINGTON WATER USER N WASHINGTON ST DENVER, CO 80202		2		M		8/13/55				36.00	1006	728			SESE	10	1 S	68 W	S
2705	I		I NORDSTROM CARL R 155 TH & HURON BROOMFIELD, CO 80020		2		D		1/21/59				12.00	500	235	2250S	79W	NVSW	10	1 S	68 W	S
85834D	I AD		I WITTENBRINK ROBERT J. WESTMINSTER, CO 80030				I											SESW	10	1 S	68 W	S
110374	I NP	5/30/79	I GROTH D D ARVADA, CO 80005		2		D											SVSW	10	1 S	68 W	S
108346	I		I NEWMAN DANIEL A. 2240 SHERRELWOOD DR DENVER, CO 80221		2		D		4/21/81		1.00		6.00	250		550S	120W	SVSW	10	1 S	68 W	S
20766F	I		I SACK CASPER & NOLLY 15791 N YORK ST RT 2 BRIGHTON, CO 80601		2		D		4/13/76				13.00	918	340	1460N	325E	SENE	11	1 S	68 W	S
118816	A I EX	3/12/81	I CLYMER M BROOMFIELD, CO 80020		2		D											NVNW	11	1 S	68 W	S
88537	I		I CLYMER MURL V RT 1 BOX 165 BROOMFIELD, CO 80020		2		D		3/ 1/78		1.00		14.00	53	18	1200N	170W	NVNW	11	1 S	68 W	S
14449F	I		I NORTH WASHINGTON WATER USER RT 1 BOX 161 BROOMFIELD, CO 80020		2		M		6/ 7/70				50.00	905	275			SVNW	11	1 S	68 W	S
114924	A I NP	6/17/80	I IVEY F BRIGHTON, CO 80601		2		D											NESE	11	1 S	68 W	S
114924	I		I IVEY FLOYD 15595 YORK ST BRIGHTON, CO 80601		2		D		1/ 1/40		1.00		15.00	738		2450S	280E	NESE	11	1 S	68 W	S
	I AP	10/14/86	I NEUHALFEN NORMAN J. BRIGHTON, CO 80601 AU 10/29/86		2		H					KLF						NENE	12	1 S	68 W	S
1388	I		I ELMS PAUL J RT 2 BRIGHTON, CO 80601		2		D		6/27/58				10.00	742	100			NVNE	12	1 S	68 W	S
31062F	I NP	8/19/85	I COLE JOHN A. THORNTON, CO 80229 EP 12/19/87		2		C					KLF						SENE	12	1 S	68 W	S
	I AP	2/26/90	I SCHAFER MARLIN 3600 E 156TH AVE BRIGHTON, CO 80601-7706 AU 3/ 6/90		2		D					KLF				1900N	1200E	SENE	12	1 S	68 W	S
26372	I		I WEBB FRED 15770 W COLO BLVD BROOMFIELD, CO 80020		2		D		2/21/66				7.00	300	110			SENE	12	1 S	68 W	S
77978	I		I DRAKE ROLLIE 215 N. 12TH ST. BRIGHTON, CO 80601		2		D		7/ /77		1.00		15.00	950	360	2560N	130E	SENE	12	1 S	68 W	S
122599	I EX	7/20/81	I CROFF L L BRIGHTON, CO 80601 RC 9/14/81		2		D											SVNE	12	1 S	68 W	S
122229	I NP	8/17/81	I CROFF L L BRIGHTON, CO 80601 AU 9/ 9/81		2		D											SVNE	12	1 S	68 W	S
134971	I NP	4/ 5/84	I CROFF L L BRIGHTON, CO 80601		2		D											SVNE	12	1 S	68 W	S
618RN	I		I CUNDALL HOWARD F RT 2 BRIGHTON, CO 80601 NP	4/30/60	2		D						400.00	615	90			SVNW	12	1 S	68 W	S
619RN	I		I CUNDALL HOWARD F RT 2 BRIGHTON, CO 80601 NP	4/30/60	2		DS							30	12			SVNW	12	1 S	68 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES QTRS	SC	TOWN SHIP	RANGE	P M
34121	I		I		QUADOR CARL R 2 BOX 156 J BRIGHTON, CO 80601												
					2 D	5/28/68				1.00	200	25	NESE	12	1 S	68 W	S
123045	I		I		MALLO T DENVER, CO 80221												
	NP	7/20/81	AR	10/16/81	2 D								SESE	12	1 S	68 W	S
121188	I		I		FICK E M LITTLETON, CO 80120												
	NP	5/ 6/81	AR	7/23/81	2 D								SWSE	12	1 S	68 W	S
9453	I		I		CORLEY GEORGE RR 2 BOX 180 WEEPING WTR, NE 00000												
					2 D	8/14/61				10.00	775	35	SWSW	12	1 S	68 W	S
28144	I		I		MARESH D D 16200 N WASH DENVER, CO 80202												
					2 D	8/ 9/66				1.00	150	56	SWSW	12	1 S	68 W	S
127701	I		I		KOSMICKI J G BRIGHTON, CO 80601												
	NP	8/30/82			2 H								NE	13	1 S	68 W	S
135589	I		I		WOOD V R THORNTON, CO 80233												
	NP	3/22/84	RC	4/30/84	2 H								NENE	13	1 S	68 W	S
120159	I		I		CONNER K BRIGHTON, CO 80601												
	NP	4/17/81			2 H								NENE	13	1 S	68 W	S
129656	I		I		CONNER K BRIGHTON, CO 80601												
	NP	2/ 9/83			2 D								NENE	13	1 S	68 W	S
131326	I		I		GILDEN R J NORTHGLENN, CO 80233												
	NP	5/17/83			2 H								NENE	13	1 S	68 W	S
140466	I		I		WINTER L BRIGHTON, CO 80601												
	NP	5/21/85	RC	7/10/85	2 H				KA				NENE	13	1 S	68 W	S
142207	I		I		RODRIGUEZ D A NORTHGLENN, CO 80234												
	NP	9/18/85	RC	11/ 8/85	2 H				KA				NENE	13	1 S	68 W	S
142208	I		I		TREFREN D BRIGHTON, CO 80601												
	NP	10/29/85	AR	11/18/85	2 H				KA				NENE	13	1 S	68 W	S
143136	I		I		GUERRIERI GINA THORNTON, CO 80233 LOT 3 BLOCK 11 FILING 3 WADLEY FARMS												
	NP	3/ 5/86	WA		2 H				KA				NENE	13	1 S	68 W	S
144382	I		I		MOZOLA GEORGE LAFAYETTE, CO 80026 LOT 14 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	5/ 5/86	WA		2 H				KA				NENE	13	1 S	68 W	S
146311	I		I		CULVER DOUGLAS D. BROOMFIELD, CO 80020 LOT 12 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	10/10/86	WA		2 H				GW				NENE	13	1 S	68 W	S
146771	I		I		CARRON CHERIE DENVER, CO 80221 LOT 20 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	12/31/86	WA		2 H				KA				NENE	13	1 S	68 W	S
153259	I		I		NICHOLSON SCOTT 5484 E 115TH AVE THORNTON, CO 80233 LOT 11 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	12/14/88	AR	12/28/88	2 H				KA				650N 1039E	NENE	13	1 S	68 W	S
142431	I		I		DINKEL D THORNTON, CO 80241												
	NP	11/12/85	AR	11/29/85	2 H				KA				NWNE	13	1 S	68 W	S
123044	I		I		CAMPBELL T R BROOMFIELD, CO 80020												
	NP	10/ 2/81			2 H								NWNE	13	1 S	68 W	S
147344	I		I		SUMNER JAMES H. THORNTON, CO 80233 LOT 5 BLOCK 11 FILING 3 WADLEY FARMS												
	NP	3/ 5/87	WA		2 H				KA				NWNE	13	1 S	68 W	S
153428	I		I		JOSEPH DOUGLAS 2925 E 123RD AVE THORNTON, CO 80241 LOT 8 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	1/20/89			2 H				LKA				1000N 2000E	NWNE	13	1 S	68 W	S
155909	I		I		HERONEMA RAYMOND 1241 DAWSON DR DENVER, CO 80229 LOT 28 BLOCK 6 FILING 3 WADLEY FARMS												
	NP	11/ 2/89			2 H				KA				1190N 2050E	NWNE	13	1 S	68 W	S
124465	I		I		ELDER CHARLES WILLIAM JR. 15147 MADISON ST. BRIGHTON, CO 80601												
					2 D	11/ 6/82				12.00	899	420	403N 2125E	NWNE	13	1 S	68 W	S

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PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES QTRS	SC	TOWN SHIP	RANGE	P M
108743	I		I		CONNER K BRIGHTON, CO 80601												
	NP	2/27/79	AU	7/ 5/79	2 H								SENE	13	1 S	68 W	S
	I		I		CONNER K BRIGHTON, CO 80601												
	AP	2/27/79			2 H								SENE	13	1 S	68 W	S
132969	I		I		BASHAM D. ANCHORAGE, 99504												
	EX	9/ 1/83	WA		2 H				GW				SENE	13	1 S	68 W	S
137687	I		I		CHESTNUT T BROOMFIELD, CO 80020												
	NP	9/20/84			2 H								SENE	13	1 S	68 W	S
71864D	I		I		COLO. BLVD. LND. ASSOC. DENVER, CO 80222												
	AD				H								SWNE	13	1 S	68 W	S
120375	I		I		PALIZZI F J HENDERSON, CO 80640												
	NP	6/ 1/81			2 H								SWNE	13	1 S	68 W	S
124222	I		I		SOLAND M NORTHGLENN, CO 80233												
	NP	8/21/81	AR	2/22/82	2 H								SWNE	13	1 S	68 W	S
122577	I		I		WAGNER H F BRIGHTON, CO 80601												
	NP	9/17/81			2 H								SWNE	13	1 S	68 W	S
120511	A I		I		BROOKS D BRIGHTON, CO 80601												
	NP	10/26/82			2 H								SWNE	13	1 S	68 W	S
135539	I		I		ELLSWORTH M D THORNTON, CO 80229												
	NP	4/ 6/84			2 H								SWNE	13	1 S	68 W	S
136028	I		I		BOONE J THORNTON, CO 80241												
	NP	5/29/84			2 H								SWNE	13	1 S	68 W	S
137291	I		I		CALLAHAN R R LOVELAND, CO 80537												
	NP	8/15/84	AR	8/27/84	2 H								SWNE	13	1 S	68 W	S
137686	I		I		CHRISTENSEN W NORTHGLENN, CO 80233												
	NP	9/17/84	AR	10/ 1/84	2 H								SWNE	13	1 S	68 W	S
146775	I		I		ELLSWORTH MIC THORNTON, CO 80229												
	NP	1/14/87	WA		2 H				GW				SWNE	13	1 S	68 W	S
149617	I		I		STOUT DAVID M. THORNTON, CO 80233 LOT 19 BLOCK 7 FILING 3 WADLEY FARMS												
	NP	8/27/87	PI		2 H				KA				SWNE	13	1 S	68 W	S
516	I		I		CAMPBELL TOM BRIGHTON, CO 80601 LOT 6 BLOCK 11 FILING 3 WADLEY FARMS												
	NP	2/24/88			2 O				GW				NWNW	13	1 S	68 W	S
71870D	I		I		COLO. BLVD. LND. ASSOC. DENVER, CO 80222												
	AD				H								SENW	13	1 S	68 W	S
[illegible]	I		I		STONEHOUSE W D BRIGHTON, CO 80601												

	NP 6/ 1/81		2		H											SWNE 13 1 S 68 W S
124222	1 1 SOLANO M	NORTHGLENN, CO 80233														
	NP 8/21/81 AR 2/22/82		2		H											SWNE 13 1 S 68 W S
122577	1 1 WAGNER H F	BRIGHTON, CO 80601														
	NP 9/17/81		2		H											SWNE 13 1 S 68 W S
120511	A 1 1 BROOKS D	BRIGHTON, CO 80601														
	NP 10/26/82		2		H											SWNE 13 1 S 68 W S
135339	1 1 ELLSWORTH M D	THORNTON, CO 80229														
	NP 4/ 6/84		2		H											SWNE 13 1 S 68 W S
136028	1 1 BOONE J	THORNTON, CO 80241														
	NP 5/29/84		2		H											SWNE 13 1 S 68 W S
137291	1 1 CALLAHAN R R	LOVELAND, CO 80537														
	NP 8/15/84 AR 8/27/84		2		H											SWNE 13 1 S 68 W S
137686	1 1 CHRISTENSEN W	NORTHGLENN, CO 80233														
	NP 9/17/84 AR 10/ 1/84		2		H											SWNE 13 1 S 68 W S
146773	1 1 ELLSWORTH MIL	THORNTON, CO 80229														
	NP 1/14/87 WA		2		N					GW						SWNE 13 1 S 68 W S
149617	1 1 STOUT DAVID M.	THORNTON, CO 80233 LOT 19 BLOCK 7 FILING 3 WADLEY FARMS														
	NP 8/27/87 P1		2		H					KA						SWNE 13 1 S 68 W S
STG	1 1 CAMPBELL TOM	BRIGHTON, CO 80601 LOT 6 BLOCK 11 FILING 3 WADLEY FARMS														
	NP 2/24/88		2		O					GW						NWNW 13 1 S 68 W S
7187AD	1 1 COLO. BLVD. LND. ASSOC.	DENVER, CO 80222														
	AD				M											SENW 13 1 S 68 W S
112747	1 1 STONEHOUSE BLD	BRIGHTON, CO 80601														
	NP 1/ 9/80		2		H											NESE 13 1 S 68 W S
7185AD	1 1 COLO. BLVD. LND. ASSOC.	DENVER, CO 80222														
	AD				M											NESE 13 1 S 68 W S
108930	1 1 CONNER K	BRIGHTON, CO 80601														
	NP 2/27/79 AR 6/13/79		2		H						15.00	350	68			NESE 13 1 S 68 W S
108930	1 1 CONNER K	BRIGHTON, CO 80601														
	NP 2/27/79 AR 6/13/79		2		H						15.00	350	68			NESE 13 1 S 68 W S
108552	1 1 WELLS T J	BROOMFIELD, CO 80020														
	NP 4/20/79		2		H											NESE 13 1 S 68 W S
112699	1 1 COTTONWD CONST	DENVER, CO 80221														
	NP 12/12/79		2		H											NESE 13 1 S 68 W S
112700	1 1 COTTONWD CONST	DENVER, CO 80221														
	NP 12/12/79		2		H											NESE 13 1 S 68 W S

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PERMIT	D CO OWNER INFORMATION ACTIVITY CO	DATE	STATUS CO	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AOFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
112699	A 1 1 COTTONWD CONST		DENVER, CO 80221																		
	NP 3/ 1/82 AR 3/ 8/82		2		H												NESE	13	1 S	68 W	S
138144	1 1 HOEZEL G.C.		BROOMFIELD, CO 80020																		
	NP 10/24/84 P1		2		H												NESE	13	1 S	68 W	S
7188AD	1 1 COLO. BLVD. LND. ASSOC.		DENVER, CO 80222																		
	AD				M												NWSE	13	1 S	68 W	S
110550	1 1 CONNER K		BRIGHTON, CO 80601																		
	NP 2/27/79		2		H												NWSE	13	1 S	68 W	S
108929	1 1 CONNER K		BRIGHTON, CO 80601																		
	NP 2/27/79 AR 6/13/79		2		H												NWSE	13	1 S	68 W	S
106649	1 1 BLISS J		LAKEWOOD, CO 80215																		
	NP 3/23/79		2		H												NWSE	13	1 S	68 W	S
119813	1 1 JINISON B		THORNTON, CO 80241																		
	NP 4/23/81		2		H												NWSE	13	1 S	68 W	S
122575	1 1 WEISSER K R		BRIGHTON, CO 80601																		
	NP 9/24/81 AR 10/ 6/81		2		H												NWSE	13	1 S	68 W	S
125699	1 1 WILLIAMS S L		BROOMFIELD, CO 80020																		
	NP 5/ 7/82 SA		2		H		8/ 6/86						10.00	340	100		NWSE	13	1 S	68 W	S
126446	1 1 COBB W W		EVERGREEN, CO 80439																		
	NP 6/22/82		2		H												NWSE	13	1 S	68 W	S
108931	1 1 WEST GEORGE & WEST MILDRED		14598 MADISON BRIGHTON, CO 80601																		
			2		H		9/ 1/81						15.00	395		1600S 2200E	NWSE	13	1 S	68 W	S
	1 1 STONEHOUSE BLD		BRIGHTON, CO 80601																		
	AP 12/11/79 AR 1/ 2/80		2		H												SESE	13	1 S	68 W	S
113375	1 1 CONNER K		BRIGHTON, CO 80601																		
	NP 2/27/79		2		H												SESE	13	1 S	68 W	S
111748	1 1 ATKINS E R		THORNTON, CO 80233																		
	NP 9/24/79		2		H												SESE	13	1 S	68 W	S
118030	1 1 BRIGGS J		NORTHGLENN, CO 80233																		
	NP 12/11/80		2		H												SESE	13	1 S	68 W	S
113376	A 1 1 CLAPS S		BRIGHTON, CO 80601																		
	NP 7/30/82		2		H												SESE	13	1 S	68 W	S
129971	1 1 ADAMS L		NORTHGLENN, CO 80221																		
	NP 3/ 8/83		2		H												SESE	13	1 S	68 W	S
130518	1 1 MORRICAL J		LAFAYETTE, CO 80026																		
	NP 3/28/83		2		H												SESE	13	1 S	68 W	S
138355	1 1 SALTER G		DENVER, CO 80221																		
	NP 11/ 7/84 AR 11/19/84		2		H												SESE	13	1 S	68 W	S
143141	1 1 ANDERSON PAUL L.		BROOMFIELD, CO 80020 LOT 4 BLOCK 12 FILING 3 WADLEY FARMS																		
	NP 3/ 5/86 SA		2		H		9/23/86					KA	15.00	420	159		SESE	13	1 S	68 W	S
112746	1 1 STONEHOUSE BLD		BRIGHTON, CO 80601																		
	NP 1/ 9/80		2		H												SWSE	13	1 S	68 W	S
7184AD	1 1 COLO. BLVD. LND. ASSOC.		DENVER, CO 80222																		
	AD				M												SWSE	13	1 S	68 W	S
115847	1 1 ARCHIE D		BRIGHTON, CO 80601																		
	NP 7/23/80		2		H												SWSE	13	1 S	68 W	S
122792	1 1 HATT P C		BROOMFIELD, CO 80020																		
	NP 9/29/81		2		H												SWSE	13	1 S	68 W	S

PSC F49-0048

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD MD DB USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
145908	1		1			MULLVAIN DONALD ARVADA, CO 80003 LOT 2 BLOCK 6 FILING 3 WADLEY FARMS				KA					SVSE	13	1 S	68 W	S
	NP	8/ 7/86	WA		2	H													
113895	1		1			HERMOSILLO THOMAS J. & CATHERINE M 14558 MADISON ST. EASTLAKE, CO 80614													
					2	H	3/15/81				10.00	380		1250S 1700E	SVSE	13	1 S	68 W	S
131766	1		1			WALSH DANIEL T. 11003 BELLAIRE WAY THORNTON, CO 80233													
					2	H	11/ 7/83				13.00	380	120	1000S 1700E	SVSE	13	1 S	68 W	S
110548	1		1			ISON J R, ARVADA, CO 80003													
	NP	7/26/79			2	H													
118657	1		1			HERNANDEZ F DENVER, CO 80216													
	NP	2/23/81			2	H													
125335	1		1			STERREMBERG K BRIGHTON, CO 80601													
	NP	5/ 4/82			2	H													
137021	1		1			STEINMEYER J W LOVELAND, CO 80537													
	NP	7/12/84	RC	8/ 7/84	2	H													
138143	1		1			SHAVER D R THORNTON, CO 80229													
	NP	10/10/84	AR	11/13/84	2	H													
154390	1		18			BEICMANN STEPHEN 5740 E 68TH AVE COMMERCE CITY, CO 80022 LOT 9 BLOCK 6 FILING 3 WADLEY FARMS				GW	15.00	390	165	1600S 2260W	NESW	13	1 S	68 W	S
	NP	5/30/89			8	H													
110549	1		1			BOSSUNG PHILIP & JOANN 14688 MADISON ST. BRIGHTON, CO 80601													
					2	H	6/23/80				15.00	375	90	2200S 2500W	NESW	13	1 S	68 W	S
112748	1		1			STONEHOUSE BLD BRIGHTON, CO 80601													
	NP	1/ 9/80			2	H													
106763	1		1			ALLEN L BRIGHTON, CO 80601													
	NP	3/12/79			2	H													
139150	1		1			MAYER T R DENVER, CO 80221													
	NP	2/28/85			2	D													
125697	1		1			BRINK S. THORNTON, CO 80233 LOT 16 BLOCK 6 FILING 3 WADLEY FARMS													
	NP	4/ 5/82				H				KA					SWSW	13	1 S	68 W	S
143869	1		1			MILLER DOUG THORNTON, CO 80233 LOT 15 BLOCK 6 FILING 3 WADLEY FARMS													
	NP	4/22/86	WA		2	H				KA					SWSW	13	1 S	68 W	S
7939AD	1		1			NORTH YORK LND. ASSOC. DENVER, CO 80204													
	AD					H									SESE	14	1 S	68 W	S
7764AD	1		1			NORTH YORK LND. ASSOC. DENVER, CO 80204													
	AD					H									SWSE	14	1 S	68 W	S
	1		1			LAURIDSON TOM 1801 E 144TH BRIGHTON, CO 80601													
	AP	3/28/90			2	D				GW				150S 2500E	SWSE	14	1 S	68 W	S
	1		1			LAURIDSON TOM 1801 E 144TH BRIGHTON, CO 80601													
	AP	3/28/90			2	D				GW				150S 2450E	SWSE	14	1 S	68 W	S
106386	1		1			MYERS RICHARD T 131 6TH STR BOX 274 DACONO, CO 80514													
					2	D	/ /56		1.00		10.00	800		139S 2070E	SWSE	14	1 S	68 W	S
129659	1		1			COLEMAN R L THORNTON, CO 80229													
	NP	2/ 1/83			2	H									NENE	15	1 S	68 W	S
75678	1		1			DENCKLAURICHARD C. 15155 N. WASHINGTON BROOMFIELD, CO 80020													
					2	D	1/ 7/75				10.00	585	70	569N 521E	NENE	15	1 S	68 W	S
91876	1		1			MILLER THOMAS A. 15161 N. WASHINGTN ST BROOMFIELD, CO 80020													
					6	D	9/29/77		1.00		10.00	305	100	183N 100E	NENE	15	1 S	68 W	S
115187	1		1			SATRIANO J A BROOMFIELD, CO 80020													
	NP	6/25/80			2	H									SWNE	15	1 S	68 W	S

PBC F80-8048

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD MD DB USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
72004D	1		1			REGAL PROPERTIES LTD. NORTHGLENN, CO 80233													
	AD	9/ 2/77			2	H									SWNE	15	1 S	68 W	S
122621	1		1			OVERBAY R S THORNTON, CO 80229													
	NP	9/10/81			2	H									SWNE	15	1 S	68 W	S
96982	A 1		1			KLESSIG C.E. BROOMFIELD, CO 80020													
	NP	5/25/77	RC		6	D	12/24/86								NESE	15	1 S	68 W	S
96982	1		1			KLESSIG CHARLES 14581 N. WASHINGTN ST BROOMFIELD, CO 80020													
					6	D	6/16/77		1.00		11.00	120	36	1375S 325E	NESE	15	1 S	68 W	S
150213	1		1			BEFORT ESTHER BROOMFIELD, CO 80020 LOT 36 WOLCOX													
	NP	12/ 1/87	SP	3/14/88	2	D				KA					NWSE	15	1 S	68 W	S
	1		1			PHIPPS DARRYL L. DENVER, CO 80221 LOT 15 FILING 1 WILCOX													
	AP	4/16/86	AU	5/12/86	2	D				KA					NENE	16	1 S	68 W	S
9237	1		1			HULSTROM IED JR RT 1 BROOMFIELD, CO 80020													
					2	D	7/15/61				15.00	50	6		NENE	16	1 S	68 W	S
29541	1		1			TODD ALBERT F 881 W 150TH PL BROOMFIELD, CO 80020													
					2	D	12/14/66				20.00	56	9		NENE	16	1 S	68 W	S
29559	1		1			BROZOVICH JOE 15091 HURON RT 1 BROOMFIELD, CO 80020													
					2	D	12/15/66				10.00	56	9		NENE	16	1 S	68 W	S
129272	1		1			HUFF L L BROOMFIELD, CO 80020													
	NP	10/26/82			2	DS									NWNE	16	1 S	68 W	S
130713	1		1			DECASTRO R THORNTON, CO 80229													
	NP	4/18/83	AR	5/ 2/83	6	D									NWNE	16	1 S	68 W	S
134117	1		1			MOHAR AL THORNTON, CO 80229 LOT 3 WILCOX													
	NP	1/ 9/84			2	D				KLF					NWNE	16	1 S	68 W	S
135009	1		1			GUMPH J M BROOMFIELD, CO 80020													
	NP	3/ 7/84	AR	4/ 6/84	6	H									NWNE	16	1 S	68 W	S
135414	1		1			MOHAR A M NORTHGLENN, CO 80234													
	NP	4/18/84			6	H									NWNE	16	1 S	68 W	S
133358	1		1			MCKINSTER C BROOMFIELD, CO 80020													
	NP	10/ 5/83	WA		2	D									NENW	16	1 S	68 W	S
137297	1		1			TELLINGER E BROOMFIELD, CO 80020													
	NP	6/19/84	AR	9/24/84	6	D									NENW	16	1 S	68 W	S
	1		1			FARMER R E BROOMFIELD, CO 80020													
	AP	8/28/84	AU	8/30/84	6	DS									NENW	16	1 S	68 W	S
155576	1		1			SEIVERS BEVERLY 14741 N HURON BROOMFIELD, CO 80020 LOT 13 WILCOX													
														850N 1650W	NENW	16	1 S	68 W	S

	AP	4/16/86	AU	5/12/86	2		D				KA												
9237	I	I	NULSTROM TED JR		RT 1	BROOMFIELD, CO 80020																	
					2		D	7/15/61				15.00	50	6					NENE	16	1	S	68 W S
29541	I	I	TODD ALBERT F		881 W 150TH PL	BROOMFIELD, CO 80020																	
					2		D	12/14/66				20.00	56	9					NENE	16	1	S	68 W S
29559	I	I	BROZOVICH JOE		15091 HURON RT 1	BROOMFIELD, CO 80020																	
					2		D	12/15/66				10.00	56	9					NENE	16	1	S	68 W S
129272	I	I	HUFF L L		BROOMFIELD, CO 80020																		
	NP	10/26/82			2		DS												NWNE	16	1	S	68 W S
130713	I	I	DECASTRO R		THORNTON, CO 80229																		
	NP	4/18/83	AR	5/ 2/83	6		D												NWNE	16	1	S	68 W S
134117	I	I	MOHAR AL		THORNTON, CO 80229	LOT 3 WILCOX																	
	NP	1/ 9/84			2		D				KLF								NWNE	16	1	S	68 W S
135009	I	I	GUMPH J M		BROOMFIELD, CO 80020																		
	NP	3/ 7/84	AR	4/ 6/84	6		H												NWNE	16	1	S	68 W S
135414	I	I	MOHAR A M		NORTHGLENN, CO 80234																		
	NP	4/18/84			6		H												NWNE	16	1	S	68 W S
133358	I	I	MCKINSTER C		BROOMFIELD, CO 80020																		
	NP	10/ 5/83	WA		2		D												NENW	16	1	S	68 W S
137297	I	I	TELLINGER E		BROOMFIELD, CO 80020																		
	NP	6/19/84	AR	9/24/84	6		D												NENW	16	1	S	68 W S
	I	I	FARMER R E		BROOMFIELD, CO 80020																		
	AP	8/28/84	AU	8/30/84	6		DS												NENW	16	1	S	68 W S
155570	I	I	SEIVERS BEVERLY		14741 N HURON	BROOMFIELD, CO 80020					LOT 1 WILCOX												
	NP	9/ 5/89			2		D				KLF							950N 1650W	NENW	16	1	S	68 W S
122612	I	I	GERBRANDT G D		BROOMFIELD, CO 80020																		
	NP	8/17/81	AR	8/31/81	6		DS												NWNW	16	1	S	68 W S
2143	I	I	SCHVEITZER WM		RT 1	BROOMFIELD, CO 80020																	
					2		D	10/ 8/58				18.00	62						NWNW	16	1	S	68 W S
98543	I	I	ORGAN DANIEL K		6946 JAY STREET	ARVADA, CO 80003																	
					2		D	8/ 1/78				14.00	230	40	306N	332W	NWNW	16	1	S	68 W S
101069	I	I	GERBRANDT GORDON D		3850 W 134TH PL	BROOMFIELD, CO 80020					LOT 10 WILCOX (1909 DATED)												
	NP	6/26/78			2		DS		1.00	1.00	GW	15.00	315	50	700N	1300W	NWNW	16	1	S	68 W S
109117	I	I	UTZ EDWARD S. & JUDITH L.		15100 ZUNI	BROOMFIELD, CO 80020																	
					2		D	3/ 1/82				15.00	961	460	520N	320W	NWNW	16	1	S	68 W S
19961	I	I	ULMER HAROLD D		RT 1 BOX 152A	BROOMFIELD, CO 80020																	
					2		D	5/25/64				15.00	95	20					SENW	16	1	S	68 W S

PERMIT	D CO OWNER INFORMATION / ACTIVITY CO	DATE	STATUS CO	DATE	WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
27255	I	I	SCHMIDT ROBERT		8156 NOLA DR	DENVER, CO 80202												
					2	D	5/16/66			20.00	90	20		SENW	16	1 S	68 W S	
67863	I	I	GREEN DAN A		7110 ALLAN DR	DENVER, CO 80221												
					2	D	11/15/73			15.00	127	30	2550N 1750W	SENW	16	1 S	68 W S	
104051	I	I	GERBRANDT G.D.		BROOMFIELD, CO 80020													
	NP	10/18/78			2	DS								SWNW	16	1 S	68 W S	
104050	I	I	GERBRANDT G.D.		BROOMFIELD, CO 80020													
	NP	10/18/78			2	DS								SWNW	16	1 S	68 W S	
144920	I	I	DE CARLO DAVID		8052 GREENWOOD BLVD	DENVER, CO 80221			LOT 4 BLOCK 2 WAGGLE FARMS									
	EX	5/27/86			6	H			GW					SWNW	16	1 S	68 W S	
1590	I	I	LEWIS WILLIAM A		BROOMFIELD, CO 80020													
					2	D	7/18/58			12.00	78	22		SWNW	16	1 S	68 W S	
7512	I	I	DENUZZI ANDY		9070 CLARKSON	THORNTON, CO 80229												
					2	D	11/21/60			12.00	78	25		SWNW	16	1 S	68 W S	
19092	I	I	GRAEF CHARLES W		300 W 6TH AVE	BROOMFIELD, CO 80020												
					2	D	3/26/64			15.00	110	37		SWNW	16	1 S	68 W S	
19894	I	I	LINEMEYER C B		RT 1 BOX 152	BROOMFIELD, CO 80020												
					2	D	5/20/64			15.00	105	27		SWNW	16	1 S	68 W S	
96137	I	I	MARINI ROMANO		2081 W 149TH	BROOMFIELD, CO 80020												
					6	DS	7/11/78			15.00	305	36	1800N 1200W	SWNW	16	1 S	68 W S	
299371	I	I	COOPER GARY		14801 CLAY ST	BROOMFIELD, CO 80020												
	NP	10/29/85	EP	4/23/88	2	M				KLF				NWSE	16	1 S	68 W S	
299381	I	I	COOPER GARY		14801 CLAY ST	BROOMFIELD, CO 80020												
	NP	10/29/85	EP	4/23/88	2	M				KA				NWSE	16	1 S	68 W S	
342951	I	I	COOPER GARY		14201 CLAY ST	BROOMFIELD, CO 80020												
	NP	6/23/88	AR	9/13/88	2	M				KLF			2700N 1650E	NWSE	16	1 S	68 W S	
50076	I	I	SOMERS RICHARD W		3151 W 95TH AVE	WESTMINSTER, CO 80030												
					2	D	11/10/71			15.00	100	22		NWSE	16	1 S	68 W S	
134023	I	I	FAUSSETT S.C.		NORTHGLENN, CO 80233													
	NP	11/18/83	WA		6	D								SWSE	16	1 S	68 W S	
141250	I	I	ROBINSON R.C.		HENDERSON, CO 80640	LOT 1-2 TELLERAN												
	NP	7/17/85	SA		6	D	7/31/87			KLF	7.00	1010	387	SWSE	16	1 S	68 W S	
146341	I	I	FAUSSETT SUN CPA		NORTHGLENN, CO 80255	LOT 52 WILCOX												
	NP	10/15/86			6	D				KLF				SWSE	16	1 S	68 W S	
2820	I	I	BRUNTON MARVIN		1341 W 144TH AV	BROOMFIELD, CO 80020												
					2	D	3/ 3/59			20.00	65	18		SWSE	16	1 S	68 W S	
20390	I	I	VERLEY LAWANIE E		807 173 RT 1	BROOMFIELD, CO 80020												
					2	D	6/20/64			15.00	53	21		SWSE	16	1 S	68 W S	
80808	I	I	ROPER HENRY E.		14550 N. PECOS	BROOMFIELD, CO 80020												
					2	H	6/26/76			15.00	855	382	1045S 2715W	SWSE	16	1 S	68 W S	
91409	I	I	TELLINGER EMIL G		14535 LIPAN	BROOMFIELD, CO 80020												
					2	D	6/11/77	1.00		10.00	220	22	789S 1500E	SWSE	16	1 S	68 W S	
97423	I	I	ANDERSON RALPH W.		RT 1 BOX 74	BROOMFIELD, CO 80020												
					2	D	5/23/78			15.00	275	42	100S 2600E	SWSE	16	1 S	68 W S	
103911	I	I	TELLINGER EMIL G.		14535 LIPAN ST.	BROOMFIELD, CO 80020												
					2	D	9/ 1/79	1.00		10.00	275	58	950S 1550E	SWSE	16	1 S	68 W S	
108436	I	I	SOMERS R W		BROOMFIELD, CO 80020													
	NP	6/ 8/79			2	D								NESW	16	1 S	68 W S	

PERMIT	D CO ACTIVITY CD	DATE	OWNER INFORMATION	STATUS CD	DATE	WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
56648	I	I	BATES JOE R 6980 ZUNI DENVER, CO 80221			2 D	8/ 4/72				15.00	102	34		NESW	16	1 S	68 W	S
63653	I	I	HEUSEL CRAIG 309 GLENN CREIGHTON DACONA, CO 80514			2 H	12/12/72				15.00	100	55	1350S 1375W	NESW	16	1 S	68 W	S
66078	I	I	YOUNG PAUL 10753 W 62ND PL ARVADA, CO 80004			2 H	3/11/74		5.00		15.00	110	28	2525S 1850W	NESW	16	1 S	68 W	S
98568	I	I	WARNER B. DENVER, CO 80220			6 D	9/14/87								NWSW	16	1 S	68 W	S
	NP	3/ 9/78 RC																	
109858	I	I	KOHMAN P NORTHGLENN, CO 80234												NWSW	16	1 S	68 W	S
	NP	5/14/79 AR	7/17/79	2		D													
98567	I	I	VASHUS CLIFFORD L. 8107 N. WASHINGTON DENVER, CO 80229			6 DS	9/13/78				15.00	290	30	1750S 450W	NWSW	16	1 S	68 W	S
95717	I	I	STONE K B DENVER, CO 80229																
	NP	11/ 2/77		6		D	3/19/86				15.00	310	20		SESW	16	1 S	68 W	S
61910	I	I	TURNER FLOYD A BOX 2370 DENVER, CO 80201			6 D	8/ 7/72				15.00	108	23	500S 1400W	SESW	16	1 S	68 W	S
66195	I	I	WOLF JESSE A 9210 IRVING WESTMINSTER, CO 80030			2 H	12/18/72				12.00	100	26	1056S 1584W	SESW	16	1 S	68 W	S
84397	I	I	TROUTMAN ARTHUR 15529 NAVAJO RT BX110 BROOMFIELD, CO 80020			2 D	5/31/78				15.00	270	60	948S 1337W	SESW	16	1 S	68 W	S
133499	I	I	BRANDON S D BROOMFIELD, CO 80020												SWSW	16	1 S	68 W	S
	NP	8/18/83 WA		2		D													
109863	I	I	BOCKELMANN B J DENVER, CO 80239												SWSW	16	1 S	68 W	S
	NP	6/26/79 AR	7/27/79	2		D													
109862	I	I	BRANDON S D BROOMFIELD, CO 80020												SWSW	16	1 S	68 W	S
	NP	2/16/82		2		H													
95936	I	I	BARKER CLYDE C. 2225 W. 144TH AVE. BROOMFIELD, CO 80020			6 D	6/ 8/82		1.00	KLF	15.00	310		500S 500W	SWSW	16	1 S	68 W	S
98569	I	I	PITARD FRANCIS F 14710 TEJON ST BROOMFIELD, CO 80020			2 D	5/17/79				13.00	285	31	1230S 800W	SWSW	16	1 S	68 W	S
125690	I	I	MOSSONI M L BROOMFIELD, CO 80020												SWNE	17	1 S	68 W	S
	EX	4/12/82 RC	6/ 8/83	6		D													
155559	I	I	RICHARDS R MARK 903 ACOMA ST DENVER, CO 80204 LOT 12 WILCOX			6 D				KA				1000N 2300W	NENW	17	1 S	68 W	S
	NP	8/21/89																	
10409AD	I	I	SANDERS JIM ARVADA, CO 80003												NWNW	17	1 S	68 W	S
	AD			6		M													
129026	I	I	GINTHER F L DENVER, CO 80221												SENW	17	1 S	68 W	S
	NP	11/30/82		6		D													
136672	I	I	LANTTA R FT LUPTON, CO 80621												SENW	17	1 S	68 W	S
	NP	5/11/84 AR	7/17/84	6		D													
125868	I	I	RUSHING R W BOX 310 LAFAYETTE, CO 80026																
	NP	1/19/82 EP	6/15/84	6		M				GW				3200S 90W	SWNW	17	1 S	68 W	S
129027	I	I	GINTHER F L DENVER, CO 80217												SWNW	17	1 S	68 W	S
	NP	11/30/82		6		D													
152314	I	I	RUSHING ROY 402 S AUTREY LAFAYETTE, CO 80026 LOT 25 WILCOX																
	NP	8/11/88 AR	8/29/88	2		D				UKA				2180N 10W	SWNW	17	1 S	68 W	S
10069F	I	I	MILE HIGH WATER CO BROOMFIELD, CO 80020																
				2		H	11/29/65				27.00	1033	346		SWNW	17	1 S	68 W	S

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80349	I	I	SPRUCE KENNETH W. 14981 N. ZUNI BROOMFIELD, CO 80020			2 D	8/ 5/75		1.00		15.00	212	40	2000S 110E	NESE	17	1 S	68 W	S
124012	I	I	BEFORT D J WESTMINSTER, CO 80030												NWSE	17	1 S	68 W	S
	NP	1/29/82		6		D													
128867	I	I	BEFORT M J WESTMINSTER, CO 80234												NWSE	17	1 S	68 W	S
	EX	9/16/82 WA		6		D				KLF									
128373	I	I	GRAY D GOLDEN, CO 80401												NWSE	17	1 S	68 W	S
	NP	10/ 1/82		6		S													
128372	I	I	PEHLPS W GOLDEN, CO 80401												NWSE	17	1 S	68 W	S
	NP	10/ 1/82		6		S													
128865	I	I	BEFORT D.J. WESTMINSTER, CO 80234												NWSE	17	1 S	68 W	S
	EX	1/18/83 SU	4/ 6/87	6		D				KLF									
149079	I	I	BEFORT MAURICE J. WESTMINSTER, CO 80234 LOT 36 WILCOX												NWSE	17	1 S	68 W	S
	NP	6/24/87 WA		6		D				KLF									
22181	I	I	LATIMER D E 14641 CLAY ST NORTHGLEN, CO 00000			2 D	11/ 5/64				2.00	210	38		NWSE	17	1 S	68 W	S
67701	I	I	LATIMER DONALD E. R.R. 1 BOX 34 BROOMFIELD, CO 80020			2 D	5/26/73		1.00		15.00	852	355	1650S 1475E	NWSE	17	1 S	68 W	S
14975	I	I	NEHRING W S RT 1 BOX 145 BROOMFIELD, CO 80020			2 D	7/ 4/63				10.00	72	12		SESE	17	1 S	68 W	S
126197	I	I	SNELL D ARVADA, CO 80002												SWSE	17	1 S	68 W	S
	NP	5/26/82 AR	6/22/82	5		D													
128588	I	I	SNELL D ARVADA, CO 80002												SWSE	17	1 S	68 W	S
	NP	12/22/82		5		D													
154592	I	I	MACRAE KEITH 268 AGATE WAY BROOMFIELD, CO 80020 LOT 51 WILCOX																
	NP	5/12/89 AR	5/25/89	2		DS		1.00		KLF				990S 1835E	SWSE	17	1 S	68 W	S
14976	I	I	NEHRING ARTHUR 14611 CLAY BROOMFIELD, CO 80020			2 D	5/ 1/63				15.00	60	40		SWSE	17	1 S	68 W	S
21815	I	I	BINSON LLOYD 2967 N SPEER DENVER, CO 80202			2 D	10/ 5/64				10.00	75	24		SWSE	17	1 S	68 W	S
132727	I	I	WHITE J E BROOMFIELD, CO 80020												NESW	17	1 S	68 W	S
	NP	9/ 5/83		6		D													
143170	I	I	THOMPSON DALE E. 14625 FEDERAL BLVD. BROOMFIELD, CO 80020			6 D	10/ 1/86		1.00		8.00	1000	445	1370S 2285W	NESW	17	1 S	68 W	S
[illegible]	I	I	[illegible] DENVER, CO 80236																

	EX	1/18/85 SU	4/ 6/87	0																								
149079	I	1 BEFORT MAURICE J.			WESTMINSTER, CO 80234 LOT 55 WILCOX																							
	NP	6/24/87 WA			6		D																					
22181	I	1 LATIMER D E			14661 CLAY ST NORTHGLENN, CO 00000																							
							2		D	11/ 5/64																		
67701	I	1 LATIMER DONALD E.			R.R. 1 BOX 34 BROOMFIELD, CO 80020																							
							2		D	5/26/73																		
14975	I	1 MEHRING W S			RT 1 BOX 145 BROOMFIELD, CO 80020																							
							2		D	7/ 4/63																		
126197	I	1 SNELL D			ARVADA, CO 80002																							
	NP	5/26/82 AR	6/22/82	5					D																			
128588	I	1 SNELL D			ARVADA, CO 80002																							
	NP	12/22/82							D																			
154592	I	1 MACRAE KEITH			268 AGATE WAY BROOMFIELD, CO 80020 LOT 51 WILCOX																							
	NP	5/12/89 AR	5/25/89	2					DS					1.00														
14976	I	1 MEHRING ARTHUR			14611 CLAY BROOMFIELD, CO 80020																							
							2		D	5/ 1/63																		
21815	I	1 BIMSON LLOYD			2967 W SPEER DENVER, CO 80202																							
							2		D	10/ 5/64																		
152727	I	1 WHITE J E			BROOMFIELD, CO 80020																							
	NP	9/ 5/83			6		D																					
143170	I	1 THOMPSON DALE E.			14625 FEDERAL BLVD. BROOMFIELD, CO 80020																							
							6		D	10/ 1/86				1.00														
109128	I	1 DUNCAN J E			DENVER, CO 80236																							
	NP	6/15/79			6		D																					
104669	I	1 PERCELL N			ARVADA, CO 80003																							
	NP	1/ 5/79			6		D																					
109130	I	1 KLEE D J			DENVER, CO 80236																							
	EX	5/22/79			6		D																					
	I	1 PERCELL NEAL			14601 IRVING ST BROOMFIELD, CO 80020 LOT 42 WILCOX SUBDIVISION																							
	AP	3/21/90			6		D						GW															
87428	I	1 CARLSON CLARENCE A.			RT. 1 BOX 20 BROOMFIELD, CO 80020																							
							6		N	12/22/76																		
265721	I	1 FIRST SOUTHERN			NORTHGLENN, CO 80233																							
	NP	9/22/82			6		D																					
148627	I	1 LEWIS BILLY B.			DENVER, CO 80221 LOT 53-B WILCOX																							
	NP	7/ 2/87			6		D																					

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PERMIT	D CO OWNER INFORMATION																											
	ACTIVITY		STATUS							1ST USED	ANNUAL	ACRES	GEOL	WELL	WELL	WATER	SEC LOCAT'N				TOWN		P
	CD	DATE	CD	DATE	WD	MD	DB	USE		DATE	APROP	IRR	AQFR	YIELD	DEPTH	LEVEL	COORDINATES		OTRS	SC	SHIP	RANGE	M
89598	A 1	1 POUNDERS R			BROOMFIELD, CO 80020																							
	NP	5/21/79			6				D																			
113571	I	1 DUNBAR O			BRIGHTON, CO 80601																							
	NP	2/20/80			6				H																			
124682	I	1 MAYBERRY D E			BROOMFIELD, CO 80020																							
	NP	1/19/82 AR	3/ 2/82	6					D																			
124570	I	1 MAYBERRY DANNY			605 MARBLE BROOMFIELD, CO 80020 LOT 53 WILCOX																							
	NP	3/ 2/82 CA	6/19/82	6					H																			
89598	I	1 POUNDERS ROBERT D			14580 IRVING RT 1 BROOMFIELD, CO 80020																							
							6		D	6/ 6/79				12.00	915	425	1220S	1800W	SESW	17	1 S	68 W	S
108715	I	1 POUNDERS ROBERT & JANIE K.			14580 IRVING ST. BROOMFIELD, CO 80020																							
							6		D	4/13/77				10.00	250	59	1200S	1800W	SESW	17	1 S	68 W	S
	I	1 SHUBERT J I			LAKEWOOD, CO 80228																							
	AP	1/14/80			2				D																			
115123	I	1 FEDOROWICZ J			BROOMFIELD, CO 80020																							
	NP	1/ 4/80 AR	2/26/80	6					D																			
115166	I	1 FEDORWICZ J			BROOMFIELD, CO 80020																							
	NP	6/ 9/80 RC	7/21/80	6					D																			
40725	I	1 FEDOROWICZ JOHN			10928 109 PL NORTHGLENN, CO 00000																							
							2		D	4/28/70				25.00	200	60			SWSW	17	1 S	68 W	S
44372	I	1 GAMMEL VICTOR F			14490 LOWELL BLVD BROOMFIELD, CO 80020																							
							2		D	2/10/71				35.00	160	30			SWSW	17	1 S	68 W	S
106092	I	1 HAMMOND HANLY B.			14581 IRVING ST. BROOMFIELD, CO 80220																							
							6		D	1/21/80				15.00	200	16	950S	1200W	SWSW	17	1 S	68 W	S
107533	I	1 GAMMEL VICTOR F			14490 LOWELL BLVD BROOMFIELD, CO 80020																							
							6		D	/ /48				3.00	40		614S	512W	SWSW	17	1 S	68 W	S
702	I	1 IVY BROTHERS			RT 1 BROOMFIELD, CO 80020																							
	NP		NP	1/ 2/58	2				DS	1/10/58				10.00	865	220			NENW	19	1 S	68 W	S
103221	I	1 WESTLAKE WATER AND SANITATI			P O BOX 132 BROOMFIELD, CO 80020																							
							2		M	11/12/65				30.00	960	317			SWSE	19	1 S	68 W	S
24664	I	1 HARSHBARGER C G			13701 STUART BROOMFIELD, CO 80020																							
							2		D	7/19/65				10.00	71	20			SESW	19	1 S	68 W	S
	I	1 WESTHALL LD SY			DENVER, CO 80203																							
	AP	5/30/79			6				DS										ESW	19	1 S	68 W	S
32979	I	1 SWINK WALTER			1441H ZUNI BROOMFIELD, CO 80020																							
							2		D	2/ 9/68				7.00	66	18			NENE	20	1 S	68 W	S
38115	I	1 KAN CATTLE CO			RT 2 BROOMFIELD, CO 80020																							
							2		D	6/ 5/69				35.00	135	6			NESE	20	1 S	68 W	S
67493	I	1 HOGAN JERNELL E & LORENE E			15991 ZUNI ST BROOMFIELD, CO 80020																							
							2		D	6/ 7/74				7.00	592	210	2210S	50E	NESE	20	1 S	68 W	S
71918	I	1 FONAY MILTON W			BOX 67 BROOMFIELD, CO 80020																							
							2		D	10/19/73				11.00	824	322	919N	162E	NENE	21	1 S	68 W	S
120372	I	1 BARNETT O A			BROOMFIELD, CO 80020																							
	NP	3/19/81 AR	5/29/81	2					D										NWNW	21	1 S	68 W	S
133797	I	1 BARNETT O A			BROOMFIELD, CO 80020																							
	NP	9/19/83 AR	11/15/83	6					D										NWNW	21	1 S	68 W	S
22AD	I	1 FEHR DENNIS M.			BROOMFIELD, CO 80020																							
	AD								ID										NESE	21	1 S	68 W	S

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	NP 8/10/81																	
124215	I 7 FLORENCE D E BOULDER, CO 80302																	
	NP 1/20/82			6	D											NWNE	35	2 N 69 W S
51379	I 7 GILMER RICHARD O. & WANDA J. SUGAR LOAF RD BOULDER, CO 80302																	
				6	DS	9/ 5/72		1.00	8.00	117	30	250N 2040E				NWNE	36	2 N 69 W S
52284	I 7 RASMUSSEN FRANK O 813 4TH AVE LONGMONT, CO 80501																	
				6	D	3/29/72			10.00	62	6					NWNE	36	2 N 69 W S
119825	I 7 WAMBSGOUSS E F LAKEWOOD, CO 80227																	
	NP 5/13/81			6	D											NENW	36	2 N 69 W S
124266	A I 7 GIBB I LONGMONT, CO 80501																	
	NP 3/ 3/82			6	D											NWNE	1	1 N 69 W S
10722	I 7 PRITSCHAU A. L. 12198 JASPER ERIE, CO 80516																	
				6	D	2/14/62		1.00	2.00	63	15	900N 2655E				NENW	1	1 N 69 W S
36061	I 7 FAHRENBRUCH STANLEY I RT 2 BOX 303 LONGMONT, CO 80501																	
				6	DS				45.00	75	5					NWNW	1	1 N 69 W S
121738	I 7 TANAKA BROS LONGMONT, CO 80501																	
	NP 8/ 7/81			6	D											SWNW	1	1 N 69 W S
11185	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	4/12/62			15.00	250	40					SWNW	1	1 N 69 W S
11186	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	4/14/62			18.00	248	30					SWNW	1	1 N 69 W S
11187	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	5/ 8/62			15.00	230	40					SWNW	1	1 N 69 W S
11518	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	5/10/62			15.00	240	30					SWNW	1	1 N 69 W S
12081	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	6/30/62			12.00	240	20					SWNW	1	1 N 69 W S
12082	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	7/ 3/62			12.00	240	25					SWNW	1	1 N 69 W S
12126	I 7 BROWN BOB LONGMONT, CO 80501																	
				6	D	7/ 8/62			10.00	230	40					SWNW	1	1 N 69 W S
12733	I 7 WENG KENNETH 1700 XENIA ST DENVER, CO 80202																	
				6	D	9/ 4/62			18.00	330	60					SWNW	1	1 N 69 W S
12812	I 7 BROWN S D CANFIELD, CO 00000																	
				6	D	9/ 6/62			18.00	265	90					SWNW	1	1 N 69 W S
13459	I 7 WAGNER MILTON CANFIELD, CO 00000																	
				6	D	11/11/62			15.00	245	60					SWNW	1	1 N 69 W S
	I 7 WHEELER ERIE, CO 80516																	
	AP 10/ 6/75			6	D											NESE	1	1 N 69 W S
81523	I 7 WHEELER JACK 5909 N.E. COUNTY LINE ERIE, CO 80516																	
				6	D	11/ 3/75		1.00	15.00	50	9	1360S 400E				NESE	1	1 N 69 W S

PERMIT	D CO OWNER INFORMATION / ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	WD MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
36862	I 7 WHEELER JACK RT 1 BOX 163 ERIE, CO 80516																	
					6	D 2/28/69				13.00	65	9		NWSW	1	1 N	69 W	S
	I 7 BECHTOLD D WHEATRIDGE, CO 80033														2	1 N	69 W	S
	TW 6/21/83				6													
77425	I 7 SESSIONS RICHARD M. 864 W. 154TH AVE. BROOMFIELD, CO 80020																	
					6	D 11/14/76		1.00		15.00	50	25	200N 660E	NENE	2	1 N	69 W	S
46287	I 7 MORRIS C C GEN DELIVERY LONGMONT, CO 80501																	
					6	D 6/ 9/71				4525.90	100			NESE	2	1 N	69 W	S
55117	I 7 MORRIS C C RT 3 LONGMONT, CO 80501																	
	NP 3/21/72				6	D 6/ 5/72			GW	4.00	86	20		NESE	2	1 N	69 W	S
32006F	I 7 TANAKA FARMS RT 2 LONGMONT, CO 80501																	
	NP 8/18/83 EP 7/14/88				6	C			KLF				1400S 1650E	NWSE	2	1 N	69 W	S
143426	I 7 TANAKA BROS. FARMS ERIE, CO 80516																	
	NP 3/10/86 AR 3/21/86				6	D			GW					NWSE	2	1 N	69 W	S
1953R	I 7 TANAKA BROTHERS RT 2 LONGMONT, CO 80501																	
					6	I				395.00	12	8		SESE	2	1 N	69 W	S
8957	I 7 TANAKA SAM RT.2 BOX 297 LONGMONT, CO 80501																	
					6	D 6/30/76		1.00		2.00	105	22	800S 410W	SESE	2	1 N	69 W	S
28756	I 7 TANAKA SAM RT 1 CANFIELD, CO 00000																	
					6	D 9/10/66				20.00	16	10		SESE	2	1 N	69 W	S
143425	I 7 TANAKA BROS. FARMS ERIE, CO 80516																	
	NP 3/12/86 AR 3/21/86				6	D			GW					SWSE	2	1 N	69 W	S
51220	I 7 SCHOFIELD BETTY A. & JAMES RT 1, BOX 250 BRNFLD, CO 00000																	
					6	D 2/24/72		1.00		15.00	100	12		NESW	2	1 N	69 W	S
69412	I 7 SMITH TOMMIE & STEPHANIE 11231 LOOKOUT RD. LONGMONT, CO 80501																	
					6	D 6/20/73		1.00		10.00	100	20	2000S 550W	NWSW	2	1 N	69 W	S
34117	I 7 GRABRIAN LEONARD RT 2 LONGMONT, CO 80501																	
					6	D 6/17/68				15.00	60	19		SESW	2	1 N	69 W	S
4849AD	I 7 GOSCHA VICTOR J. LONGMONT, CO 80501																	
	AD					I								SWSW	2	1 N	69 W	S
48689	I 7 MOORE ROBERT D 11225 E LOOKOUT RD LONGMONT, CO 80501																	
					6	D 4/ /74		1.00		3.00	100	20		SWSW	2	1 N	69 W	S
68907	I 7 GOSCHA VICTOR J 8800 W 1ST AVE LAKEWOOD, CO 80026																	
					6	D 6/ 1/73				15.00	100	15	240S 750W	SWSW	2	1 N	69 W	S
72737	I 7 WENNICH CHARLES L. 11175 LOOKOUT RD. LONGMONT, CO 80501																	
					6	D 3/ 1/74		1.00		12.50	120	20	310S 200W	SWSW	2	1 N	69 W	S
75589	I 7 KALISZEWSKI JERRY 11285 LOOKOUT RD LONGMONT, CO 80501																	
					6	N 4/29/75				10.00	100	12	400S 1120W	SWSW	2	1 N	69 W	S
69472	I 7 SVALDE MARILYN J. 10975 LOOKOUT RD. LONGMONT, CO 80501																	
					6	N 6/ /75				15.00	150	18	2000S 100E	NESE	3	1 N	69 W	S
143171	I 7 BANMAN JOHN/BERGER M. BOULDER, CO 80306																	
	NP 2/ 6/86 WA				5	D			KLF					NENE	6	1 N	69 W	S
42778	I 7 CITO MIKE RT 5 LONGMONT, CO 80501																	
					6	D 8/28/70				15.00	245	100		NENE	6	1 N	69 W	S
16468	I 7 CITO DONALD RT 1 NIWOT, CO 00000																	
					6	D 7/20/63				12.00	215	60		NWNW	6	1 N	69 W	S
106956	I 7 IANNACITO ANTHONY 6090 79TH ST LONGMONT, CO 80501																	
					6	S / /36				10.00	126		950N 150W	NWNW	6	1 N	69 W	S

63867	1	7	HERVAR CHARLES F 1000 KALMIA ST BOULDER, CO 80302																				
				6		D	9/19/72			15.00	310	120	500S	150W	SWSW	9	1	N	69	W	S
70689	1	7	FITZGERALD BARRY K 609 E SIMPSON LAFAYETTE, CO 80026																				
				6		D	9/ 5/73			15.00	308	100	643S	320W	SWSW	9	1	N	69	W	S
73517	1	7	JOHNSON WILLIAM L. 11737 N.WASHINGTON NORTHGLENN, CO 80233																				
				6		N	3/12/74			5.00	310	110	4245N	1174W	SWSW	9	1	N	69	W	S
105607	1	7	ALCORN ROBERT S & BETTY 2496 S FEDERAL BLVD DENVER, CO 80219																				
				6		D	/ /79			7.00	28		400N	1340E	NWNE	10	1	N	69	W	S
113851	1	7	WHITE D LONGMONT, CO 80501																				
	NP		3/17/80 AR 4/ 9/80	6		H									SENE	10	1	N	69	W	S
48237	1	7	WILSON JESS C 5150 N 109 ST LONGMONT, CO 80501																				
				6		D	8/21/71			15.00	65	30	1721N	1070E	SENE	10	1	N	69	W	S
56475	1	7	COFFIN LOUIS D 5100 N 109TH LONGMONT, CO 80501																				
				6		D	11/29/72			48.00	45	23			SENE	10	1	N	69	W	S
86298	1	7	REEVE GEROME R. 5171 N. 109TH ST. LONGMONT, CO 80501																				
				6		DS			1.00	21.00	50		1450N	1550E	SWNE	10	1	N	69	W	S
143427	1	7	TANAKA BROS. FARMS ERIE, CO 80516																				
	NP		3/ 4/86 AU 3/21/86	6		D			GW						NENW	10	1	N	69	W	S
143424	1	7	TANAKA BROS. FARMS ERIE, CO 80516																				
	NP		3/ 4/86 WA	6		D			GW						NWNW	10	1	N	69	W	S
183061	1	7	ALEXANDER DAWSON FOUNDATION 1966 13TH ST BOULDER, CO 80302																				
	NP		4/ 1/74 EP 4/25/76	6		I									SESE	10	1	N	69	W	S
183115F	1	7	ALEXANDER DAWSON FOUNDATION 1966 13TH ST BOULDER, CO 80302																				
	NP		4/ 1/74 EP 4/25/76	6		I						1			SESE	10	1	N	69	W	S
183111F	1	7	ALEXANDER DAWSON FNDTION & MORGAN BOULDER, CO 80302																				
				6	1		6/ 1/62			250.00				S	E	SESE	10	1	N	69	W	S
183071	1	7	ALEXANDER DAWSON FOUNDATION 1966 13TH ST BOULDER, CO 80302																				
	NP		4/ 1/74 EP 4/25/76	6		I									SWSE	10	1	N	69	W	S
183121	1	7	ALEXANDER DAWSON FNDTION UNITED BK BLDG BOULDER, CO 80302																				
				6		D	6/ 3/70			20.00					NESW	10	1	N	69	W	S
183101	1	7	ALEXANDER DAWSON FNDTION UNITED BK BLDG BOULDER, CO 80302																				
				6		M	6/ 1/60			20.00					NWSW	10	1	N	69	W	S
56187	1	7	DONIPHON J B 11120 LOOKOUT RD LONGMONT, CO 80501																				
				6		D	4/ 1/72			2.00	120	30			NWNE	11	1	N	69	W	S
300340	1	7	MATTHEWS JOSEPH E. LONGMONT, CO 80501																				
	AD					D									SENE	11	1	N	69	W	S
8970	1	7	COLEMAN BOB 885 34TH ST BOULDER, CO 80302																				
				6		D	6/15/61			25.00	10	5			SENE	11	1	N	69	W	S
10829	1	7	KEELER WM RT 2 BOX 852 LONGMONT, CO 80501																				
				6		D	3/17/62			10.00	45	4			SENE	11	1	N	69	W	S
11814	1	7	HEMSHER A E 1706 24TH ST BOULDER, CO 80302																				
				6		D	6/13/62			4.00	25	6			SENE	11	1	N	69	W	S

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PERMIT	D CO	OWNER INFORMATION																					
	ACTIVITY CO	DATE	STATUS CD	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M		
21029	1	7	HEMSHER ALBERT E 1706 24TH ST CANFIELD, CO 00000																				
					6			D	7/ 9/64				9.00	25	6		SENE	11	1	N	69	W	S
47891	1	7	ANDERSON CHARLES M 11726 KENOSHA RD LONGMONT, CO 80501																				
					6			D	12/16/71				5.00	24	8		SWNE	11	1	N	69	W	S
112403	1	7	DONIPHAN J B LONGMONT, CO 80501																				
	NP		5/ 9/80		6			H									NWNW	11	1	N	69	W	S
41993	1	7	DONIPHAN J B 11130 LOOKOUT RD LAFAYETTE, CO 80026																				
					6			D	7/ 7/70				13.00	90	10		NWNW	11	1	N	69	W	S
56190	1	7	ROYER JOANA M 421 CONCORD AVE BOULDER, CO 80302																				
					6			D	6/ 7/72				15.00	45	23		NWNW	11	1	N	69	W	S
68078	1	7	DONIPHAN J B 11130 LOOKOUT RD LONGMONT, CO 80501																				
					6			H	4/23/73				3.00	125	30		NWNW	11	1	N	69	W	S
89207	1	7	HETCHER GEORGE R. 10903 JOTIPA DR. LONGMONT, CO 80501																				
					6			H	3/31/77				3.00	150	35	1185N 870W	NWNW	11	1	N	69	W	S
	1	7	CLUCK R L ARVADA, CO 80002																				
	AP		4/26/84 AU 5/ 3/84		6			D									SENW	11	1	N	69	W	S
98580	1	7	HOWARD J ARVADA, CO 80004																				
	NP		3/13/78		6			H									SWNW	11	1	N	69	W	S
87445	1	7	BLOOM ROY RT 1 ERIE, CO 80516																				
					6			D	5/ 1/77		1.00		15.00	50	10	1940S 186E	NESE	11	1	N	69	W	S
	1	7	S & M CONCRETE CO P O BOX 490 NIWOT, CO 80544-0490 GRAVEL PIT																				
	AP		3/ 6/90 AU 3/ 7/90		6			D				GW					SW	11	1	N	69	W	S
21786	1	7	BIXLER RUTH 301 SUMNER LONGMONT, CO 80501																				
					6			D	10/ 7/64				30.00	52	10		NENE	12	1	N	69	W	S
40143	1	7	WOODFIN LARRY 10909 LYNNE ST BOULDER, CO 80302																				
					6			D	1/27/70				9.00	39	14		NENE	12	1	N	69	W	S
143428	1	7	TANAKA BROS. FARMS ERIE, CO 80516																				
	NP		3/ 6/86 AR 3/21/86		6			D				GW					SWNE	12	1	N	69	W	S
30197	1	7	BAILEY CHARLES A RT 1 BOX 174 A ERIE, CO 80516																				
					6			D	3/28/67				10.00	40	3		SWNW	12	1	N	69	W	S
14076	1	7	BAILEY CHAS A RT 1 ERIE, CO 80516																				
					6			D	2/ 6/63				25.00	50	8		NWSW	12	1	N	69	W	S
16411	1	7	NEWMAN RALPH W. & DELLA E 4890 N 119TH ERIE, CO 80516																				
					6			D	7/18/63		1.00		15.00	50	6	1748S 60W	NWSW	12	1	N	69	W	S
18842	1	7	BAILEY LYLE ERIE, CO 80516																				
					6			D	3/ 3/64				30.00	50	6		NWSW	12	1	N	69	W	S
20916	1	7	BAILEY LYLE ERIE, CO 80516																				
					6			D	7/31/64				30.00	50	6		NWSW	12	1	N	69	W	S
37642	1	7	WADE EUGENE H. & SYLVIA H. 4990 N. 119TH ST. ERIE, CO 80516																				
					6			D	5/ 4/69				35.00	50	6	2459S 820W	NWSW	12	1	N	69	W	S
38416	1	7	BAILEY LYLE I RT 1 BOX 239 ERIE, CO 80516																				
					6			D	7/ 7/69				35.00	50	10		NWSW	12	1	N	69	W	S
44368	1	7	NEUBY FRANK C 909 PRATT ST LONGMONT, CO 80501																				
					6			D	2/19/71				35.00	47	7		NWSW	12	1	N	69	W	S
43280	1	7	HARRIS JAMES T. ERIE, CO 80516																				
	AD							D									NENE	13	1	N	69	W	S
15227	1	7	NORCROSS JERRY RT 1B ERIE, CO 80516																				
					6			D	5/16/63				15.00	50	35		NENE	13	1	N	69	W	S

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PERMIT	D CO ACTIVITY CO	DATE	STATUS CO	DATE	WD	MD	DB	USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
15938	I	7							GUSTAFSON HAROLD RT 1 ERIE, CO 80516													
					6		D		6/20/63					30.00	60	33		NENE	13	1 N	69 W	S
16701	I	7							STRATTON GARY RT 1 ERIE, CO 80516													
					6		D		7/30/63					20.00	60	30		NENE	13	1 N	69 W	S
48881	I	7							WIGGETT THOMAS H 737 WEST ST LOUISVILLE, CO 80027													
					6		D		9/27/71					15.00	45	13		NENE	13	1 N	69 W	S
58743	I	7							WIGGETT HAROLD C. RT 1, BOX 269A ERIE, CO 80516													
					6		D		4/26/72			1.00		15.00	47	13	1061N 50E	NENE	13	1 N	69 W	S
14980	A I	7							BARTEE ALLEN 12591 JAY RD ERIE, CO 80516													
	NP	2/ 6/89			6		D						GW				2500N 580E	SENE	13	1 N	69 W	S
13594	I	7							DEVISSCHER A RT 1 ERIE, CO 80516													
					6		D		11/ 6/62					20.00	62	22		SENE	13	1 N	69 W	S
14980	I	7							MILLER ANDREW RT 1 BOX 185 ERIE, CO 80516													
					6		D		5/10/40					10.00	39			SENE	13	1 N	69 W	S
20898	I	7							STEWART DOUGLAS RT 1 ERIE, CO 80516													
					6		D		7/23/64					20.00	50	15		SENE	13	1 N	69 W	S
3153F	I	7							SCHMIDT FRED JR. & SUE OWEN 6101 W. ALAMEDA AVE. LAKEWOOD, CO 80226													
					6		I		5/14/61						97	45		SWNE	13	1 N	69 W	S
16108F	I	7							BLAIR HOWARD D & BONNIE M RT 1 BOX 254 ERIE, CO 80516													
					6		I		3/ /52			20.00		70.00	90		2630S 2100E	SWNE	13	1 N	69 W	S
67912	I	7							JORDAN CHARLES L 12223 JASPER RD ERIE, CO 80516													
					6		H		6/26/73					5.00	225	32	1100N 2500W	NENW	13	1 N	69 W	S
84886	I	7							PRITSCHAU A L 12198 JASPER RD ERIE, CO 80516													
					6		D		7/15/77			1.00		15.00	315		90N 2655E	NENW	13	1 N	69 W	S
9801	I	7							BROWN S O LONGMONT, CO 80501													
					6		D		9/27/61					2.00	52	15		NWNW	13	1 N	69 W	S
14023	I	7							BRECHEISEN JAMES RT 1 BOX 212 ERIE, CO 80516													
					6		D		11/ 7/62					3.00	103	27		NWNW	13	1 N	69 W	S
28214	I	7							BRECHEISEN JAMES R R R 1 BOX 212 ERIE, CO 80516													
					6		DS		7/26/66					10.00	110	90		NWNW	13	1 N	69 W	S
10441	A I	7							HOLMAN J C ERIE, CO 80516													
	NP	6/26/78			6		D		5/18/88				GW					SWNW	13	1 N	69 W	S
106650	I	7							CARLSON L W ERIE, CO 80516													
	NP	3/19/79			6		H											SWNW	13	1 N	69 W	S
10012	I	7							WAGNER MILTON 725 GAY ST LONGMONT, CO 80501													
					6		D		10/15/61					10.00	58	15		SWNW	13	1 N	69 W	S
10441	I	7							HOLMAN JAMES C. 12110 JASPER RD. ERIE, CO 80516													
					6		D		7/27/78			1.00		15.00	315	80	2275N 400W	SWNW	13	1 N	69 W	S
81382	I	7							ERDMAN TIMOTHY B & MCFADDEN WENDY 119TH & JASPER RD BOULDER, CO 80302													
					6		D		6/ 1/60			1.00		15.00	30		1470N 100W	SWNW	13	1 N	69 W	S
	I	7							SIMONS JIM 4055 E CTY LINE RD ERIE, CO 80516													
	AP	11/30/87	AU	6/21/89	6		N						GW				1580S 300E	NESE	13	1 N	69 W	S
30670	I	7							ERIE ELEMENTRY SCHOOL DIST RE 1J LONGMONT, CO 80501													
					6		D		5/ 3/67					45.00	55	23		NESE	13	1 N	69 W	S
31553	I	7							KAUMP HAROLD 13 EXNER ST LONGMONT, CO 80501													
					6		D		7/25/67					2.00	40	25		NESE	13	1 N	69 W	S
44668	I	7							KAUMP HAROLD K BOX 268 ERIE, CO 80516													
					6		D		3/ 3/71					20.00	40	20		NESE	13	1 N	69 W	S

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13593	I	7							GUSTAFSON HAROLD RT 1 ERIE, CO 80516													
					6		D		11/27/62					25.00	50	42		SESE	13	1 N	69 W	S
66064	I	7							PERSONSGRADY L. 4599 W. BROADWAY BOULDER, CO 80302													
					6		D		1/30/73			1.00		15.00	308	45	1980S 1980W	NESW	13	1 N	69 W	S
109396	I	7							GRESS M W LAFAYETTE, CO 80026													
	NP	2/23/79	AR	7/26/79	6		D											NWSW	13	1 N	69 W	S
34851	I	7							BOULDER COUNTY ROAD DEPARTM P O BOX 471 BOULDER, CO 80302													
					6		D		8/ 6/68					9.00	30	6		SESW	13	1 N	69 W	S
	I	7							BURNETT B P LAFAYETTE, CO 80026													
	AP	11/ 9/83	AU	11/25/83	6		D											SWSW	13	1 N	69 W	S
	I	7							BURNETT BRIAN P. LAFAYETTE, CO 80026													
	AP	10/30/85	AU	11/25/85	6		I											SWSW	13	1 N	69 W	S
47011	I	7							ABEL CLAUDE C 4038 NO 119TH ST LAFAYETTE, CO 80026													
					6		D		6/28/71					15.00	300	130	1075N 187W	SWSW	13	1 N	69 W	S
38857	I	7							WHITE ALVIN 11878 JASPER RD ERIE, CO 80516													
					6		D		8/20/69					20.00	37	9		NENE	14	1 N	69 W	S
38858	I	7							WHITE ALVIN 11878 JASPER RD ERIE, CO 80516													
					6		D		8/20/69					20.00	31	10		NENE	14	1 N	69 W	S
124552	I	7							GRIMSDALE J BOULDER, CO 80302													
	NP	11/23/81			6		H											SENE	14	1 N	69 W	S
24637	I	7							ROBINSON JERRY 11794 JASPER RD LANFIELD, CO 00000													
					6		D		7/27/65					30.00	54	20		SENE	14	1 N	69 W	S
59787	I	7							SPENDLOW ARTHUR 11886 JASPER RD LAFAYETTE, CO 80026													
					6		D		8/ 2/72					12.00	254	38		SENE	14	1 N	69 W	S
75986	I	7							LYBARGER GEORGE W. 1428 MAINE ST LOUISVILLE, CO 80027													
					6		D		8/13/74			1.00		15.00	240	90	2300N 1200E	SENE	14	1 N	69 W	S
146673	A I	7							TRUMBALL TIM NIWOT, CO 80544													
	NP	11/ 5/86	PI		6		D						GW					NENW	14	1 N	69 W	S
9916	I	7							ROE EDITH GREELEY, CO 80631													
					6		D		10/ 5/61					20.00	48	12		NENW	14	1 N	69 W	S

30037		7 WHITE ALVIN			6	D	8/20/69		20.00	31	4					NENE 14	1 N	69 W S
38858	I	7 WHITE ALVIN	11878 JASPER RD	ERIE, CO 80516	6	D	8/20/69		20.00	31	10					NENE 14	1 N	69 W S
124552	I	7 GRINSDALE J	BOULDER, CO 80302		6	H										SENE 14	1 N	69 W S
	NP	11/23/81																
24637	I	7 ROBINSON JERRY	11794 JASPER RD	CANFIELD, CO 00000	6	D	7/27/65		30.00	54	20					SENE 14	1 N	69 W S
59787	I	7 SPENDLOW ARTHUR	11886 JASPER RD	LAFAYETTE, CO 80026	6	D	8/ 2/72		12.00	254	38					SENE 14	1 N	69 W S
75986	I	7 LYBARGER GEORGE W.	1428 MAINE ST	LOUISVILLE, CO 80027	6	D	8/13/74	1.00	15.00	240	90	2300N	1200E			SENE 14	1 N	69 W S
146673	A I	7 TRUMBALL TIM	NIWOT, CO 80544		6	D										NENW 14	1 N	69 W S
	NP	11/ 5/86 PI						GW										
9916	I	7 ROE EDITH	GREELEY, CO 80631		6	D	10/ 5/61		20.00	48	12					NENW 14	1 N	69 W S
3765F	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	M	9/21/62		40.00	545	150					NESE 14	1 N	69 W S
3778F	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	M	10/ 3/62		40.00	555	150					NESE 14	1 N	69 W S
13076	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	D	9/28/62		18.00	370	125					NESE 14	1 N	69 W S
13782	I	7 BROWN LAND CO RT 1	LAFAYETTE, CO 80026		6	D	12/15/62		10.00	325	125					NESE 14	1 N	69 W S
12891	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	D	9/15/62		12.00	225	30					NWSE 14	1 N	69 W S
13460	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	D	11/ 9/62		10.00	135	14					NWSE 14	1 N	69 W S
13461	I	7 BROWN LAND CO	CANFIELD, CO 00000		6	D	11/ 8/62		12.00	345	125					NWSE 14	1 N	69 W S
16120	I	7 BROWN BOB RT 1	CANFIELD, CO 00000		6	D	7/ 3/63		25.00	400	165					NWSE 14	1 N	69 W S
12125	I	7 NYE HARVEY F.	3973 N. 119TH ST.	LAFAYETTE, CO 80026	6	D	6/19/76	1.00	12.00	410	142	900S	100W			SESE 14	1 N	69 W S

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	I		7		BROWNSVILLE WTR LAFAYETTE, CO 80026		6		M												1 N	69 W	S
	IN																		NESW	14			
129646	I		7		JASPER M ERIE, CO 80516		6		D												1 N	69 W	S
	NP	2/22/83																	NESW	14			
19987F	I		7		BROWNSVILLE WTR & SAN DIST 11210 FLATIRON DR LAFAYETTE, CO 80026		6		M												1 N	69 W	S
	NP	1/ 9/75	EP	7/21/77															NWSW	14			
19988F	I		7		BROWNSVILLE WTR & SAN DIST 11210 FLATIRON DR LAFAYETTE, CO 80026		6		M												1 N	69 W	S
	NP	1/ 9/75	EP	7/21/77															NWSW	14			
19989F	I		7		BROWNSVILLE WTR & SAN DIST 11210 FLATIRON DR LAFAYETTE, CO 80026		6		M												1 N	69 W	S
	NP	1/ 9/75	EP	7/21/77															NWSW	14			
16852	I		7		BROWN BOB LAND CO RT 1 BROWNSVILLE, CO 00000		6		D	9/12/63				40.00	80	35				NWSW	14	1 N	69 W	S
17259	I		7		BROWN BOB LAND CO RT 1 BROWNSVILLE, CO 00000		6		D	9/16/63				10.00	45	20				NWSW	14	1 N	69 W	S
17260	I		7		BROWN BOB LAND CO RT 1 BROWNSVILLE, CO 00000		6		D	9/14/63				35.00	70	30				NWSW	14	1 N	69 W	S
37984	I		7		JAMESON VINTON 5918 DALE DR LAFAYETTE, CO 80026		6		D	5/26/69				30.00	80	25				NWSW	14	1 N	69 W	S
45093	I		7		RODRIGUEZ FELIX 11152 FLAT IRN DR LAFAYETTE, CO 80026		6		D	4/15/71				20.00	43	20				NWSW	14	1 N	69 W	S
59887	I		7		MASON ROGER D 11186 RANDOM CT LAFAYETTE, CO 80026		6		D	6/25/72				7.00	51	12				NWSW	14	1 N	69 W	S
28249	I		7		PARDIKES DAN RT 1 LAFAYETTE, CO 80026		6		D	7/30/66				4525.90	195					SESW	14	1 N	69 W	S
39675	I		7		MOQUIST STANLEY A 11243 FLATIRON DR BROWNSVILLE, CO 00000		6		D	10/28/69				4525.90	100					SESW	14	1 N	69 W	S
120926	I		7		WALKER MICHAEL H. & LISETTE M. 11215 FLATIRON DR LAFAYETTE, CO 80026		6		D	1/13/70		1.00		2.00	50		475S	456W	SWSW	14	1 N	69 W	S
9715	I		7		DUBA HARRY LAFAYETTE, CO 80026		6		D	9/15/61				3.00	50	10				NENE	15	1 N	69 W	S
183091	I		7		ALEXANDER DAWSON ENDTION UNITED BK BLDG BOULDER, CO 80302		6		M	4/ 9/71				50.00						NWNW	15	1 N	69 W	S
69135	I		7		EDWARDS RAYMOND T 10921 LYNN LAFAYETTE, CO 80026		6		D	5/25/73		1.00		12.00	50	14	1575S	940E		NESE	15	1 N	69 W	S
152863	I		7		BROWNSVILLE FS LAFAYETTE, CO 80026		6		D											NWSE	15	1 N	69 W	S
	NP	3/14/83	RC	9/23/83																			
3212AD	I		7		SOLAR GERALD W. LONGMONT, CO 80501				O											SESE	15	1 N	69 W	S
	AD																						
426BAD	I		7		WISER HERMAN J. LOUISVILLE, CO 80027				O											SESE	15	1 N	69 W	S
	AD																						
152530	I		7		CAVANAUGH C LAFAYETTE, CO 80026		6		W											SESE	15	1 N	69 W	S
	NP	8/ 9/83																					
156113	I		7		CASS D LAFAYETTE, CO 80026		6		N											SESE	15	1 N	69 W	S
	NP	6/ 6/84																					
29570	A I		7		HAMM LARRY LAFAYETTE, CO 80026 LOT 6 BLOCK 1 BIXLER RANCHETTES		6		N					GW						SESE	15	1 N	69 W	S
	EX	9/ 6/84	EX																				
27779	I		7		STEPHENS EUGENE 5974 DALE DR RT 1 LAFAYETTE, CO 80026		6		D	6/16/66				20.00	50	16				SESE	15	1 N	69 W	S

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29570	I	7		GRISSON SAM R 3958 DALE DR LAFAYETTE, CO 80026		6		D	1/ 7/67				15.00	50	19		SESE	15	1 N	69 W	S
29726	I	7		ESQUIBEL JOE 3992 DALE DR LAFAYETTE, CO 80026		6		D	2/ 1/67				15.00	55	18		SESE	15	1 N	69 W	S
29792	I	7		KLINK L V 3942 DALE DR LAFAYETTE, CO 80026		6		D	2/ 8/67				15.00	60	18		SESE	15	1 N	69 W	S
45796	I	7		VOORHIS ANNE M & GEORGE W 3936 VIEWPOINT WY LAFAYETTE, CO 80026		6		D	5/14/71				15.00	48	12		SESE	15	1 N	69 W	S
71569	I	7		JARMAN STANLEY DALE 2281 S.VAUGHN W.#104 DENVER, CO 80232		6		H	12/17/73				15.00	90	13	450S 730E	SESE	15	1 N	69 W	S
138976	I	7		TIEFEL DOUGLAS A. BOULDER, CO 80306								KLF					NWSW	15	1 N	69 W	S
	EX	2/ 6/85	SP	3/30/88	6			D													
17595	I	7		TARVIN RUSSEL COL LAFAYETTE, CO 80026		6		D	10/12/63				12.00	370	17		NWSW	15	1 N	69 W	S
1912	R I	7		SCHWARTZ F LAFAYETTE, CO 80026													SESW	15	1 N	69 W	S
	NP	9/30/82				6		I													
1912R	I	7		ZLATIN TODAR N RT 1 Bx 70 LAFAYETTE, CO 80026		6		I					100.00	27	12		SESW	15	1 N	69 W	S
122567	I	7		TIEFEL D. BOULDER, CO 80302													SWSW	15	1 N	69 W	S
	NP	9/16/81				6		S													
9084F	I	7		BOULDER VALLEY FARM LAFAYETTE, CO 80026		6		I	6/ 6/65				450.00	10	3		NENE	16	1 N	69 W	S
9083F	I	7		BOULDER VALLEY FARM LAFAYETTE, CO 80026		6		I	6/ 6/65				500.00	10	3		SENE	16	1 N	69 W	S
5670F	I	7		BOULDER VALLEY FARM LAFAYETTE, CO 80026		6		I	10/ 1/64				700.00	15	1		SENW	16	1 N	69 W	S
4053F	I	7		CULVER DONALD M LAFAYETTE, CO 80026		6		I	8/ 1/63				200.00	14	4		SWNW	16	1 N	69 W	S
118559	I	7		SUDAN M M LAFAYETTE, CO 80026													NESE	16	1 N	69 W	S
	NP	4/ 2/80	RC	3/ 6/81	6			D													
837	I	7		SUDAN MARTHA M RT 1 BOULDER, CO 00000													SESE	16	1 N	69 W	S
	NP		NP	3/25/58	6			D	3/25/58				30.00	180	100						
436AD	I	7		BOULDER VALLEY FARM LAFAYETTE, 00000													NESW	16	1 N	69 W	S
	AD							I													
43230	I	7		CULVER DONALD & BOULDER VALLEY FARM RT 1 LAFAYETTE, CO 80026		6		D	9/29/70				10.00	170	40		NENE	17	1 N	69 W	S
77375	I	7		HAYHURST JOHN F. 410 S. 40TH ST. BOULDER, CO 80303		6		H	5/ 1/75				10.00	100	6	1150S 300E	SESE	17	1 N	69 W	S
7550	I	7		WEISER BRUCE 3890 BASELINE RD BOULDER, CO 80302		6		D	11/ 1/60				3.00	154	50		SENW	18	1 N	69 W	S
60653	I	7		DIVIS LOUISE 2500 EMERALD RD BOULDER, CO 80302		6		D	5/ /57				9.00				NWSE	18	1 N	69 W	S
23845	R I	62		HOBBS L ERIE, CO 80516													SWSW	18	1 N	69 W	S
	NP	8/14/78				6		DS													
413RN	I	7		ENERGY RESOURCES TECHNOLOGY 305 S 39TH BOULDER, CO 80302																	
			NP	4/30/60	6			D	5/10/33				10.00	21	11		NWNE	19	1 N	69 W	S
20787	I	7		RIDGEWAY RICHARD VALMONT RD BOULDER, CO 80302		6		D	6/23/64				40.00	30	9		SENW	19	1 N	69 W	S

PERMIT	D CO ACTIVITY CD	STATUS DATE	CO	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC COORDINATES	LOCAT'N QTRS	SC	TOWN SHIP	RANGE	P M
41174	A I	7		COX WAYNE BOULDER, CO 80301																	
	NP	3/29/84				6		D				GW					SWNW	19	1 N	69 W	S
41174	I	7		WILSON WILLARD F 340 INCA PKWY BOULDER, CO 80302		6		D	5/19/70				6.00	50	10		SWNW	19	1 N	69 W	S
42964	I	7		TROMMERSHAUSEN WILLIAM E 1421 SUNSET BOULDER, CO 80302		6		D	10/ 1/70				4525.90	60			NWSE	19	1 N	69 W	S
74417	I	7		TROMMERSHAUSEN CLAIRE B & WM. E. 8328 VALMONT DR BOULDER, CO 80302		6		O	/ /30		1.00		2.00	40	20	3060N 2715W	NWSE	19	1 N	69 W	S
129366	I	7		LYONS THOMAS B. 8440 VALMONT RD. BOULDER, CO 80301		6		H	6/10/83				15.00	18	50	2400S 1850E	NWSE	19	1 N	69 W	S
	I	7		MCMAHON KEVIN 8522 VALMONT DR BOULDER, CO 80301																	
	AP	9/ 7/89	AU	9/29/89	6			H				GW				300S 850E	SWSE	19	1 N	69 W	S
3787	I	7		BELL NUBERT J JR RT 2 BOULDER, CO 80302		6		D	6/26/59				35.00	305	20		SWSE	19	1 N	69 W	S
145030	I	7		SINKEY BARRY L. BOULDER, CO 80301																	
	NP	6/16/86	WA		6			H				GW					NESW	19	1 N	69 W	S
105235	I	7		SINKEY BARRY L. 8280 VALMONT RD. BOULDER, CO 80302																	
	NP	1/25/79	CA	11/ 1/88	6			H								1390S 2270W	NESW	19	1 N	69 W	S
145031	I	7		SINKGY BARRY L. BOULDER, CO 80301																	
	NP	7/31/86				6		D				GW					NESW	19	1 N	69 W	S
11843AD	I	7		DE KLEFFER ROBERT 8170 VALMONT BOULDER, CO 80301																	
	AD	6/ 1/89	AR	6/12/89	5			H				GW				250S 2400W	SESW	19	1 N	69 W	S
48941	I	7		DEKLEFFER ROBERT 8170 VALMONT BOULDER, CO 80301		6		D	4/27/74				1.00	30	12		SESW	19	1 N	69 W	S
105201H	I	7		KITTREDGE CHRIS 8201 BASELINE RD BOULDER, CO 80203																	
	TH	6/ 6/85			6			O				GW					SWSW	19	1 N	69 W	S
22767	I	7		DEXTER RODNEY C RT 1 LAFAYETTE, CO 80026		6		D	2/ 3/65				30.00	180	50		NENE	20	1 N	69 W	S
27205	I	7		SMITH LEROI L 3533 95TH ST BOULDER, CO 80302		6		D	5/16/66				4525.90	100			NENE	20	1 N	69 W	S
150340	A I	7		WARNER HAROLD BOULDER, CO 80301																	
	NP	2/ 1/83				6		D				GW					NWNE	20	1 N	69 W	S

27902	I	7	WERTMAN JACOB W BOX 340 RT 1 LAFAYETTE, CO 80026	6	D	7/ 5/66			25.00	90	12			NESW 21	1 N 69 W S
49951	I	7	HODGSON ELDEN 3298 95TH BOULDER, CO 80302	6	D	2/ 7/72		1.00	15.00	148				NWSW 21	1 N 69 W S
5101	I	7	KOLB EILEEN BOULDER, CO 80302	6	D	1/12/60			7.00	62	5			SESW 21	1 N 69 W S
171511	I	7	BROWNSVILLE WTR & SAN DIST 11210 FLATIRON DR. LAFAYETTE, CO 80026												
	NP	3/ /73 EP 4/19/74			M									NENE 22	1 N 69 W S
4572AD	I	7	ERZEN PAUL P. LAFAYETTE, CO 80026												
	AD				D									SENE 22	1 N 69 W S
153474	I	7	WRIGHT HERB 1215 16TH ST GOLDEN, CO 80401												
	NP	1/24/89 AR 2/15/89		6	D			GW	4.00	150	13	1647N	1100E	SENE 22	1 N 69 W S
13523F	I	7	GRAHAM ROY E 10405 ISABELLE RD LAFAYETTE, CO 80026	6	I	12/17/69			40.00	15	5			SWNW 22	1 N 69 W S
34864	I	7	GRAHAM ROY E 10405 ISABELLE RD LAFAYETTE, CO 80026	6	S				12.00	18	9			SWNW 22	1 N 69 W S
337391	I	7	MC DONALD MITCHELL LAFAYETTE, CO 80026												
	NP	4/28/88 AR 5/16/88		6	I			KLF						NWSW 22	1 N 69 W S
137441	I	7	COLORADO ROSE INC 10500 ISABELL RD LAFAYETTE, CO 80026	6	I	6/23/69			52.00	47	8			SWSW 22	1 N 69 W S
13975F	I	7	PFEIFER CLARENCE P. JR. 10452 ISABELLE RD. LAFAYETTE, CO 80026	6	C	5/ 1/70		10.00	55.00	22		830S	30W	SWSW 22	1 N 69 W S
29407	I	7	BRACE HERBERT & VADA RT 1 LAFAYETTE, CO 80026	6	D	12/ 5/66			20.00	200				SWNE 23	1 N 69 W S
56561	I	7	BEDDO DEARAL W 11210 FLATIRON DR LAFAYETTE, CO 80026	6	DS	7/ 1/68		14.00	15.00	15		80N	485W	NWNW 23	1 N 69 W S
132127	I	7	BERRY J R LAKEWOOD, CO 80215												
	NP	7/14/83		6	DS									SENW 23	1 N 69 W S
46161	I	7	SKAAR LEROY R RT 1 BOX 106 LAFAYETTE, CO 80026	6	D	6/11/71			7.00	145	15			SWNW 23	1 N 69 W S
1615	I	7	BRENNAN JAMES EST DENVER, CO 80202	6	D	9/ 8/58			10.00	458	18			NWSW 23	1 N 69 W S
70918	I	7	SKAAR LEROY R. 11251 E. ISABELLE RD. LAFAYETTE, CO 80026	6	H	12/20/73			2.00	67	10	1105	2084W	SESW 23	1 N 69 W S
5479N	I	7	LUNRY ELLEN R R R 2 BX 126 BOULDER, CO 80302												
			NP 4/25/60	6	D				10.00	225				NENE 24	1 N 69 W S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD MD DB USE		1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
16558R	I		7	LUNRY ELLEN R RR 2 BOX 126 BOULDER, CO 80302															
					6	I					600.00	225	225		NENE	24	1 N	69 W	S
4174	I		7	VANDEWALL HENRY RT 1 LAFAYETTE, CO 80026															
					6	D	8/13/59				12.00	282	96		NWNW	24	1 N	69 W	S
155778	I		7	HARBER AARON P O BOX 523 LAFAYETTE, CO 80026															
	NP	8/30/89 AR 10/17/89			6	D				KLF				2750S 500W	SWNW	25	1 N	69 W	S
27675	I		7	PHILLIPS RONALD 2555 N 119TH ST LAFAYETTE, CO 80026															
					6	D	6/20/66				8.00	200	40		NENE	26	1 N	69 W	S
40352	I		7	BROWN CLAUDE D & BROWN CLAUDE D. LAFAYETTE, CO 80026															
					6	D	2/23/70				20.00	400	60		NENE	26	1 N	69 W	S
90258	A	I	7	PRICE R. LAFAYETTE, CO 80026															
	NP	3/22/85			6	D	6/ 6/85								NWNE	26	1 N	69 W	S
54331	I		7	ERIE COLORADO CITY OF ERIE, CO 80516															
					6	M	11/ 4/63				18.00	370	230		NWNE	26	1 N	69 W	S
90258	I		7	PRICE REX 2971 N. 119TH ST. LAFAYETTE, CO 80026															
					6	D	5/ 1/85		1.00		15.00	500	80	125N 2050E	NWNE	26	1 N	69 W	S
149713	I		7	SULLIVAN TIMOTHY B. BOULDER, CO 80302															
	NP	9/ 8/87 VA			6	H				KLF					SENE	26	1 N	69 W	S
123057	I		7	HARTEN HARTY & PATRICIA P. O. BOX 379 LAFAYETTE, CO 80026															
					6	H	1/ 3/86				15.00	500	170	2100N 330E	SENE	26	1 N	69 W	S
104026	I		7	BALL W E LAKEWOOD, CO 80226															
	NP	11/16/81 RC 11/16/81			6	H									SWNE	26	1 N	69 W	S
134921	I		7	NICHOALDS H BOULDER, CO 80306															
	NP	4/ 2/84 RC 4/ 2/84			6	H									SWNE	26	1 N	69 W	S
27102	I		7	NICHOALDS H BOX 145 LAFAYETTE, CO 80026															
					6	D	6/ 3/66				40.00	500	20		SWNE	26	1 N	69 W	S
88221	I		7	NICHOALDS HARRY P.O. BOX 1257 BOULDER, CO 80306															
					6	H	2/27/77				15.00	660	31	1950N 1500E	SWNE	26	1 N	69 W	S
42927	A	I	7	HORST T LAFAYETTE, CO 80026															
	NP	8/10/79			6	D									NENE	27	1 N	69 W	S
42654	I		7	HORST CHERYL L. & THOMAS A. 2801 N. 111TH ST. LAFAYETTE, CO 80026															
					6	D	8/31/70		1.00		5.00	150	30	300N 600E	NENE	27	1 N	69 W	S
42927	I		7	HORST THOMAS A & CHEYRL L 10921 ROSALIE DR DENVER, CO 80202															
					6	D	9/ 3/70				30.00	48	10		NENE	27	1 N	69 W	S
20967	I		7	HERNIG ARTHUR T RT 1 BOULDER, CO 80302															
					6	D	8/ 3/64				30.00	400			SWNE	27	1 N	69 W	S
64762	I		7	SHARP LOUIS E 2879 N 107TH LAFAYETTE, CO 80026															
					6	D	11/ 2/72		1.00		1.50	200	32	600N 2490W	NENW	27	1 N	69 W	S
27778	I		7	STRIEBY ROBERT A 2146 N 107TH LAFAYETTE, CO 80026															
					6	D	7/ 5/66				14.00	400	50		NWSE	27	1 N	69 W	S
4310	I		7	BERGSTROM L L & BERGSTROM MAYBELLE 10869 ARAPAHOE RD LAFAYETTE, CO 80026															
					6	D	9/10/59				30.00	340	70	269S 1539E	SWSE	27	1 N	69 W	S
121913	I		7	EDWARDS W F LAFAYETTE, CO 80026															
	NP	7/21/81 AR 8/18/81			6	D									NESW	27	1 N	69 W	S
52605	I		7	HOXNESS D. D. 2117 STONEHENGE CIR. LAFAYETTE, CO 80026															
					6	D	6/29/72		1.00		6.00	32	12	1800S 1500W	NESW	27	1 N	69 W	S
56186	I		7	LEWIS BRIAN A. 2159 STONEHENGE CIR. LAFAYETTE, CO 80026															
					6	D	3/31/74		1.00		12.00	33		1900S 1500W	NESW	27	1 N	69 W	S

PERMIT	D CO ACTIVITY CO	DATE	CO	STATUS DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
63870	I		7		SHAFFER JOYCE 1542 QUIVIRA DR DENVER, CO 80229		6	D		9/ 1/72		1.00		15.00	605	28	1835S 1975W	NESW	27	1 N	69 W	S
79565	I		7		PERICHETTI JAMES T & JOANN M 2042 SALISBURY CT LAFAYETTE, CO 80026		6	D		4/20/77		1.00		12.00	165	25	1950S 1910W	NESW	27	1 N	69 W	S
26032	I		7		NEWHAUSER JOHN 1700 MAPLE GLN LAFAYETTE, CO 80026		6	D		1/15/66				20.00	48	44		SESW	27	1 N	69 W	S
48421	I		7		SCOTT LESLIE O 546 EMERY ST LONGMONT, CO 80501		6	D		9/ 3/71				15.00	427	150		SESW	27	1 N	69 W	S
63872	I		7		KERN WILLIAM C 215 MARBLE S #306 BROOMFIELD, CO 80020		6	D		9/27/72				15.00	310	65	1175S 1425W	SESW	27	1 N	69 W	S
70944	I		7		SWIFT JOHN E. 1750 STONEHENGE DR. LAYATTE, CO 80026		6	D		5/ 5/72		1.00		15.00	32 gal		800S 1900W	SESW	27	1 N	69 W	S
	I		7		BOULTER S L LAFAYETTE, CO 80026		6											SWSW	27	1 N	69 W	S
	TW	12/ 7/83																				
146845	A I		7		MILLER RICHARD P. GOLDEN, CO 80403		6	D					KLF					SWSW	27	1 N	69 W	S
	NP	10/27/86		PI																		
134261	I		7		BOULTER S L LAFAYETTE, CO 80026		6	D										SWSW	27	1 N	69 W	S
	NP	1/ 4/84																				
	I		7		ROBERTS J K BOULDER, CO 80301		6	N										SENE	28	1 N	69 W	S
	AP	7/10/78																				
39574D	I		7		KRETZ ROBERT L. LAFAYETTE, CO 80026			I										SWNE	28	1 N	69 W	S
	AD																					
63864	I		7		KRETZ ROBERT BOX 266 LAFAYETTE, CO 80026		6	D		8/30/73		20.00		15.00	132	40	1730N 3240W	SWNE	28	1 N	69 W	S
73133	I		7		REICH JIM 800 S 68TH BOULDER, CO 80303		6	N		5/22/75				8.00	120	25	1730N 1746E	SWNE	28	1 N	69 W	S
86355	I		7		GOSNELL GARY J. 9826 PHILLIPS RD. LAFAYETTE, CO 80026		6	N		9/10/76				15.00	268	12	2192N 1665E	SWNE	28	1 N	69 W	S
82727	I		7		KELSEY CHARLES A. 2892 95TH ST. BOULDER, CO 80301		6	D		3/16/76		1.00		15.00	180	21	400N 100W	NWNW	28	1 N	69 W	S
82728	I		7		KELSEY EDNA E 2668 N 95TH ST BOULDER, CO 80301		6	D		3/23/76		1.00		15.00	200	6	1250N 200W	NWNW	28	1 N	69 W	S
1607AD	I		7		WEBB CLYDE E. WESTMINSTER, CO 80030			I										NESE	28	1 N	69 W	S
	AO																					
3113AD	I		7		ALPENFELS II H. L. LAFAYETTE, CO 80026			I										NESE	28	1 N	69 W	S
	AD																					
38900	I		7		WEBB CLYDE E 10261 ARAPAHOE LAFAYETTE, CO 80026		6	D		8/25/69				25.00	6	14		NESE	28	1 N	69 W	S
34564	I		7		REID JIM 3550 MADISON AVE BOULDER, CO 80302		6	D		7/18/68				5.00	103	30		SESE	28	1 N	69 W	S
85471	I		7		SHEWBERT KENNETH BOX 308 LAFAYETTE, CO 80026		6	N		4/ 8/77				15.00	200	35	130S 63E	SESE	28	1 N	69 W	S
148212	I		7		COHAGEN JOHN R. C/O P O BOX 850 LOUISVILLE, CO 80027		6	D					KLF				1800S 2370W	NESW	28	1 N	69 W	S
	NP	4/27/87		CA 6/30/88																		
148211	I		7		COHAGEN JOHN R. C/O P O BOX 850 LOUISVILLE, CO 80027		6	D					KLF				2400S 2370W	NESW	28	1 N	69 W	S
	NP	4/27/87		CA 6/30/88																		
148151	I		7		COHAGEN JOHN R. LOUISVILLE, CO 80027		6	D					KLF					NWSW	28	1 N	69 W	S
	NP	4/27/87																				

PERMIT	D CO ACTIVITY CO	DATE	CO	STATUS DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
151585	I		7		COHAGEN JOHN P.O. BOX 850 LOUISVILLE, CO 80027		6	B					GW				1800S 600W	NWSW	28	1 N	69 W	S
	NP	6/ 3/88																				
151584	I		7		COHAGEN JOHN P.O. BOX 850 LOUISVILLE, CO 80027		6	B					GW				2400S 600W	NWSW	28	1 N	69 W	S
	NP	6/ 3/88																				
46162	I		7		SOUTHARD DEWAYNE A 251 RIDGE RD BOULDER, CO 80302		6	D		6/ 2/71				15.00	210	15		NWSW	28	1 N	69 W	S
45409	I		7		WEYNAND MARY 4711 KIPLING ST WHEATRIDGE, CO 80033		6	D		5/ 6/71				15.00	210	25		SESW	28	1 N	69 W	S
55116	I		7		COWLEY JODIE C 1890 N 95TH ST BOULDER, CO 80301		6	D		5/22/72		8.00	GW	25.00	220	40	1199S 135W	SWSW	28	1 N	69 W	S
	NP	3/21/72																				
146659	I		6		BIXLER COMPANY BOULDER, CO 80301		7	DS					GW					NE	29	1 N	69 W	S
	NP	10/21/86																				
151195A	I		7		OVERFELT LEROY 5605 N 115TH LONGMONT, CO 80501		6	D		5/ 1/48		1.00	GW	15.00	16			NENE	29	1 N	69 W	S
	NP	4/18/88																				
151195	A I		7		OVERFELT LEROY 5605 N. 115TH LONGMONT, CO 80501		6	D		5/ 1/48		1.00	GW	15.00	16	40	1313N 75E	NENE	29	1 N	69 W	S
	NP	4/18/88																				
146659	I		7		THE BIXLER COMPANY 2345 N 95TH ST BOULDER, CO 80301		6	D		9/10/50				25.00	190		2580N 123E	SENE	29	1 N	69 W	S
5033AD	I		7		TARRALL M. T. BOULDER, CO 80301			D										NWNW	29	1 N	69 W	S
	AD																					
61083	I		7		HILTY R WILLIAM JR 4766 KELLOGG CIR BOULDER, CO 80303		6	DS		5/13/73		12.00		10.00	185	18	600N 330W	NWNW	29	1 N	69 W	S
61084	I		7		CHARLES ROBERT T. JR. 2955 PARKLANE DR. BOULDER, CO 80301		6	D		5/11/73		1.00		15.00	320	1	200N 100W	NWNW	29	1 N	69 W	S
67553	I		7		LADWIG LEWIS R 2813 LAGRANGE BOULDER, CO 80303		6	D		3/ 7/77		1.00		15.00	200		1091N 1003W	NWNW	29	1 N	69 W	S
68344	I		7		DOWNING MANCOURT 820 10TH ST BOULDER, CO 80302		6	N		6/ 8/73				15.00	182	18	900N 475W	NWNW	29	1 N	69 W	S
77589	I		7		BRITTIN WESLEY E. 2425 VASSAR DR. BOULDER, CO 80303		6	N		5/ 2/77				15.00	210	62	300N 1000W	NWNW	29	1 N	69 W	S
77985	I		7		TARRALL M. T. 2667 PARK LAKE DR. BOULDER, CO 80301		6	N		10/18/75				15.00	198		1300N 550W	NWNW	29	1 N	69 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
82725	I	7			EBERSOLE LESTER O. 10203 ARAPAHOE RD. LAFAYETTE, CO 80026	6			H	3/19/76				15.00	225	22	1400N 500E	SENE	33	1 N	69 W S
146321	I	7			ROLLINS RICHARD R. BROOMFIELD, CO 80020																	
	NP	11/25/86				6			D				KLF					SWNE	33	1 N	69 W S
84934	I	7			DUDLEY KYLE E. 2150 W. UNION ENGLEWOOD, CO 80110	6			H	7/31/76				15.00	225	29	2150N 1450E	SWNE	33	1 N	69 W S
39294	I	7			TULL JIM 410 S 41TH ST BOULDER, CO 80302	6			D	9/23/69				30.00	100	20		NENW	33	1 N	69 W S
47884	I	7			MANNING ROBERT 9600 E ARAPAHOE BOULDER, CO 80302	6			D	8/ 4/71				15.00	82	20		NENW	33	1 N	69 W S
49566	I	7			KINTZLE HAROLD 5833 URBAN CT ARVADA, CO 80001	6			D	11/ 2/71				15.00	77	14		NENW	33	1 N	69 W S
7572	I	7			REINIER KENZIE L RT 1 LOUISVILLE, CO 80027	6			D	11/31/60				1.00	93	20		SWSW	33	1 N	69 W S
90545	I	7			RAZO J E LAFAYETTE, CO 80026																	
	NP	4/29/77	AR	5/12/77		6			D									NENE	34	1 N	69 W S
60163	A I	7			STONES F LAFAYETTE, CO 80026																	
	NP	4/ 1/81				6			D									NENE	34	1 N	69 W S
38801	I	7			MCBRIDE JAMES W 10960 ARAPAHOE RD LAFAYETTE, CO 80026	6			D	7/29/69				40.00	400	20		NENE	34	1 N	69 W S
60163	I	7			STONES FRED W & GENEVIEVE L 402 E CLEVELAND LAFAYETTE, CO 80026	6			D	8/11/72				15.00	460	40		NENE	34	1 N	69 W S
60164	I	7			STONES FRED B & MARGIE E 503 E CLEVELAND LAFAYETTE, CO 80026	6			D	3/ 5/74				15.00	480	40		NENE	34	1 N	69 W S
91378	I	7			BEERY R ARVADA, CO 80003																	
	NP	6/ 6/77	AR	6/27/77		6			D	9/24/85				15.00	520	85		NWNE	34	1 N	69 W S
15832	I	7			LAW LLOYD L 1524 N MAIN LONGMONT, CO 80501	5			D	6/14/63				20.00	40	13		NWNE	34	1 N	69 W S
47092	I	7			BROWN HAROLD L BOX 42 ERIE, CO 80516	6			D	7/ 9/71				15.00	475	50		SENE	34	1 N	69 W S
68232	I	7			DE NOVELLIS ROBERT W 111 WEST CHESTER LAFAYETTE, CO 80026	6			D	4/18/73				15.00	515	140	1645N 628E	SENE	34	1 N	69 W S
63869	I	7			BOKAN MIKE PO BOX 87 LAFAYETTE, CO 80026	6			D	9/23/72				15.00	560	100	1820N 2140E	SWNE	34	1 N	69 W S
66115	I	7			WEEMS BEN F 10364 ARAPAHOE LAFAYETTE, CO 80026	6			D	4/22/75				15.00	480	85	800N 1250W	NWNW	34	1 N	69 W S
54067	I	7			WEEMS BEN F. 10364 ARAPAHOE LAFAYETTE, CO 80026	6			D	5/15/72		80.00		15.00	520	80		SWNW	34	1 N	69 W S
14554	I	7			NUCCI BROS LAFAYETTE, CO 80026	6			D	4/ 3/63				3.00	490	40		NESE	34	1 N	69 W S
15228	I	7			SHERRATT FRANK 503 W BASELINE LAFAYETTE, CO 80026	6			D	5/17/63				11.00	360	45	125S 95E	SESE	34	1 N	69 W S
29806	I	7			WILLIAMS RICHARD 10912 LYNN AVE LAFAYETTE, CO 80026	6			D	2/14/67				15.00	60	12		SESE	34	1 N	69 W S
93109	I	7			CHMIEL LEONARD & JOHANNA P 555 N 111TH AVE LAFAYETTE, CO 80026	6			D	6/ 8/62		1.00		15.00	22		1086S 164E	SESE	34	1 N	69 W S
	I	7			HELIOS STATION ENGLEWOOD, CO 80111																	
	AP	1/13/86	AU	7/23/87		6			I				GW					SW	35	1 N	69 W S

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91405	A I	7			WANEKA C LAFAYETTE, CO 80026																	
	NP	5/27/77	AR	6/17/77		6			D	9/24/85								NESE	35	1 N	69 W S
91405	I	7			WANEKA CHARLES D. 11761 E. BASELINE RD. LAFAYETTE, CO 80026	6			D	7/ 7/77		1.00		15.00	520	153	2139S 104E	NESE	35	1 N	69 W S
21786F	I	7			WANEKA CHARLES D. RT 1, BOX 188 LOUISVILLE, CO 80027	6			DS	6/ 1/68		1.00		60.00			175S 1005E	SESE	35	1 N	69 W S
16891	I	7			VIGIL JOSEPH 607 E BASELINE LAFAYETTE, CO 80026	6			D	8/23/63				4525.90	40			SWSE	35	1 N	69 W S
20426	I	7			HOON ELMER E 509 E BASELINE LAFAYETTE, CO 80026	6			D	6/30/64				20.00	224	220		SWSE	35	1 N	69 W S
56189	I	7			STENGEL JAMES J 6765 BASELINE RD BOULDER, CO 80301	6			D	4/24/72				12.00	200	30		SWSE	35	1 N	69 W S
110518	I	7			WILSON JAMES 501 S LONGMNT AV LAFAYETTE, CO 80026	6			I					50.00	29	24		SESW	35	1 N	69 W S
109988	I	7			LAFAYETTE CITY OF 201 E SIMPSON LAFAYETTE, CO 80026	6			M	7/ 7/66				50.00	600	100		SWSW	35	1 N	69 W S
85944D	I	7			L.C.I. COMPANY DENVER, CO 80210																	
	AD								S									NENE	36	1 N	69 W S
114284	I	7			ROGERS I DENVER, CO 80210																	
	EX	4/23/80				6			H									NENE	36	1 N	69 W S
115835	I	7			MUNN F BROOMFIELD, CO 80020																	
	NP	7/21/80				6			H									NENE	36	1 N	69 W S
147796	I	7			HAMMOND LARRY LOUISVILLE, CO 80027																	
	NP	3/17/87	PI			6			D				KLF					NENE	36	1 N	69 W S
	I	7			DONLEY J D LAFAYETTE, CO 80026																	
	AP	7/ 5/83	AU	8/ 4/83		6			H									NWNE	36	1 N	69 W S
70246	A I	7			DONLEY JERRY 12420 ARAPAHOE RD LAFAYETTE, CO 80026																	
	NP	1/24/84	CA	4/12/89		6			D				KLF				200N 2375E	NWNE	36	1 N	69 W S
149101	I	7			DONLEY JERRY D. LAKEWOOD, CO 80226																	
	NP	10/17/86				6			H				KLF					NWNE	36	1 N	69 W S
349331	I	7			PROUD TIMOTHY/DONLEY J. 12420 ARAPAHOE RD LAFAYETTE, CO 80026																	
	NP	2/24/89				6			H				KLF				200N 2375E	NWNE	36	1 N	69 W S

56189		7 STENGEL JAMES J																			
				6		D	4/24/72														
110518	I	7 WILSON JAMES 501 S LONGMNT AV LAFAYETTE, CO 80026																			
				6		I					50.00	29	24					SESW	35	1 N	69 W S
109981	I	7 LAFAYETTE CITY OF 201 E SIMPSON LAFAYETTE, CO 80026																			
				6		M	7/ 7/66				50.00	600	100					SWSW	35	1 N	69 W S
8594AD	I	7 L.C.I. COMPANY DENVER, CO 80210																			
	AD					S												NENE	36	1 N	69 W S
114284	I	7 ROGERS I DENVER, CO 80210																			
	EX	4/23/80		6		H												NENE	36	1 N	69 W S
115835	I	7 MUNN F BROOMFIELD, CO 80020																			
	NP	7/21/80		6		H												NENE	36	1 N	69 W S
147796	I	7 HAMMOND LARRY LOUISVILLE, CO 80027																			
	NP	3/17/87 PI		6		D				KLF								NENE	36	1 N	69 W S
	I	7 DONLEY J D LAFAYETTE, CO 80026																			
	AP	7/ 5/83 AU 8/ 4/83		6		H												NWNE	36	1 N	69 W S
70246	A I	7 DONLEY JERRY 12420 ARAPAHOE RD LAFAYETTE, CO 80026																			
	NP	1/24/84 CA 4/12/89		6		D				KLF							200N	2575E	NWNE	36	1 N	69 W S
149101	I	7 DONLEY JERRY D. LAKEWOOD, CO 80226																			
	NP	10/17/86		6		H				KLF								NWNE	36	1 N	69 W S
34935F	I	7 PROUD TIMOTHY/DONLEY J. 12420 ARAPAHOE RD LAFAYETTE, CO 80026																			
	NP	2/24/89		6		M				KLF							200N	2375E	NWNE	36	1 N	69 W S
70246	I	7 DONLEY JERRY D. 6861 LAMAR ST. ARVADA, CO 80003																			
				6		DS	2/ 4/74		1.00		9.00	235	100			200N	2385E	NWNE	36	1 N	69 W S
80438	I	7 KELL ALEXANDER 5885 W 38TH AVE DENVER, CO 80212																			
				6		D	4/ 3/76		20.00		8.00	500	60			1645N	250E	SENE	36	1 N	69 W S
133084	I	7 KOTS R W LAFAYETTE, CO 80026																			
	NP	9/22/83		6		H												SWNE	36	1 N	69 W S
149150	I	7 PETERSON STEVEN M. 1220 DELPHI DR LAFAYETTE, CO 80026																			
	NP	6/ 4/87 CA 9/30/88		6		H				KLF							1426N	2210E	SWNE	36	1 N	69 W S
150740	I	7 RITTCOMROP TRANCONSRI LAFAYETTE, CO 80026																			
	NP	2/26/88 NP		6		H				KLF								SWNE	36	1 N	69 W S
152552	I	7 POWELL DANA 285 SUTTON CIR LAFAYETTE, CO 80026																			
	NP	9/ 6/88 AR 9/19/88		6		D				KLF	780.00	540	540			1400N	2200E	SWNE	36	1 N	69 W S
38610	I	7 BURT RAY W 1160 N 119TH ST LAFAYETTE, CO 80026																			
				6		D	7/21/69				25.00	500	80					SWNW	36	1 N	69 W S
75286	I	7 WICKS FREDERICK 12699 E. BASELINE RD LAFAYETTE, CO 80026																			
				6		H	8/16/74				15.00	500	150			1652S	200E	NESE	36	1 N	69 W S

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48085	I	7				MEEKS JAMES L 1130 N 119TH ST LAFAYETTE, CO 80026		6		D	8/16/73				15.00	475	40		NWSE	36	1 N	69 W	S
10010	R I	7				LAFAYETTE CITY LAFAYETTE, CO 80026																	
	NP		11/ 1/79					6		M									SESE	36	1 N	69 W	S
10010F	I	7				LAFAYETTE CITY OF LAFAYETTE, CO 80026																	
								6		M	6/ 2/65				30.00	600	35	810S 775E	SESE	36	1 N	69 W	S
26031	I	7				NEUHAUSER JOHN 1700 MAPLE GLN LAFAYETTE, CO 80026																	
								6		D	1/ 7/66				20.00	38	34		SESE	36	1 N	69 W	S
10758	I	7				MASTERS JOE RT 1 LAFAYETTE, CO 80026																	
								6		D	2/21/62				50.00	41	20		SWSE	36	1 N	69 W	S
15654	I	7				TOBEY EUGENE LAFAYETTE, CO 80026																	
								6		D	5/29/63				8.00	75	16		SWSE	36	1 N	69 W	S
66500	I	7				SPINNER FRANK 7031 GRAPE ST COMM CITY, CO 80022																	
								6		D	4/ 3/73				15.00	510	65	500S 2200E	SWSE	36	1 N	69 W	S
37968	A I	7				MEEKS ERLEEN BOULDER, CO 80302																	
	NP		9/30/87 WA					6		D				KLF					NWSW	36	1 N	69 W	S
151617	I	7				BRESLER NEIL 1002 N 119TH ST LAFAYETTE, CO. CO 80026																	
	NP		5/31/88					6		D				KLF				1575S 400W	NWSW	36	1 N	69 W	S
37968	I	7				MEEKS JAMES L 14295 E 14TH AVE AURORA, CO 80010																	
								6		D	7/ 8/69				25.00	516	80		NWSW	36	1 N	69 W	S
120049	A I	7				HENDRICKS T LAFAYETTE, CO 80026																	
	NP		2/24/81 AR		5/11/81			6		D									SESW	36	1 N	69 W	S
10422R	I	7				BISHOP WILLARD LAFAYETTE, CO 80026																	
								6		I					200.00	28	16		SESW	36	1 N	69 W	S
18881	I	7				VINCENT RICHARD LAFAYETTE, CO 80026																	
								2		D	2/24/64				20.00	40	14		SESW	36	1 N	69 W	S
18992	I	7				VIGIL RUDY 601 E CHESTER LAFAYETTE, CO 80026																	
								2		D	3/20/64				15.00	43	12		SESW	36	1 N	69 W	S
20550	I	7				BRANAMAN LILA 12121 E.BASELINE RD. LAFAYETTE, CO 80026																	
								6		D	7/11/78		1.00		5.00	61	12	5100N 2600W	SESW	36	1 N	69 W	S
23008	I	7				LAMPHERE E LAFAYETTE, CO 80026																	
								6		S	3/ 6/65				20.00	40	22		SESW	36	1 N	69 W	S
23009	I	7				DIETERS FRED G 6500 E 88TH HENDERSON, CO 80640																	
								6		D	3/ 9/65				20.00	40	10		SESW	36	1 N	69 W	S
24040	I	7				ERICKSON M R LAFAYETTE, CO 80026																	
								6		D	5/25/65				20.00	40	10		SESW	36	1 N	69 W	S
24041	I	7				EIFLER JOHN LAFAYETTE, CO 80026																	
								6		D	5/26/65				20.00	40	8		SESW	36	1 N	69 W	S
24042	I	7				LENOK L I C6 SANS SOUCE PK BOULDER, CO 80302																	
								6		D	5/27/65				20.00	40	10		SESW	36	1 N	69 W	S
49552	I	7				BECKY J R & B J ACRES RT 2 BOX 304 LONGMONT, CO 80501																	
								6		D	10/28/71				15.00	68	8		SESW	36	1 N	69 W	S
120049	I	7				HENDRICKS TERRY P.O. BOX 246 LAFAYETTE, CO 80026																	
								6		D	5/20/62				15.00	40		170S 2600W	SESW	36	1 N	69 W	S
2443	I	7				BISHOP LILA & DONALD R F D1 BX 39 A LAFAYETTE, CO 80026																	
								6		D	11/15/58				1.00	52	24		SWSW	36	1 N	69 W	S
2444	I	7				BISHOP WILLARD R F D1 BX 39 A LAFAYETTE, CO 80026																	
								6		D	11/19/58				30.00	33	11		SWSW	36	1 N	69 W	S

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25398	I	7			PATTON SHERMAN R BOX 172 LAFAYETTE, CO 80026	6		D		9/21/65				15.00	40	4		SWSW	36	1 N	69 W	S
32565	I	7			LEMOX L I LAFAYETTE, CO 80026	6		D		11/ 9/67				30.00	40	8		SWSW	36	1 N	69 W	S
38113	I	7			BISHOP PAUL LAFAYETTE, CO 80026	6		D		6/ 5/69				25.00	42	16		SWSW	36	1 N	69 W	S
110613	I	30			SKOW C DENVER, CO 80219													NWNE	16	5S	69 W	S
	NP		8/27/79			8		H														
130636	I	7			JINNETTE M E LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		4/14/83	AR	5/ 2/83	6		H														
110960	I	7			HILL D L LOUISVILLE, CO 80027													NWNE	1	1 S	69 W	S
	NP		7/11/79	RC	9/28/79	6		H														
114613	A I	7			CALVO F LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		5/28/80			6		D														
116894	I	7			ROMERO R LOUISVILLE, CO 80027													NWNE	1	1 S	69 W	S
	NP		10/ 3/80			6		H														
116895	I	7			ASKEW C BOULDER, CO 80303													NWNE	1	1 S	69 W	S
	NP		10/ 6/80			6		H														
119912	I	7			PETERSEN M B LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		4/24/81			6		H														
129411	I	7			SUNRISE DWELLI LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		1/26/83			2		H														
129268	I	7			SUNRISE DWELLI LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		1/26/83			2		H														
138525	I	7			SUNRISE DWELL LAFAYETTE, CO 80026													NWNE	1	1 S	69 W	S
	NP		1/10/85	AR	1/23/85	6		H														
32562	I	7			SANDAVAL FLORA M BOX 154 FLAG DR LAFAYETTE, CO 80026	6		D		11/15/67		1.00		15.00	447	33	220N 1820E	NWNE	1	1 S	69 W	S
117160	A I	7			ROCKWELL PARTN ERIE, CO 80516													SENE	1	1 S	69 W	S
	NP		6/ 7/82			6		DS														
32055F	I	7			JUDICIAL ARBITER GROUP BOULDER, CO 80301													SENE	1	1 S	69 W	S
	NP		9/30/86			6		N					KLF									
8824BVE	I	7			MOUNTAIN VIEW EGG FARMS 12680 BASELINE RD ERIE, CO 80516																	
	AP		7/25/88			6		C					GW				1990N 1100E	SENE	1	1 S	69 W	S
	I	7			KEHM D I LAFAYETTE, CO 80026																	
	AP		6/ 5/81			6		D										SWNE	1	1 S	69 W	S
114027	A I	7			KEHM D LAFAYETTE, CO 80026																	
	NP		4/30/80			6		D										SWNE	1	1 S	69 W	S
138862	I	7			THARP P R LAFAYETTE, CO 80026																	
	NP		1/14/85	AR	3/ 4/85	6		H										SWNE	1	1 S	69 W	S
120666	A I	7			KEHM D I LAFAYETTE, CO 80026																	
	NP		10/ 1/85	AR	12/ 4/85	6		D					KLF					SWNE	1	1 S	69 W	S
120666	I	7			KEHM DORIS I. P.O. BOX 352 LAFAYETTE, CO 80026	6		D		6/ /40				5.00	35		2400N 2000E	SWNE	1	1 S	69 W	S
114612	A I	7			MARTINEZ J LAFAYETTE, CO 80026																	
	NP		5/30/80			6		D										NWNW	1	1 S	69 W	S
87348	I	7			WANEKA CHARLES D. RT 1. BOX 188 LOUISVILLE, CO 80027	6		DS		1/ 1/		1.00		30.00			112N 392W	NWNW	1	1 S	69 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
87349	I	7			WANEKA CHARLES D. RT 1. BOX 188 LOUISVILLE, CO 80027	6		DS		1/ 1/		1.00		30.00			108N 218W	NWNW	1	1 S	69 W	S
113282	A I	7			MIRELES E LAFAYETTE, CO 80026																	
	NP		12/31/79			6		D										NESW	1	1 S	69 W	S
113285	A I	7			HEAVILIN F LAFAYE TE, CO 80026																	
	NP		1/28/80			6		D										NESW	1	1 S	69 W	S
	I	7			RICHARDSON H LAF YETTE, CO 80026																	
	AP		1/28/80			6		D										NWSW	1	1 S	69 W	S
113283	A I	7			RESENDEZ S LAFAYETTE, CO 80026																	
	NP		1/11/80			6		D										NWSW	1	1 S	69 W	S
113280	A I	7			GARCIA F LAFAYETTE, CO 80026																	
	NP		1/28/80			6		D										NWSW	1	1 S	69 W	S
113286	A I	7			BORREGO O LAFAYETTE, CO 80026																	
	NP		2/ 7/80			6		D										NWSW	1	1 S	69 W	S
113281	A I	7			PADILLA E LAFAYETTE, CO 80026																	
	NP		2/20/80			6		D										NWSW	1	1 S	69 W	S
114028	A I	7			NEVILLE J-B LAFAYETTE, CO 80026																	
	NP		4/30/80			6		D										NWSW	1	1 S	69 W	S
114026	A I	7			ASBURY L LAFAYETTE, CO 80026																	
	NP		4/30/80			6		D										NWSW	1	1 S	69 W	S
114368	A I	7			ARCHULETA S LAFAYETTE, CO 80026																	
	NP		5/16/80			6		D										NWSW	1	1 S	69 W	S
116155	I	7			SERTUCHE E LAFAYETTE, CO 80026																	
	NP		5/30/80	RC	8/ 6/80	6		H										NWSW	1	1 S	69 W	S
140196	I	7			MANZANARES D LAFAYETTE, CO 80026																	
	NP		5/22/85			6		D				1.00		8.00	33			NWSW	1	1 S	69 W	S
35458	I	7			BORREGO LEE R RT 1 BOX 138 LAFAYETTE, CO 80026	6		D		9/24/68				10.00	45	8		NWSW	1	1 S	69 W	S
83522	I	7			PEREZ MARIA ELISA 249 120TH ST. LAFAYETTE, CO 80026	6		D		3/17/77		1.00		15.00	595	200	2112S 35W	NWSW	1	1 S	69 W	S
44886	I	7			EMMERSON ALBERT A 122 N 120TH ST LAFAYETTE, CO 80026	6		D		3/24/71				20.00	614	120		SWSW	1	1 S	69 W	S
[illegible]	I	7			WANEKA [illegible] RT 1 BX 20 A LAFAYETTE, CO 80026													[illegible]	2	1 S	69 W	S

PERMIT	D CO	ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	OWNER INFORMATION	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	OTRS	SC	TOWN SHIP	RANGE	P M
87349		1	7			WANEKA CHARLES D. RT 1, BOX 188 LOUISVILLE, CO 80027	6		DS	1/ 1/			1.00		30.00			108N 218W	NWNW	1	1 S	69 W	S
113282	A	1	7	NP	12/31/79	MIRELES E LAFAYETTE, CO 80026	6		D										NESW	1	1 S	69 W	S
113285	A	1	7	NP	1/28/80	HEAVILIN F LAFAYETTE, CO 80026	6		D										NESW	1	1 S	69 W	S
		1	7	AP	1/28/80	RICHARDSON H LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
113283	A	1	7	NP	1/31/80	RESENDEZ S LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
113280	A	1	7	NP	1/28/80	GARCIA F LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
113286	A	1	7	NP	2/ 7/80	BORREGO O LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
113281	A	1	7	NP	2/20/80	PADILLA E LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
114028	A	1	7	NP	4/30/80	NEVILLE J B LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
114026	A	1	7	NP	4/30/80	ASBURY L LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
114368	A	1	7	NP	5/16/80	ARCHULETA S LAFAYETTE, CO 80026	6		D										NWSW	1	1 S	69 W	S
116155		1	7	NP	5/30/80 RC 8/ 6/80	SERTUCHE E LAFAYETTE, CO 80026	6		H										NWSW	1	1 S	69 W	S
140196		1	7	NP	5/22/85	MANZANARES D LAFAYETTE, CO 80026	6		D				1.00		8.00	33			NWSW	1	1 S	69 W	S
35458		1	7			BORREGO LEE A RT 1 BOX 138 LAFAYETTE, CO 80026	6		D		9/24/68				10.00	45	8		NWSW	1	1 S	69 W	S
83522		1	7			PEREZ MARIA ELISA 249 120TH ST. LAFAYETTE, CO 80026	6		D		3/17/77		1.00		15.00	595	200	2112S 35W	NWSW	1	1 S	69 W	S
44886		1	7			EMMERSON ALBERT A 122 N 120TH ST LAFAYETTE, CO 80026	6		D		3/24/71				20.00	614	120		SWSW	1	1 S	69 W	S
19809R		1	7			WANEKA CHAS D RT 1 BX 40 A LAFAYETTE, CO 80026	6		I		5/27/54				500.00	229	6617		NENE	2	1 S	69 W	S
35494		1	7			SMITH ROBERT O 7705 W 120 ST BROOMFIELD, CO 80020	6		D		10/ 5/68				20.00	185	105		SENE	2	1 S	69 W	S
127120		1	7			MCMULLAN LOWELL T. & AVIS 717 E. CHESTER ST. LAFAYETTE, CO 80026	6		D		/ /67		1.00		8.00	20		1500N 1600E	SWNE	2	1 S	69 W	S
83661		1	7			PARKER JAMES E. & BONNIE R. 500 E. CHESTER ST. LAFAYETTE, CO 80026	6		I		8/ 6/53		1.00		10.00	25		2350N 1800W	SENW	2	1 S	69 W	S
109354		1	7			YOSHIHARA EUGENE N 600 S PUBLIC RD LAFAYETTE, CO 80026	6		C		5/20/66				50.00	580	60		SWSW	2	1 S	69 W	S
20152R		1	7			DISTEL JOSEPH A & LOIS M 406 W CANNON ST LAFAYETTE, CO 80026	6		I		6/ 1/54				1001.00	215	20		SWSW	2	1 S	69 W	S
73203		1	7			MILLER JACK LAFAYETTE, CO 80026	6		D		10/12/62				15.00	215	150		NENE	3	1 S	69 W	S
13269		1	7			ANDERSON MIKE 805 SO PUBLIC RD LAFAYETTE, CO 80026	6		D		10/13/62				15.00	29	12		SENE	3	1 S	69 W	S

89436	1 7	PARKER R WARD, CO 80481	NP 3/28/77		6	D									NWSW	7	1 S	69 W S
11034	1 7	CLARK ARTHUR G LOUISVILLE, CO 80027			6	D	3/31/62				4525.90	300			NENW	8	1 S	69 W S
411RN	1 7	WAREMBOURG LEROY A 605 JOHNSON ST LOUISVILLE, CO 80027		NP 4/30/60	6	D	3/ /55				30.00	20	8		NESE	8	1 S	69 W S
769F	1 7	THOMAS QUENTIN C 700 LINCOLN AVE LOUISVILLE, CO 80027			6	I					8.00	22	8		NESE	8	1 S	69 W S
769RN	1 7	THOMAS QUENTIN C 700 LINCOLN AV LOUISVILLE, CO 80027	NP	NP 4/30/60	6	I	/ /28				8.00	22	8		NESE	8	1 S	69 W S
874RN	1 7	VAUGHN AMBROSE & AUDREY 701 LINCOLN AVE LOUISVILLE, CO 80027 LOT 910 BLOCK 9 PLEASANT HILL			6	D	6/ /54				10.00	25	12		NWSE	8	1 S	69 W S
399RN	1 7	SCHREITER LIN 404 COUNTY RD LOUISVILLE, CO 80027		NP 4/30/60	6	D	7/ /55				30.00	22	14		SESE	8	1 S	69 W S
12558R	1 7	MAYHOFFER J D RT 1 LAFAYETTE, CO 80026			6	I	5/ 1/32				900.00	175	55		SWSE	8	1 S	69 W S
139144	1 7	C.C.M.C. INC. LOUISVILLE, CO 80027	NP 6/25/84	WA	6	C				KLF					SSE	9	1 S	69 W S
11081F	1 7	TELLEEN J B DEVELOPMENT COR C/O 2950 PEARL ST BOULDER, CO 80302			6	M	10/28/68				1500.00	245	11		NWNE	9	1 S	69 W S
15533R	1 7	HARNEY BROTHERS LOUISVILLE, CO 80027			6	I					200.00	256	35		NWNW	9	1 S	69 W S
147909	1 7	C.C.M.C. INC. LOUISVILLE, CO 80027	NP 4/23/87		6	C				KLF					S SE	9	1 S	69 W S
21751	1 7	THOMAS CHARLES K RT 1 LAFAYETTE, CO 80026			6	D	10/ 2/64				20.00	575	200		SESE	9	1 S	69 W S
22016F	1 7	THOMAS BOULDER, CO 80302	NP 3/30/76	AR 1/10/77	6	I									SWSE	9	1 S	69 W S
151552	1 7	HAFNER LAWRENCE 4599 N BROADWAY LOUISVILLE, CO 80027	NP 5/23/88		6	D				GW				1100S 1900E	SWSE	9	1 S	69 W S
151562	A 1 7	HAFNER LAWRENCE P.O. BOX 12 LOUISVILLE, CO 80302	NP 5/23/88		6	D				KLF				1000S 1900E	SWSE	9	1 S	69 W S
119723	1 7	TROUSIL ROBERT E. 195 CONTINENTAL VW RD BOULDER, CO 80303			6	C	10/30/82				4.00	32	20	1380S 520W	NWSW	9	1 S	69 W S
40820	1 7	CLINE W K 10664 S BOULDR RD LAFAYETTE, CO 80026			6	D	4/ 6/70				30.00	425	30		NENE	10	1 S	69 W S
12285R	1 7	BEAUPREZ ARTHUR R 1 BX 138 LAFAYETTE, CO 80026			6	I			20.00		1000.00	170	10		NWNW	10	1 S	69 W S
1324	1 7	SWINBURG EDWARD RT 1 LAFAYETTE, CO 80026			6	D	6/ 5/58				20.00	469	110		NESE	10	1 S	69 W S
66822	1 7	WILEY F 2084 E 115TH AVE DENVER, CO 80233			6	H	8/ 5/73				5.00	50	4	1900S 1100E	NESE	10	1 S	69 W S
11519AD	1 7	SCOTT ROBERT D. BROOMFIELD, CO 80020	AD 2/18/87		6	C				GW					SESE	10	1 S	69 W S

PERMIT	D CO	OWNER INFORMATION	ACTIVITY CD DATE	STATUS CD DATE	WD	MD DB USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWNSHIP	RANGE PM
8969	1 7	MARTIN BELLA RT 1 LAFAYETTE, CO 80026			6	D	6/23/61				10.00	575	180		SESE	10	1 S	69 W S
13733F	1 7	MELVIN DONNELL 2950 CHERRY DENVER, CO 80207	NP 1/28/69	EP 4/28/70		I									SWSE	10	1 S	69 W S
111090	A 1 7	ZUPPAS J LAFAYETTE, CO 80026	NP 10/ 3/79		6	D									SWSE	10	1 S	69 W S
3713	1 7	DANGREAU F 1125 PINE ST LOUISVILLE, CO 80027			6	D	6/20/59				10.00	31	14		SWSE	10	1 S	69 W S
15596F	1 7	PATE NANCY LEE 3325 13TH ST BOULDER, CO 80302			6	I	7/10/69				500.00	294	12		SWSE	10	1 S	69 W S
142139	1 7	LOSASSO R J LAFAYETTE, CO 80026	NP 11/13/85		6	H				KLF					SESW	10	1 S	59 W S
66114	1 7	LOSASSO GERALD F 7076 JAY ST ARVADA, CO 80003			6	DS	6/18/73				15.00	570	200	160S 1328W	SESW	10	1 S	69 W S
82726	1 7	NEUMANN JOHN R. 5061 W. 101ST AVE. WESTMINSTER, CO 80030			6	H	11/11/76				12.00	575	200	250S 2078W	SESW	10	1 S	69 W S
96685	A 1 7	LAWSON S D LAFAYETTE, CO 80026	NP 1/10/77	AR 1/30/78	6	D	5/ 9/86								SWSW	10	1 S	69 W S
97843	A 1 7	LAWSON L LAFAYETTE, CO 80026	NP 3/ 3/78	AR 3/27/78	6	D									SWSW	.0	1 S	69 W S
96685	1 7	RICE BRIAN R. & MANDELL BONNIE ST 10627 EMPIRE RD LAFAYETTE, CO 80026			6	D	10/19/78		1.00		15.00	565	230	150S 1214W	SWSW	10	1 S	69 W S
97843	1 7	GUERRIERE ROBERT 543 S. BERMONT LAFAYETTE, CO 80026			6	D	3/15/83		1.00		15.00	605	300	950S 79W	SWSW	10	1 S	69 W S
16601F	1 7	WARDLE KENNETH S. & MEREDITH C 640 SOUTH 112TH ST LAFAYETTE, CO 80026			6	I	10/ 2/73		16.00		20.00	616	200	960S 2190E	SWSE	11	1 S	69 W S
8697AD	1 7	WAREMBOURG K.UBERT LOUISVILLE, CO 80027	AD		6	I									NWSW	11	1 S	69 W S
66498	1 7	GOODMAN M G 11801 N WASHINGTON ST NORTHGLENN, CO 80233			6	DS	6/12/74				15.00	580	165	325S 1480W	SESW	11	1 S	69 W S
2108AD	1 7	MELVIN ERNEST BROOMFIELD, CO 80020	AD			I									SWSW	11	1 S	69 W S
10524AD	1 7	GARDNER V C BOULDER, CO 80303	AD 5/23/84	RC 7/ 2/84	6	D									SWSW	11	1 S	69 W S
16606F	1 7	RODERICKJOHN 164 E. 11TH AVE. BROOMFIELD, CO 80020	NP 3/ /71	EP 11/ 2/73		O									SWSW	11	1 S	69 W S
136648	1 7	FITZGERALD VIRGIL LAFAYETTE, CO 80026	EX 6/24/83	EX	6	H				KLF					SWSW	11	1 S	69 W S
6343F	1 7	BARI DON KNOLLS RT 1 BOX 150 BOULDER, CO 80302			6	M	10/31/64				22.00	500	30		SWSW	11	1 S	69 W S
28379	1 7	WANEKA GEORGE 326 112TH ST S LAFAYETTE, CO 80026			6	D	8/ 5/66				12.00	460	100		SWSW	11	1 S	69 W S
31962	1 7	PRITCHARD GARY 2939 MARINE ST BOULDER, CO 80302			6	D	9/18/67				10.00	300	60		SWSW	11	1 S	69 W S
33775	1 7	SMITH DEAN 3035 24TH ST BOULDER, CO 80302			6	D	5/15/68				1.00	100	6		SWSW	11	1 S	69 W S
33800	1 7	STAZIO GERALD L 625 PEARL ST #14 BOULDER, CO 80302			6	D	5/27/68				5.00	310	10		SWSW	11	1 S	69 W S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
66114	1		7			6			LOSASSO GERALD F 7076 JAY ST ARVADA, CO 80005	DS 6/18/73				15.00	570	200	160S 1328W	SESW	10	1 S	69 W	S
82726	1		7			6			NEUMANN JOHN R. 5061 W. 101ST AVE. WESTMINSTER, CO 80030	H 11/11/76				12.00	575	200	250S 2078W	SESW	10	1 S	69 W	S
96685	A 1		7			6			LAWSON S-D LAFAYETTE, CO 80026	D 5/ 9/86								SWSW	10	1 S	69 W	S
NP		1/10/77	AR	1/30/78																		
97843	A 1		7			6			LAWSON L LAFAYETTE, CO 80026	D								SWSW	10	1 S	69 W	S
NP		3/ 3/78	AR	3/27/78																		
96685	1		7			6			RICE BRIAN R. & MANDELL BONNIE ST 10627 EMPIRE RD LAFAYETTE, CO 80026	D 10/19/78		1.00		15.00	565	230	150S 1214W	SWSW	10	1 S	69 W	S
97843	1		7			6			GUERRIERE ROBERT 543 S. BERMONT LAFAYETTE, CO 80026	D 3/15/83		1.00		15.00	605	300	950S 79W	SWSW	10	1 S	69 W	S
16601F	1		7			6			WARDLE KENNETH S. & MEREDITH C 640 SOUTH 112TH ST LAFAYETTE, CO 80026	I 10/ 2/73		16.00		20.00	616	200	960S 2190E	SWSE	11	1 S	69 W	S
8697AD	1		7			6			WAREMBOURG KLUBERT LOUISVILLE, CO 80027	I								NWSW	11	1 S	69 W	S
AD																						
66498	1		7			6			GOODMAN M G 11801 N WASHINGTON ST NORTHGLENN, CO 80233	DS 6/12/74				15.00	580	165	325S 1480W	SESW	11	1 S	69 W	S
2108AD	1		7						MELVIN ERNEST BROOMFIELD, CO 80020	I								SWSW	11	1 S	69 W	S
AD																						
10524AD	1		7						GARDNER V C BOULDER, CO 80303	D								SWSW	11	1 S	69 W	S
AD		5/23/84	RC	7/ 2/84		6																
16606F	1		7						RODERICKJOHN 164 E. 11TH AVE. BROOMFIELD, CO 80020	O								SWSW	11	1 S	69 W	S
NP		3/ /71	EP	11/ 2/73																		
136648	1		7						FITZGERALD VIRGIL LAFAYETTE, CO 80026									SWSW	11	1 S	69 W	S
EX		6/24/83	EX			6				H			KLF									
6543F	1		7			6			BARI DON KNOLLS RT 1 BOX 150 BOULDER, CO 80302	M 10/31/64				22.00	500	30		SWSW	11	1 S	69 W	S
28379	1		7			6			WANEKA GEORGE 326 112TH ST S LAFAYETTE, CO 80026	D 8/ 5/66				12.00	460	100		SWSW	11	1 S	69 W	S
31962	1		7			6			PRITCHARD GARY 2939 MARINE ST BOULDER, CO 80302	D 9/18/67				10.00	300	60		SWSW	11	1 S	69 W	S
33775	1		7			6			SMITH DEAN 3035 24TH ST BOULDER, CO 80302	D 5/15/68				1.00	100	6		SWSW	11	1 S	69 W	S
33800	1		7			6			STAZIO GERALD L 625 PEARL ST #14 BOULDER, CO 80302	D 5/27/68				5.00	310	10		SWSW	11	1 S	69 W	S

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PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	OWNER INFORMATION	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
33891	1		7			6			POWERS GLEN C BARI DON KNOOLS BOULDER, CO 80302	D 6/ 4/68				1.00	200	30		SWSW	11	1 S	69 W	S
37596	1		7			6			ELWELL RUSS 6750 WHALEY DR BOULDER, CO 80302	D 4/29/69				25.00	264	20		SWSW	11	1 S	69 W	S
37767	1		7			6			OSWALD PHILLIP F. 6682 WHALEY DR. BOULDER, CO 80303	D 6/18/76		1.00		20.00	325	1	2000S 1320W	SWSW	11	1 S	69 W	S
38070	1		7			6			STRACK MARVIN 10976 MAPLE RD LAFAYETTE, CO 80026	DS 6/ 5/69				35.00	14	6		SWSW	11	1 S	69 W	S
42285	1		7			6			KALTHOFF NORBERT E 6780 WHALEY ST BOULDER, CO 80302	D 8/ 4/70				16.00	300	25		SWSW	11	1 S	69 W	S
45795	1		7			6			SCHMITT HELEN M & NORBERT F 716 S 112TH ST LAFAYETTE, CO 80026	D 5/24/71				15.00	565	120		SWSW	11	1 S	69 W	S
47948	1		7			6			ANDERSON R E 6690 CARR ST ARVADA, CO 80001	D 8/ 9/71				4525.90	150			SWSW	11	1 S	69 W	S
74576	1		7			6			TROLLO EUGENE C 686 SO 112TH ST LAFAYETTE, CO 80026	H 4/18/74				10.00	50		956S 1100W	SWSW	11	1 S	69 W	S
119145	1		7			6			RUSSELL PAT 10685 W. 81ST AVE. ARVADA, CO 80005	D 9/12/64		1.00		15.00	20		990S 300W	SWSW	11	1 S	69 W	S
134044	1		7			6			FITZGERALD VIRGIL K. 1895 STONEHENGE DR. LAFAYETTE, CO 80026	DS / /63		1.00		12.00	40		35S 100W	SWSW	11	1 S	69 W	S
89431	1		7			6			VELLA LEO A. 6989 GREEN WILLOW BOULDER, CO 80301	H 3/29/77				3.50	312	24	1245N 200E	NENE	12	1 S	69 W	S
63863	1		7			6			SUITTS WILLIAM J 460 PARAGON DR BOULDER, CO 80203	D 10/ 9/72				15.00	585	200	1053N 2075E	NWNE	12	1 S	69 W	S
89861	A 1		7						HANLEY H J M BOULDER, CO 80303									SWNE	12	1 S	69 W	S
NP		3/29/77	AR	4/18/77		6				D 10/26/83												
14807	A 1		7						SUITTS W J BOULDER, CO 80303									SESE	12	1 S	69 W	S
NP		9/19/83	AR	10/27/83		6				D												
14807	1		7						SUITTS BILL RT 1 PARAGON EST BOULDER, CO 80302									SESE	12	1 S	69 W	S
						6				D 4/26/63				20.00	360	105						
16807	1		7						KNIGHT LAURENCE L 754 WELLS DR BOULDER, CO 80302									SESE	12	1 S	69 W	S
						6				D 8/ 6/63				15.00	330	165						
18000	1		7						REICH JAMES F 220 PARAGON DR BOULDER, CO 80302									SESE	12	1 S	69 W	S
						6				D 11/12/63				15.00	375	100						
39249	1		7						FARMER ROBERT B 996 PARAGON DR BOULDER, CO 80302									SESE	12	1 S	69 W	S
						6				D 9/ 8/69				25.00	480	150						
	1		7						HANILTON ANNA J. LAFAYETTE, CO 80026									NWSW	12	1 S	69 W	S
AP		10/11/85	AU	11/ 5/85		6				DS			GW									
	1		7						HANILTON ANNA J. LAFAYETTE, CO 80026									NWSW	12	1 S	69 W	S
AP		10/11/85	AU	11/ 5/85		6				H			GW									
145427	1		7						TRUJILLO ANTHONY P. O. BOX 702 BRIGHTON, CO 80601									SESE	13	1 S	69 W	S
NP		8/12/86				6				H			KLF									
29716	1		7						ROBINSON BILL 6890 W 120TH BROOMFIELD, CO 80020									SESE	13	1 S	69 W	S
						2				D 1/31/67				5.00	90	28						
30943	A 1		7						THOMPSON TOM LAFAYETTE, 00000									NENE	14	1 S	69 W	S
NP		9/29/80				6				DS			KLF									
30943	1		7						THOMPSON TOM RT 1 BOX 34 B BROOMFIELD, CO 80020									NENE	14	1 S	69 W	S
						6				DS 5/22/67				20.00	37	20						

PSC F88-0048

PERMIT	D	CO	OWNER INFORMATION	ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
63045	1	7	SOHNS WILBERT J 113 AGATE WAY BROOMFIELD, CO 80020					6			DS	4/26/73	1.00			15.00	580	260	2077N 1267E	SENE	20	1 S	69 W	S
60052	1	7	WELMS LANNY R RT #1 BOX 124 LOUISVILLE, CO 80027					6			DS	5/ 3/73	10.00			10.00	565			SWNE	20	1 S	69 W	S
67212	1	7	CRIDER ELMER 710 E CLEVELAND LAFAYETTE, CO 80026					6			DS	6/15/73				10.00	550	240	1600N 1925E	SWNE	20	1 S	69 W	S
80330	1	7	THOMPSON LARRY J. P.O. BOX 202 LAFAYETTE, CO 80026					6			D	3/13/76	1.00			15.00	575	125	2150N 2550E	SWNE	20	1 S	69 W	S
80331	1	7	ANDERSON W. F. P.O. BOX 177 LAFAYETTE, CO 80026					6			D	9/28/75	1.00			10.00	575	297	2150N 1940E	SWNE	20	1 S	69 W	S
35973	1	7	REISCHICK VERNON 8756 NELSON RD LONGMONT, CO 80501					6			D	11/29/68				45.00	42	8		NWNW	20	1 S	69 W	S
14689MH	1	7	STORAGE TECHNOLOGY C/O 1626 COLORADO BLVD GOLDEN, CO 80401	MH	12/15/80			6			D				GW					SE	20	1 S	69 W	S
	1	7	STORAGE TECH LOUISVILLE, CO 80027	AP	8/22/79			6			C									SESE	20	1 S	69 W	S
15558	1	7	VARRA PASQUALE RT 1 BOX 24 BROOMFIELD, CO 80020					6			D	6/14/63				12.00	625	300		SESE	20	1 S	69 W	S
87725	1	7	BOWES ROBERT RT. 1 BOX 64 LOUISVILLE, CO 80027					6			DS	2/ 4/77				10.00	550	271	180N 2530W	NESW	20	1 S	69 W	S
18546F	1	7	STORAGE TECHNOLOGY CORP 2270 SOUTH 88TH ST LOUISVILLE, CO 80027	NP	4/24/76	EP	6/28/76	6			C									SESW	20	1 S	69 W	S
18547F	1	7	STORAGE TECHNOLOGY CORP. 2270 SOUTH 88 ST. LOUISVILLE, CO 80027					6			I	5/ 6/76				20.00	720	110	1225S 2300W	SESW	20	1 S	69 W	S
61597	1	7	, 00000					6			D	1/25/75				15.00	606	300	30S 2610W	SESW	20	1 S	69 W	S
41126 A	1	7	STORAGE TECH LOUISVILLE, CO 80027	NP	2/ 9/78	AR	3/23/78	6			C									SWSW	20	1 S	69 W	S
41126	1	7	STORAGE TECHNOLOGY CORP 2270 S 88TH ST LOUISVILLE, CO 80027					6			D	1/27/71				6.00	568	300		SWSW	20	1 S	69 W	S
52795	1	7	STORAGE TECHNCGY CORP 2270 S. 88TH ST. LOUISVILE, CO 00000					6			D	8/ 8/72	85.00			4.00	608	320	4600N 2000E	SWSW	20	1 S	69 W	S
61596	1	7	STORAGE TECHNOLOGY CORP 2270 S 88TH ST LOUISVILLE, CO 80027					6			C	2/27/74				1.50	580	318	978S 318W	SWSW	20	1 S	69 W	S
10917R	1	7	DEBACA E C RT 1 BX 24 BROOMFIELD, CO 80020					6			I					400.00	25	1		NWNE	21	1 S	69 W	S
12012	1	7	SCHREITER JAMES W & MARGARET A RT 1 BOX 23 BROOMFIELD, CO 80020					6			D	6/28/62				10.00	496	198		NWNW	21	1 S	69 W	S
18783	1	7	VARRA FRANK RT 1 BOX 27 BROOMFIELD, CO 80020					6			D	3/11/64				15.00	600	245		NWNW	21	1 S	69 W	S

J 13

PERMIT	D	CO	OWNER INFORMATION	ACTIVITY CD	ACTIVITY DATE	STATUS CD	STATUS DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
18404	1	7	STREICH MARGARET RT 1 LAFAYETTE, CO 80026					6			D	1/11/64				15.00	600	100		SESE	21	1 S	69 W	S
146208	1	7	SHIRK MERLE D. LAFFEYETTE, CO 80026	NP	10/30/86			6			S				GW					SWSE	21	1 S	69 W	S
80786	1	7	VARRA PASQUALE R.R. 2, BOX 640 BROOMFIELD, CO 80020					6			D	11/17/75	1.00			15.00	734	198	1700S 70W	NWSW	21	1 S	69 W	S
24382	1	7	SHEETS HOUSTON JR RT 1 BOX 22 BROOMFIELD, CO 80020					6			D	7/ 1/65				12.00	600	250		SESW	21	1 S	69 W	S
12257	1	6	ANDERSON W B 256 SKYLARK DR LAFAYETTE, CO 80026	NP	7/24/78	NS		7			D	7/19/88			GW				400S 671W	SWSW	21	1 S	69 W	S
102257	1	7	ANDERSON W. B. 256 SKYLARK DR LAFAYETTE, CO 80026					6			D	5/21/79	1.00			10.00	620		400S 671W	SWSW	21	1 S	69 W	S
1999	1	7	SWAN B F RT 1 BROOMFIELD, CO 80020					6			D	9/19/58				20.00	650	150		NESE	22	1 S	69 W	S
148526	1	7	BOULDER COUNTY PARKS BOULDER, CO 80306	NP	5/11/87	NP		6			D				KLF					NESW	22	1 S	69 W	S
125815	1	7	SPENCE L A LONGMONT, CO 80501	NP	5/17/82			6			D									NWSW	22	1 S	69 W	S
45055	1	7	THAYER JOSEPH H RT 2 BOX 659 BROOMFIELD, CO 80020					6			D	3/31/71				15.00	600	180		NWSW	22	1 S	69 W	S
62718	1	7	THAYER JOSEPH H RT 2 BOX 659 BROOMFIELD, CO 80020					6			DS	11/25/53	1.00			12.00			656S 166W	SWSW	22	1 S	69 W	S
87746	1	7	THAYER JOSEPH H ROUTE 2 BOX 659 BROOMFIELD, CO 80020					6			DS	11/25/53	1.00			12.00			656S 166W	SWSW	22	1 S	69 W	S
1627	1	7	JOHNSON JOE RT 1 LAFAYETTE, CO 80026					6			D	7/23/58				15.00	590	212		NWNW	23	1 S	69 W	S
18085F	1	7	NPC CO. INC. 1500 W 12TH AVE DENVER, CO 80204					6			C	2/ 6/74				25.00	660	212	132N 264W	NWNW	23	1 S	69 W	S
34891	1	7	MCGLATHERY PHYLLIS L & PHIL G RT 1 S 112 ST LAFAYETTE, CO 80026					6			D	8/12/68				16.00	595	175		NWNW	23	1 S	69 W	S
67506	1	7	MUNGER LEE ROY 614 E CHESTER ST LAFAYETTE, CO 80026					6			C	3/12/73				15.00	610	220	642N 210W	NWNW	23	1 S	69 W	S
8775AD	1	7	SUNSHINE DEVELOPMENT CO WESTMINSTER, CO 80030	AD				6			M									SESE	23	1 S	69 W	S
3310F	1	7	MILE HIGH WATER ASSN BROOMFIELD, CO 80020					2			M	8/24/61				33.00	1009	440		NWNE	24	1 S	69 W	S
31982F	1	7	BROOMFIELD NORTH 164 E 11TH AVE BROOMFIELD, CO 80020	NP	5/24/84	EP	7/ 8/88	6			M				KLF				1400N 1000W	SWNW	24	1 S	69 W	S
8230	1	7	OUGHYRED EARL ELDORADO SP, CO 00000					6			D	3/26/61				2.00	58			NESE	25	1 S	69 W	S
84869	1	7	GARFIELD RULON R. & SHIRLEY D. 907 E. 12TH AVE. BROOMFIELD, CO 80020					6			D	/ /60				15.00	12		2100S 2400E	NWSE	25	1 S	69 W	S
36639	1	7	LDS CHURCH 925 KOHL ST BROOMFIELD, CO 80020					2			D	3/17/69				40.00	966	400		NWSW	25	1 S	69 W	S
55441	1	7	BRENNAN EDWARD 231 E 11TH AVE BROOMFIELD, CO 00000 LOT 1 BLOCK 5	NP	3/23/72	EP	5/ 8/74	2			D				GW					SESW	25	1 S	69 W	S
27602	1	7	BECK FRED J & BROWN DWIGHT K & ONEA 995 COUNTRY CT BROOMFIELD, CO 80020					2			D	6/17/66				3.00	150	90		SWSE	26	1 S	69 W	S

K 13

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
5852	I	7	ECHTERNACHT CALVIN RT 1 LAFAYETTE, CO 80026																		
					6			D	6/23/60				4525.90	200			NENW	27	1 S	69 W	S
219081	I	7	THAYER JOSEPH H RT 2 BOX 659 BROOMFIELD, CO 80020																		
					6			I	8/18/51		56.00		2244.00			853W 654W	NWNW	27	1 S	69 W	S
9280	I	7	KUPPINGER C KNOX RR 1 LAFAYETTE, CO 80026																		
					6			D	7/21/61				15.00	390	140		SESE	27	1 S	69 W	S
32994	I	7	VARRA FRANK RT 1 BROOMFIELD, CO 80020																		
					6			DS	4/ 1/68				10.00	620	270		NWNW	28	1 S	69 W	S
90743	I	7	MIKESELL DON 1430 ABILENE DR. BROOMFIELD, CO 80020																		
					6			D	1/13/78		1.00		10.00	775	390	100S 2500W	SESW	28	1 S	69 W	S
34816	A I	7	MARCOS N BROOMFIELD, CO 80020																		
	NP		3/23/79		6			D									SWSW	28	1 S	69 W	S
34816	I	7	MARCOS NAZIR P.O. BOX 236 BROOMFIELD, CO 80020																		
					6			D	8/ 5/68		1.00		10.00	650	300	150S 300W	SWSW	28	1 S	69 W	S
330574	I	7	M D C LAND CORP DENVER, CO 80206																		
	EX	11/ 5/87	EX		6			M				KLF					NWSW	29	1 S	69 W	S
6711F	I	7	HARDAWAY ROBERT RT 1 LOUISVILLE, CO 80027																		
					6			I	6/ 4/65				4525.90	390			SWSW	29	1 S	69 W	S
15314	I	7	HARDAWAY ROBERT RT 1 LOUISVILLE, CO 80027																		
					6			D	5/19/63				12.00	615	150		SWSW	29	1 S	69 W	S
151900MH	I	7	MDC LAND C/O 200 UNION BLVD #400 LAKEWOOD, CO 80228																		
	MH		7/14/89		6			O				GW					NENE	30	1 S	69 W	S
35471F	I	7	SUPERIOR METROPOLITAN DIST 3600 S YOSMITE STE 330 DENVER, CO 80237																		
	NP		8/ 7/89		6			M				KLF	125.00			570N 490E	NENE	30	1 S	69 W	S
151318MH	I	8	MDC LAND CORP C/O 200 UNION BLVD #400 LAKEWOOD, CO 80228																		
	MH		6/23/89		6			O				GW					NWNE	30	1 S	69 W	S
34317F	I	7	MDC LAND CORP 3600 S YOSEMITE STE 330 DENVER, CO 80237																		
	NP		8/ 9/88	EP 11/ 7/89	6			M				KLF				50N 2260E	NWNE	30	1 S	69 W	S
35470F	I	7	SUPERIOR METRO DIST I 3600S YOSEMITE SUITE 400 DENVER, CO 80237																		
	NP		6/ 9/89		6			M				KLF	125.00			820N 1525E	NWNE	30	1 S	69 W	S
15469MH	I	7	SUPERIOR METRO DIST NO 1 C/O 2420 ALCOTT ST DENVER, CO 80211																		
	MH		10/ 3/89		6			O				GW					SENE	30	1 S	69 W	S
36155F	I	7	SUPERIOR METROPOLITAN DIST 3600 S YOSMITE STE 400 DENVER, CO 80237																		
	NP		9/22/89	AR 10/23/89	6			M				KLF				1880N 720E	SENE	30	1 S	69 W	S
33059F	I	7	M D C LAND CORP. DENVER, CO 80206																		
	EX	11/ 5/87	EX		6			M				KLF					NENW	30	1 S	69 W	S
34319F	I	7	MDC LAND CORP 3600 S YOSEMITE STE 330 DENVER, CO 80237																		
	NP		8/ 9/88	EP 11/ 7/89	6			M				KLF				1200N 2420W	NENW	30	1 S	69 W	S
34318F	I	7	MDC LAND CORP 3600 S YOSEMITE STE 330 DENVER, CO 80237																		
	NP		8/ 9/88	EP 11/ 7/89	6			M				KLF				999N 1070W	NWNW	30	1 S	69 W	S
25514	I	7	SCRIFFINY JOE RT 1 SUPERIOR, CO 00000																		
					6			D	10/10/65				7.00	630	275		NWNW	30	1 S	69 W	S
8273	I	7	DOBBS DOIS L 4220 W 13419 PL BROOMFIELD, CO 80020																		
					6			D	4/ 4/61				20.00	185	50		SENW	30	1 S	69 W	S
33060F	I	7	M D C LAND CORP DENVER, CO 80206																		
	EX	11/ 5/87	EX		6			M				KLF					NESE	30	1 S	69 W	S
48196	I	7	HARDAWAY ROBERT M 4052 FIELD DR WHEATRIDGE, CO 80033																		
					6			D	9/10/71				15.00	610	200		NESE	30	1 S	69 W	S

PERMIT	D CO ACTIVITY CD	DATE	STATUS CD	DATE	WD	MD	DB	USE	1ST USED DATE	ANNUAL APROP	ACRES IRR	GEOL AQFR	WELL YIELD	WELL DEPTH	WATER LEVEL	SEC LOCAT'N COORDINATES	QTRS	SC	TOWN SHIP	RANGE	P M
15470MH	I	7	SUPERIOR METRO DIST NO 1 C/O 2420 ALCOTT ST DENVER, CO 80211																		
	MH		10/ 3/89		7			O				GW					NWSE	30	1 S	69 W	S
36154F	I	7	SUPERIOR METROPOLITAN DIST 3600 S YOSMITE STE 400 DENVER, CO 80237																		
	NP		9/22/89	AR 10/23/89	6			M				KLF				2390S 1740E	NWSE	30	1 S	69 W	S
44574	I	7	JOHNSON JUNE M & ROBERT 13591 W 78TH AVE ARVADA, CO 80001																		
					6			D	2/ 1/71				13.00	80	10		NENE	31	1 S	69 W	S
107719	I	7	HART G D ARVADA, CO 80003																		
	NP		4/23/79		6			D									NENW	31	1 S	69 W	S
108871	I	7	SMITH M R WESTMINSTER, CO 80030																		
	NP		6/28/79		6			D									NWNW	31	1 S	69 W	S
119287	I	7	ROBERTS B A BOULDER, CO 80303																		
	NP		3/ 9/81	AR 3/31/81	6			D									SWNW	31	1 S	69 W	S
34582	I	7	HEATH G D 4181 W 120 TH ST BROOMFIELD, CO 80020																		
					6			D	4/14/69				7.00	333	50		SWSE	31	1 S	69 W	S
33058F	I	7	M D C LAND CORP DENVER, CO 80206																		
	EX	11/ 5/87	EX		6			M				KLF					NESW	31	1 S	69 W	S
113864	I	7	WALTMAN D B DENVER, CO 80216																		
	NP		4/17/80		6			M									NWSW	31	1 S	69 W	S
33061F	I	7	M D C LAND CORP DENVER, CO 80206																		
	EX	11/ 5/87	EX		6			M				KLF					NWSW	31	1 S	69 W	S
24243	I	7	HARDAWAY ROBERT RT 1 BROOMFIELD, CO 80020																		
					6			D	7/12/65				25.00	800	220		SWSW	31	1 S	69 W	S
29289	I	7	HARDAWAY ROBERT RT 1 BROOMFIELD, CO 80020																		
					6			DS	11/21/66				25.00	800	215		SWSW	31	1 S	69 W	S
105681	I	7	FUENTES J J DENVER, CO 80218																		
	NP		1/ 9/79	AR 4/ 6/79	6			H									NENE	32	1 S	69 W	S
115349	I	7	CHMIELOWIEC S BOULDER, CO 80303																		
	NP		7/ 3/80		6			D									NENE	32	1 S	69 W	S
128082	I	7	FINSTAD L BROOMFIELD, CO 80020																		
	NP		5/12/82	AR 6/17/82	6			D									NWNE	32	1 S	69 W	S
2600	I	7	INTL SPORTSMANIS CLUB INC 7290 SAMUEL DR. 207 DENVER, CO 80221																		
					6			D	5/16/59				10.00	410	200	350N 2250E	NWNE	32	1 S	69 W	S
96127	I	7	THORNGREN D BROOMFIELD, CO 80020																		
	NP		11/23/77		6			H									NENW	32	1 S	69 W	S
	I	7	BUXTON L DENVER, CO 80216																		
	AP		7/ 6/78		6			D									NENW	32	1 S	69 W	S
100277	I	7	BUXTON LEE P.O. BOX 16101 DENVER, CO 80216																		
					6			D	5/ 7/79				15.00	635	286	476N 2180W	NENW	32	1 S	69 W	S
106022	A I	7	KINGSBURY D LOUISEVILLE, CO 80027																		
																	NWNW	32	1 S	69 W	S

TABBED PAGE

APPENDIX F

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980951735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Columbine Landfill & nearby properties	1441 Weld County Rd 6

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Erie	Co	80516	Weld	123	

09 COORDINATES LATITUDE	LONGITUDE	
40° 01' 15"	105° 01' 40"	Laidlaw North S½ SW Section 20, TIN, R68W;80AC

10 DIRECTIONS TO SITE (Starting from nearest public road)

I 25; take Erie Exit; go west to Weld Cty Rd #5; go south one mile; site occupies the NENE, W½NE, E½NW Section 29 & S½SW Section 20, TIN, R68W; at intersection of WCR 5&6

III. RESPONSIBLE PARTIES LAIDLAW NORTH

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Laidlaw Waste Systems, Inc	1441 Weld County Road #6		
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**
Erie	CO	80516	(303) 673-9431 or 440-9601

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
Laidlaw Waste Systems, Inc	1441 Weld County Road #6		
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**
Erie	CO	80516	(303) 673-9431 or 440-9601

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (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

☒ YES DATE 08 / 20 / 90 (MONTH DAY YEAR)
☐ NO
09/07/90

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ 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

1984 (BEGINNING YEAR) | present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Municipal Solid Wastes

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

ground water contamination to the alluvial and uppermost bedrock saturated zone; surface water contamination to the unnamed drainage and Coal Creek.

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 the available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Rick Hoffman	Laidlaw Waste Systems Inc	(303) 673-9431

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Austin N. Buckingham	CDH	HMWMD	(303) 331-4830	10 / 05 / 90 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980951735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
09 COORDINATES LATITUDE __ __ __.__ LONGITUDE ___ __ __.__	Laidlaw South E½NW & W½NE Section 29, TIN, R68W: 160AC.				

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES LAIDLAW SOUTH

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Laidlaw Waste Systems, Inc.	1441 Weld County Road #6		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Erie	CO	80516	(303) 673-9431 or 440-9601
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
Laidlaw Waste Systems, Inc.	1441 Weld County Road #6		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Erie	CO	80516	(303) 673-9431 or 440-9601

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (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

☒ YES DATE 08 / 20 / 90 (MONTH DAY YEAR)

☐ NO

09/07/90

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR

☐ 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

1979 (BEGINNING YEAR) present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

municipal solid wastes, asbestos, oily sludges, sand and grease trap wastes

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

ground water contamination to the alluvial and uppermost bedrock saturated zone; Surface water contamination to the unnamed drainage and Coal Creek.

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	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
Rick Hoffman	Laidlaw Waste Systems Inc.			(303) 673-9431
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Austin N. Buckingham	CDH	HMWMD	(303) 331-4830	10 / 05 / 90 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE: CO
02 SITE NUMBER: D980951735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
09 COORDINATES LATITUDE ___ LONGITUDE ___	Old Erie Landfill NE NE Section 29, T1N, R68W; 35AC.				

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES OLD ERIE LANDFILL

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Kenneth Pratt	1960 Industrial Circle		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Longmont	CO	80502	(303) 776-4496
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
John F. Neuhauser	P.O. Box 454		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Saraland	AL	36571	(205) 675-9366

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: ___ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: ___ (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
☒ YES DATE 08 / 20 / 90 (MONTH DAY YEAR)
☐ NO 09/07/90

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ 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
1965 (BEGINNING YEAR) | 1979 (ENDING YEAR) finally closed 1983 ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
torpedo propellant from Sundstrand Aviation; MEK and other unspecified organics, inorganics, solvents, acids and bases from IBM (see part 2, IV for possible substances)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
ground water contamination to the alluvial and uppermost bedrock saturated zone; surface water contamination to the unnamed drainage and Coal Creek.

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	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
John F. Neuhauser & Kenneth Pratt				205 675-9366 303 776-4496
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Austin N. Buckingham	CDH	HMWMD	(303) 331-4830	10 / 05 / 90 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CO	D980951735

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- C. TONS 100,000 gallons
- A. CUBIC YARDS 8,600,000
- F. NO. OF DRUMS 1500 liquid

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- X B. CORROSIVE
- _ C. RADIOACTIVE
- X D. PERSISTENT
- _ E. SOLUBLE
- _ F. INFECTIOUS
- _ G. FLAMMABLE
- _ H. IGNITABLE
- X I. HIGHLY VOLATILE
- X 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	65,000	gallons	sand trap waste
OLW	OILY WASTE	30,000	gallons	oil & grease
SOL	* SOLVENTS			
PSD	PESTICIDES			
OCC	* OTHER ORGANIC CHEMICALS			*84,000 gallons + unknown
IOC	* INORGANIC CHEMICALS			quantity of torpedo propellant
ACD	* ACIDS			
BAS	* BASES			
MES	HEAVY METALS			

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

POSSIBLE

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Methylethyl Ketone	78-93-3	1500 55 gal. drums	unknown	
	toluene	108-88-3			
	methylene chloride	75-09-2			
	chloroform	67-66-3			
	tetrahydrofuran	109-99-9			
	sulfuric acid	7664-93-9			
	zinc cyanide	557-21-1			
	potassium cyanide	151-50-8			
	lethylene diamine	107-15-3			
	freon	unknown			
	n-butylamine	unknown			
	diethylene glycol dinitrate	unknown	pumped to pit & burned	unknown	

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)

CDH files
Weld County Files
interviews with: IBM, Sundstrand, John F. Neuhauser

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CO	D980951735

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

Shallow alluvial ground water contamination exist in the form of halogenated organics in wells 103A & B. Other wells (such as GW1, GW8 & 203) show elevated Nitrate, Chloride, Sulfate & Sodium indicating degraded water quality due to the facility

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☒ OBSERVED (DATE: 08/20/90) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: None — 04 NARRATIVE DESCRIPTION

Potential surface water contamination was observed in the drainage to the south of the site. A small pond had half buried drums on its shore. Vegetation was either stressed or dead. The water was murky with no algae growth.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Contamination of air was not reported or observed

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☒ OBSERVED (DATE: July 26, 1968) ☒ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

A chemical fire was observed on July 26, 1968 at the Pratt Property. It is unknown how the fire was initiated.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: on site workers — 04 NARRATIVE DESCRIPTION

Direct contact has not been reported or observed.

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 325 ac. (ACRES) — 04 NARRATIVE DESCRIPTION

Contamination of soil is a potential due to leaking chemical drums and chemical waste pits.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Drinking water contamination not reported or observed.

01 ☒ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Worker exposure or injury was not reported or observed. However, the potential exists due to excavation activities on-site.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Population exposure or injury was not reported or observed.

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CO	D980951735

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Damage to flora has not been reported or observed.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Damage to fauna has not been reported or observed.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Contamination of the food chain has not been reported or observed.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

The chemical waste drums are potentially rusted and leaching waste into the shallow aquifer systems.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Shallow alluvial contamination from wells 103A&B is migrating off-site. Disposal & possibly a contaminated pond exists off-site to the south of the Columbine Site.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Contamination of sewers, storm drains or WWTP's have not been reported or observed.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: 08/20/90) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Illegal or unauthorized dumping has occurred in the drainage to the south of the Columbine Site.

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

Some portions of the landfill are potential saturated(due to infiltration of precipitation and surface water or contact with shallow ground water). Therefore significent methane generation is probable.

III. TOTAL POPULATION POTENTIALLY AFFECTED: estimated at 1410 for town of Erie

IV. COMMENTS

None.

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

CDH Files
Weld County Health Department Planning Department & Commissioners office
Interviews with Laidlaw; Colorado Landfill Incl; K. Pratt; J. Neuhauser, IBM & Sundstrand

EPA FORM 2070-12 (7-81)

TABBED PAGE

APPENDIX G

Name Austin Buckingham Location S 1/2 Sec 20 and Sec 29
T1N, R68W

Site Name Columbine Landfill Date October 15, 1990

PA QUESTIONNAIRE

(A) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT MAY INDICATE AN OBSERVED RELEASE TO AIR, GROUND WATER, SOIL OR SURFACE WATER? Yes

Describe: Shallow ground water contamination in Sec 20; confirmed industrial disposal by IBM and Sundstrand into NE NE Section 29

(B) IF THE ANSWER TO #1 IS YES, IS THERE EVIDENCE OF DRINKING WATER SUPPLY CONTAMINATION OR ANY OTHER TARGET CONTAMINATION (i.e. food chain, recreation areas, or sensitive environments)? Yes, wetlands and spring in the South draw show evidence of stressed vegetation. The pond contains rusted half buried drums and shredded photo conductor material

(C) ARE THESE SENSITIVE ENVIRONMENTS WITHIN A 4-MILE RADIUS OR 15 DOWNSTREAM MILES OF THE SITE? Yes IF YES, DESCRIBE IF ANY OF THE FOLLOWING APPLY:

-Multiple sensitive environments?

-Federally designated sensitive environment(s)?

-Sensitive environment(s) downstream on a small or slow flowing surface waer body?

The wetlands area(s) are located in a draw that is south of the site and runs parallel to the site

(D) IS THE SITE LOCATED IN AN AREA OFKARST TERRAIN? No

Describe:

(E) DOES THE WASTE SOURCE LIE FULLY OR PARTIALLY WITHIN A WELLHEAD PROTECTION AREA AS DESIGNATED ACCORDING TO SECTION 1428 OF THE SAFE DRINKING WATER ACT? No

Describe:

(F) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT PEOPLE LIVE OR ATTEND SCHOOL ON ONSITE CONTAMINATED PROPERTY? No

Describe:

SITE INFORMATION

1. SITE NAME: Columbine Landfill

ADDRESS: 1441 Weld County Road 6, P.O. Box 320

CITY: Erie COUNTY Weld STATE CO ZIP 80516

EPA ID: COD 980951735

LATITUDE 105°1'40" LONGITUDE: 40°1'15"

2. DIRECTIONS TO SITE (From nearest public road):

I 25: take Erie Exit: go west 2 miles to Weld County Road #5: go south one mile: site occupies the NENE: W 1/2 NE, E 1/2 NW Section 29; and S 1/2 SW 1/4 Section 20, TIN, R68W; at intersection WCR 5 & 6

3. SITE OWNERSHIP HISTORY (Use additional sheets, if necessary):

A. Name of current owner: Laidlaw Waste Systems, Inc.

Address: 1441 Weld County Road 6 , P.O. Box 320

City: Erie County: Weld State CO Zip: 80516

Dates: From 1/88 To present Phone: (303) 673-9431

B. Name of previous owner: Western Disposal, Inc.

Address: 5880 Butte Mill Road

City: Boulder County: Boulder State: Co Zip 80301

Dates: From 12/85 To 1/88 Phone (303) 444-2037

Source of ownership data: CDH file

4. TYPE OF OWNERSHIP (Check all that apply):

X Private ____State ____Municipal

____Federal ____County ____Other (describe):

5. NAME OF SITE
OPERATOR: Laidlaw Waste Systems

ADDRESS 1441 Weld County Road 6, P.O. Box 320

CITY: Erie COUNTY: Weld STATE: CO ZIP 80516

PHONE: (303)673-9431

BACKGROUND/OPERATING HISTORY

6. DESCRIBE OPERATING HISTORY OF SITE: 1965-1969: Neuhauser operated MSW and industrial chemical disposal on Pratt property; BFI and Roweder operated MSW county landfill on Pratt property 1970-1979; 1979-1985: Colorado Landfill, Inc., operated Columbine Landfill; 1985-1988: Western Disposal operated Columbine; 1988-present: Laidlaw operated Columbine & renamed it to Laidlaw South.

Source of information: CDH file and interviews.

7. DESCRIBE SITE AND NATURE OF SITE OPERATIONS (property size, manufacturing, waste disposal, storage,etc.): The Pratt property (35AC.) received drumed chemical waste from IBM, torpedo propellant from Sundstrand Aviation (which was brought to the site in tankers & burned in on-site pits) and municipal solid waste. The site was unlined and rarely covered. The Columbine site (160AC)(aka. Laidlaw South) had a scarified & recompacted liner where clay was absent. MSW and sand & grease trap wastes were accepted. Laidlaw North (80AC) accepted MSW only. The site has a scarified and recompacted clay liner.
Source of information: CDH file and interviews

8. DESCRIBE ANY EMERGENCY OR REMEDIAL ACTIONS THAT HAVE OCCURRED AT THE SITE:

July 1968 a chemical fire occured on the Pratt property. Throughout the operation of the site, open burning was a continual problem requiring fire dept. response.

Source of information: CDH file.

9. ARE THERE RECORDS OR KNOWLEDGE OF ACCIDENTS OR SPILLS INVOLVING SITE WASTES? Yes

Describe: In drainage to the south of the site, liquid and solid waste disposal has occurred

Source of information: interviews and site visit (08/20/90)

10. DISCUSS EXISTING SAMPLING DATA AND BRIEFLY SUMMARIZE DATA QUALITY (e.g., sample objective, age/comparability, analytical methods, detections limits and QA/QC: Current monitoring consists of ground water and surface water (Coal Creek). Coal Creek does not show any obvious contamination. The on-site monitoring wells are screened to the shallow alluvial ground water system and a bedrock saturated unit. The predominately bicarbonate bedrock ground water shows effects of some water quality degradation in the form of elevated chloride sulphate, nitrates, sodium. Well 103 A&B show halogenated organic contamination. All analytical methods and detection limits are EPA methods appropriate for the constituents.

Source of information: CDH file-monitoring reports

WASTE CONTAINMENT/HAZARDOUS SUBSTANCE IDENTIFICATION

11. FOR EACH SOURCE AT THE SITE, SUMMARIZE ON TABLE 1 (page 12): 1)Methods of hazardous substance disposal, storage or handling; 2) size/volume/area of all features/structures that might contain hazardous waste; 3) condition/integrity of each storage disposal feature or structure; and 4) types of hazardous substances handled.

12. BRIEFLY EXPLAIN HOW WASTE QUANTITY WAS ESTIMATED (e.g., historical records or manifests, permit applications, photo measurements, etc.):

1) IBM: 1500 55 gallon drums of chemical waste disposed on Pratt property 2) Sundstrand: unknown quantity of torpedo propellant disposed in container lined pits then burned 3) unknown quanity of unknown chemical waste disposed in pits 4) 8,700,000 cy solid waste

Source of information: 1). EPA Notification, 2.3). Interview with Neuhauser, 4). CDH file.

13. DESCRIBE ANY RESTRICTIONS OR BARRIERS ON ACCESSIBILITY TO ONSITE WASTE MATERIALS:
(AKA Pratt property)
The old Erie Landfill had unrestricted access and was not attended from 1965-1979. After 1979 the Columbine Landfill adjacent to the Pratt property was fenced and attended. County road existed with entrance to site since 1965. Both Laidlaw North & South is fenced and attended.

Source of information: Interviews, aerial photo 1972 & 1974

GROUND WATER CHARACTERISTICS

14. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF A RELEASE TO GROUND WATER? Yes

Describe: GW6 (Now decommissioned) showed small levels of VOC contamination. 103 A&103B show alluvial contamination with halogenated organics.

Source of information: monitoring reports in CDH file

15. ON TABLE 2 (page 13), GIVE NAMES, DESCRIPTIONS, AND CHARACTERISTICS OF GEOLOGIC/HYDROGEOLOGIC UNITS UNDERLYING THE SITE.

16. NET PRECIPITATION: 15 inches/year

SURFACE WATER CHARACTERISTICS

17. ARE THERE SURFACE WATER BODIES WITHIN 2 MILES OF THE SITE? yes

X Ditches ____ Lakes X Pond

X Creeks ____ Rivers X Other dry drainages, which flow during storm events.

18. DISCUSS THE PROBABLE SURFACE RUNOFF PATTERNS FROM THE SITE TO SURFACE WATERS:

surface runoff on natural topography occurs by sheet runoff into trellis patterned drainages until it reaches Coal Creek 1/2 mile to the west of the site.

19. PROVIDE A SIMPLIFIED SKETCH OF SURFACE RUNOFF AND SURFACE WATER FLOW SYSTEM FOR 15 DOWNSTREAM MILES (see item #36).

20. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF SURFACE WATER CONTAMINATION? Yes

Describe: Coal Creek has been sampled at three sample points for 5 years and is uncontaminated. The drainage to south of site shows stressed vegetation in the western most pond.

Source of information: Laidlaw monitoring and site visit (08/20/90)

21. ESTIMATE THE SIZE OF THE UPGRADIENT DRAINAGE AREA FROM THE SITE: 135 acres w/o road

Source of information: topography map.

22. DETERMINE THE AVERAGE ANNUAL STREAM FLOW OF DOWNSTREAM SURFACE WATERS

Water body: Coal Creek Flow: 5-25 cfs

Water body Boulder Creek Flow: 20-100 cfs

Water body St. Vrain Creek Flow: 50-150 cfs

Source of information: Laidlaw North Operations Report, District #6 water commissioner

23. IS THE SITE OR PORTIONS THEREOF LOCATED IN SURFACE WATER? no

24. IS THE SITE LOCATED IN A FLOODPLAIN (indicate flood frequency)? no

25. IDENTIFY AND LOCATE (see item #36) ANY SURFACE WATER RECREATION AREA WITHIN 15 DOWNSTREAM MILES OF THE SITE: None identified

Source of information: topographic map.

26. TWO YEAR 24-HOUR RAINFALL: 2.1 inches.

TARGETS

27. DISCUSS GROUND WATER USAGE WITHIN FOUR MILES OF THE SITE:

Alluvial: irrigation, stock, lawn watering

Shallow bedrock: irrigation, stock, lawn watering, some domestic

Laramie-Fox Hills: primarily domestic.

Source of information: State Engineers Office

28. SUMMARIZE THE POPULATION SERVED BY GROUND WATER ON THE TABLE BELOW:

Distance (miles)	Population	
0 - 1/4	1 residence	Laramie-Fox Hills
1/4 - 1/2	1 residence	Laramie-Fox Hills
1/2 - 1	4 residences	alluvial

1 - 2	120 residences: alluvial, shallow bedrock, Larimie-Fox Hills
2 - 3	150 residences: alluvial, shallow bedrock, Laramie-Fox Hills
3 - 4	150 residences: alluvial, shallow bedrock, Laramie-Fox Hills

Source of information: State Engineers Office

29. IDENTIFY AND LOCATE (see item #36) POPULATION SERVED BY SURFACE WATER INTAKES WITHIN 15 DOWNSTREAM MILES OF THE SITE: unknown population

No diversions down stream of site on Coal Creek. Boulder Creek has the following diversions: Gooding, Daily & Plumb Ditch, Rural Ditch, Idaho Creek Carrier, Carr & Tylor, Houch #2, Gooding/Highland South, Smith & Emmons, and Tom Delehant. These are used for stock and irrigation.

Source of information: District #6 Water Commissioner

30. DESCRIBE AND LOCATE FISHERIES WITHIN 15 DOWNSTREAM MILES OF THE SITE (i.e., provide standing crop of production and acreage, etc.):

There are no fisheries within 15 downstream miles of the site.

Source of information: Co. Division of Wildlife, topographic map.

31. DETERMINE THE DISTANCE FROM THE SITE TO THE NEAREST OF EACH OF THE FOLLOWING LAND USES

Description	Distance (miles)
Commercial/Industrial Institutional	1 mile
Single Family Residential	1/4 mile
Multi-Family Residential	1 mile
Park	
Agricultural	adjacent to site

Source of information: topographic map.

32. SUMMARIZE THE POPULATION WITHIN A FOUR-MILE RADIUS OF THE SITE:

Distance	Population
onsite	22
0 - 1/4	2
1/4 - 1/2	3
1/2 - 1	16
1 - 2	1500
2 - 3	600
3 - 4	600

Source of information: Town of Erie, Estimated at 4 persons/household

OTHER REGULATORY INVOLVEMENT

33. DISCUSS ANY PERMITS:

County: Certificate of Designation Old Erie Landfill 1968; Laidlaw South 1979

State: APCD permit - Laidlaw South 1979 and 1987

Federal: None

Other: Laidlaw North Annexed by town of Erie in 1985.

Source of information: CDH files

TABLE 1

WASTE CONTAINMENT AND HAZARDOUS SUBSTANCE IDENTIFICATION [1]

SOURCE TYPE	SIZE (Volume/Area)	ESTIMATED Waste Quantity	SPECIFIC COMPOUNDS	CONTAINMENT[2]	SOURCES OF INFORMATION
1500 55 gallon drums	1500 55 gallon drums	84,000 gallons	Methyl-Ethyl-ketone	55 gallon drums	EPA Notification CDH files interview
chemical waste pits	unknown	unknown	unspecified organics, inorganics, solvents acids and bases	None	EPA Notification CDH files
Waste pit	unknown	unknown	torpedo propellant (possibly diethylene-glycol-dinitrate)	container lined pit	interview CDH files
Land disposal of sand and grease trap waste	unknown	100,000 gallons	unknown	None	CDH files

1. Use additional sheets if necessary.

2. Evaluate containment of each source from the perspective of each migration pathway (e.g., ground water pathway - non-existent, natural or synthetic liner, corroding underground storage tank; surface water - inadequate freeboard, corroding bulk air - unstablized slag piles, leaking drums, etc.)

TABLE 2

HYDROGEOLOGIC INFORMATION [1]

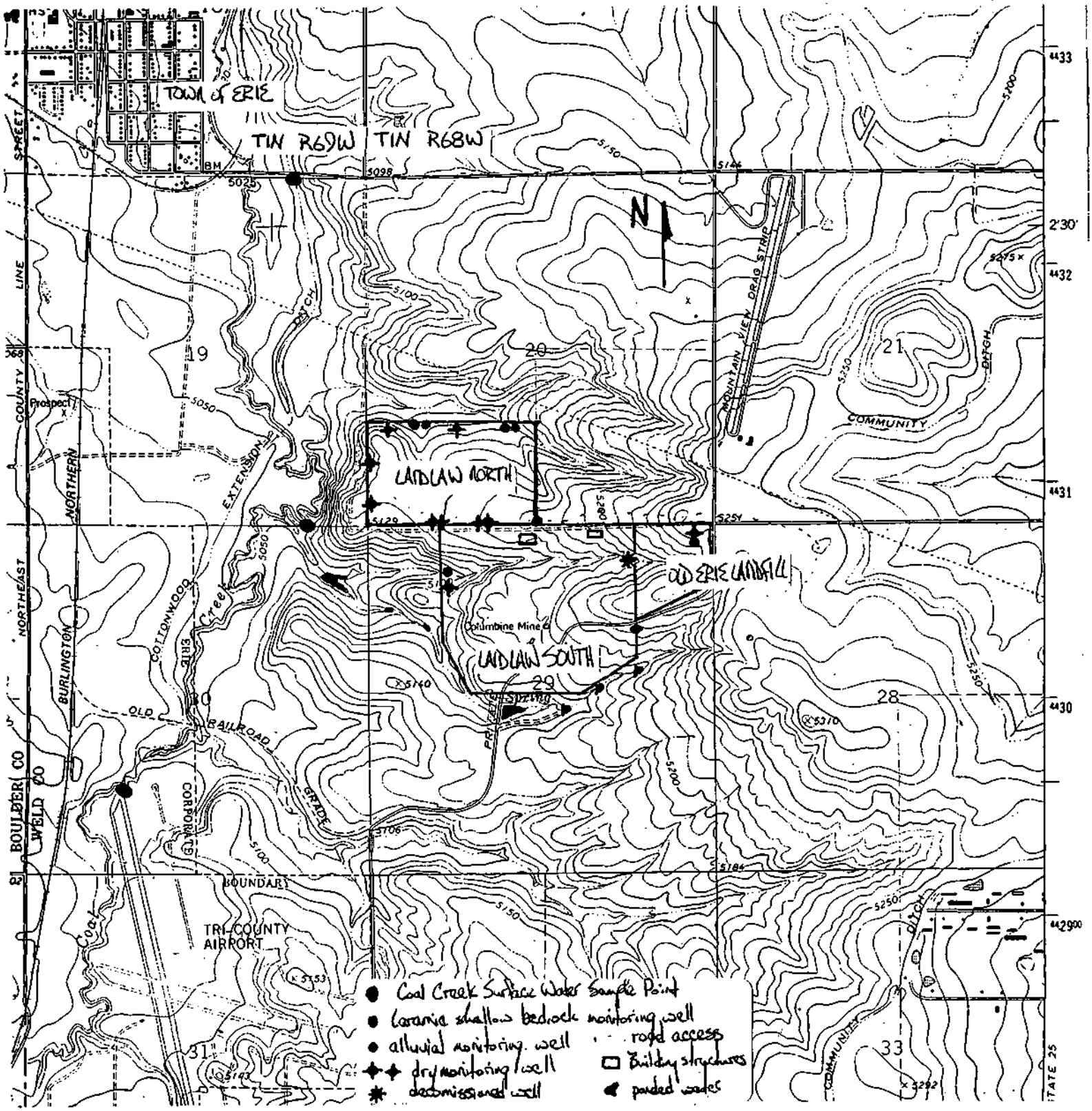
STRATA NAME/DESCRIPTION	THICKNESS (ft.)	HYDRAULIC CONDUCTIVITY (cm/sec)	TYPE OF DISCONTINUITY	SOURCE OF INFORMATION
Alluvium/Colluvium	10-25 feet	10^{-3} to 10^{-9} cm/sec	None	CDH files
Laramie Formation upper Laramie sandstone units	300-400 feet	$2.3 * 10^{-4}$ to $9.3 * 10^{-5}$ cm/sec	confined to semi-confined due to tight claystone units	Department of Natural Resources
Laramie Formation lower Laramie A&B sandstone units	100-200 feet	$1.6 * 10^{-3}$ to $4.7 * 10^{-4}$ cm/sec	Confined	Department of Natural Resources
Fox Hills Milliken Sandstone	20-100 feet	$1.6 * 10^{-3}$ to $4.7 * 10^{-4}$ cm/sec	confined	Department of Natural Resources

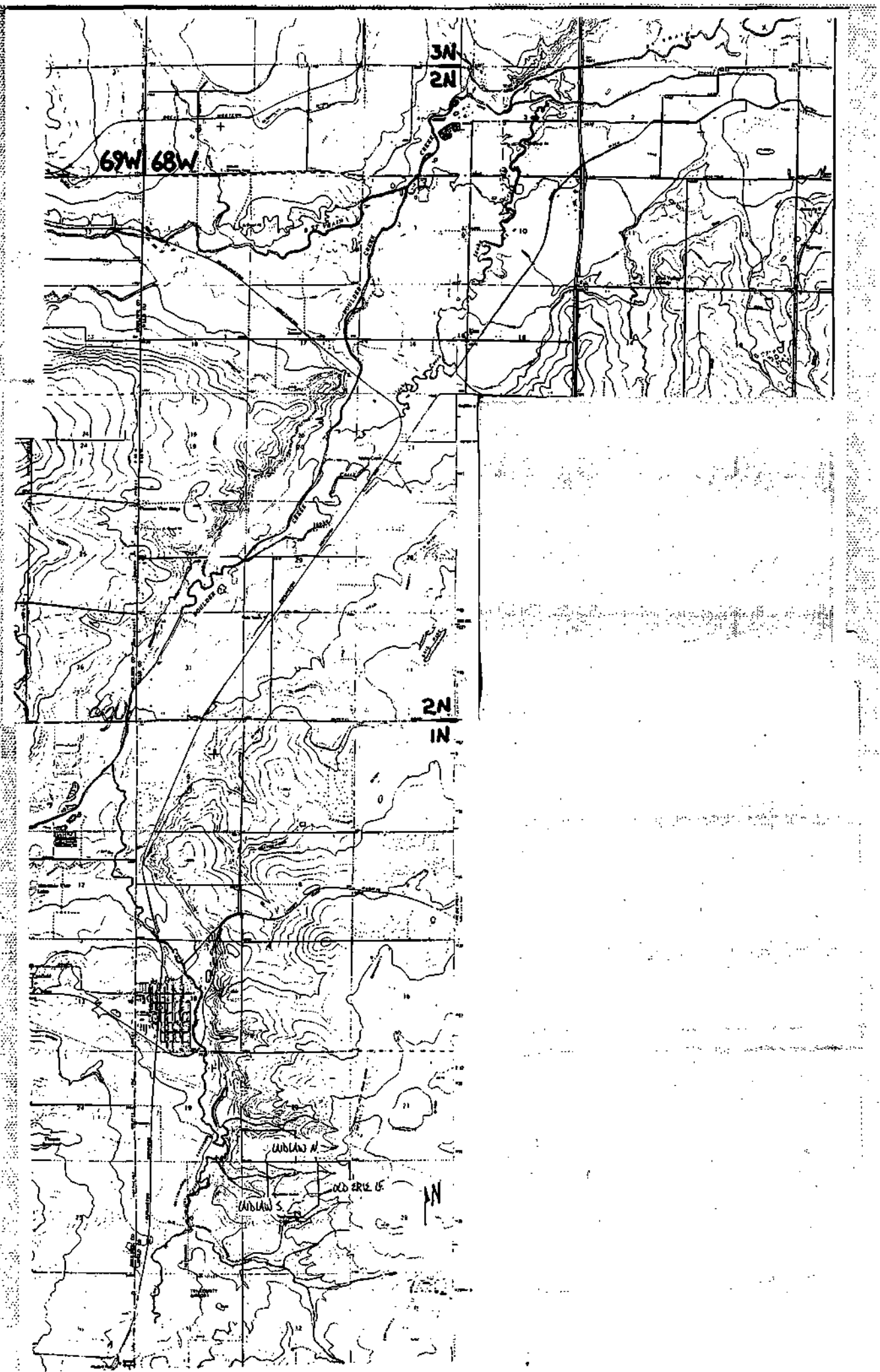
1. Use additional sheets if necessary.

2. Identify the type of discontinuity within four-miles from the site (e.g., river, strata "pinches out", etc).

35. SKETCH OF SITE

Include all pertinent features, e.g., wells, storage areas, underground storage tanks, waste areas, buildings, access roads, areas of ponded water, etc. Attach additional sheets with sketches of enlarged areas, if necessary.




3N
2N
69W
68W
2N
1N
LAIDLAW N.
OLD ERIE LF.
LAIDLAW S.
N

TABBED PAGE

APPENDIX H

PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

PHOTO 5

ARCS

Remedial Planning Activities At Selected Uncontrolled Hazardous Substance Disposal Sites In The Zone of Regions VI, VII and VIII

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Environmental Protection Agency

Contract No. 68-W9-0053

SITE INSPECTION PRIORITIZATION

ERIE LANDFILL SITE
WELD COUNTY, COLORADO

Work Assignment No. 21-8JZZ

June 16, 1992

URS
CONSULTANTS
MAKING TECHNOLOGY WORK™

SEC Donohue
Brown and Caldwell
Harza Environmental Services, Inc.
Shannon & Wilson, Inc.
Western Research Institute

SITE INSPECTION PRIORITIZATION

Erie Landfill Site
Weld County, Colorado

U.S. EPA Contract No. 68-W9-0053
Work Assignment No. 21-8JZZ

CERCLIS ID #COD980951735

Prepared By:
Kristin S. Cottle

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URS DOCUMENT CONTROL NO. 41881.26.63.A2879

Approved: _____ Date: 16 Jun 92
John I. Coats, Program Manager, URS

Approved: _____ Date: 6/16/92
Kevin Mackey, Project Manager, URS

Approved: _____ Date: 6/18/92
Pat Smith, Site Assessment Manager, EPA

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SITE INSPECTION PRIORITIZATION

Erie Landfill Site
Weld County, Colorado

U.S. EPA Contract No. 68-W9-0053
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SITE INSPECTION PRIORITIZATION (SIP)

Erie Landfill Site
Weld County, Colorado

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1.0 INTRODUCTION

URS Consultants, Inc. (URS) has been tasked by the U.S. Environmental Protection Agency (EPA) under the Alternative Remedial Contracts Strategy (ARCS) Contract Number 68-W9-0053 to conduct a Site Inspection Prioritization (SIP) (Work Assignment Number 21-8JZZ) for the Erie Landfill Site (CERCLIS ID #COD980951735). The Site Inspection (SI) was conducted for this site, by the Colorado Department of Health, on March 19, 1991, and was completed on April 18, 1991 (State of Colorado Department of Health (CDH) 1991).

2.0 OBJECTIVES

The purpose of this SIP is to quantify data elements of the Hazard Ranking System (HRS) at the Erie Landfill Site and to provide sufficient documentation for the EPA to determine the environmental contamination in the Erie Landfill Site, thus determining the appropriate future course of action. The results of this SIP, and previous work preformed by the Colorado Department of Health, will enable the EPA to determine if the site is likely to score above 28.50 on the HRS and subsequently qualify for eventual listing on the National Priorities List (NPL). Detailed environmental pathway discussions are presented in the Sampling Activities Report, written by the Colorado Department of Health in August 1991, and will not be addressed by this SIP.

The specific objectives of this SIP are to review the International Business Machine of Boulder's (IBM-Boulder) Section 104(e) response to EPA's request for information pursuant to Section 104 of CERCLA for the Erie Landfill Site located in Weld County, Colorado, and to:

- Identify, quantify and characterize IBM-Boulder wastes deposited at the Erie Landfill Site in 1968 and 1969 (IBM-Boulder is an identified Potentially Responsible Party (PRP));
- List of substances which have definitely or potentially been deposited at the Erie Landfill Site by IBM-Boulder and other PRPs;
- Quantify waste using Tier A or B criteria; and
- Identify data gaps for other follow-up PRP Section 104(e) requests which could better quantify waste.

3.0 BACKGROUND

3.1 SITE LOCATION

The Erie Landfill Site is composed of 275 acres and is located in Weld County, Colorado, approximately 1 1/4 miles southeast of the town of Erie. The legal description for the Erie Landfill Site is Section 29, Township 1 N, Range 68 W, and the approximate site coordinates are 40° 01' 40" N Latitude and 105° 01' 15" W Longitude. To reach the site from I-25, take the Erie exit west to Weld City Road #5 and proceed south for one mile. The entrance to the site is located at the intersection of Weld County Road #5 and #6.

3.2 SITE DESCRIPTION

The Erie Landfill Site is located in the Denver Basin, which extends from Greeley to Colorado Springs, and is bordered on the west by the Rocky Mountains. The site lies on gentle westward sloping topography with a 1-5% gradient. The land use in the area is primarily agricultural. The town of Erie (population 1,258) is located approximately 1 1/4 miles northwest of the site (Figure 2) (U.S. Department of Commerce, Bureau of the Census, 1990). There are an estimated 400 wells located within a four-mile radius of the site, which tap three aquifers the alluvial, shallow Laramie bedrock, and Laramie-Fox Hills aquifers (CDH 1991). The town of Erie obtains drinking water from Erie Lake and Prince Lake No. 2. An estimated 110 town wells tap the alluvial aquifer for landscape watering. The Laramie-Fox Hills aquifer is utilized by residences outside of the town of Erie. The Laramie-Fox Hills aquifer is located approximately 350 to 400 feet below ground surface in the vicinity of the site, and there are an estimated 230 wells within a four-mile radius of the site (CDH 1991). Surface water flows west in three draws through the facility into Coal Creek, which flows into Boulder Creek within 15 miles downstream of the site (Figure 1).

There are three separate landfills at the Erie Landfill Site, which are addressed as one site by this report and by IBM-Boulder in the Section 104(e) response. Henceforth, the term "site" will be used when referring to the entire Erie Landfill Site, and landfill names will by used for specific landfill references. The landfill that accepted both municipal and hazardous waste in the past has been known both as the Erie Landfill and as the Pratt property (Figure 2). The Erie Landfill received waste from approximately 1965 to 1979, and was closed (under the direction of the Colorado Department of Health) and revegetated in 1984. The remaining properties are currently known as Laidlaw South Landfill, which was first operated in 1979, and Laidlaw North Landfill, which opened in 1984 (Figure 2). The Laidlaw South Landfill has also been called the Columbine

Landfill. The Laidlaw South property has intermediate cover on some areas but further municipal landfilling is planned (CDH 1991). The Laidlaw North property is partially closed with full closure plans set for 1993. The entire site is fenced and access is restricted with the exception of the easternmost segment of the Erie Landfill (Figure 2).

3.3 SITE HISTORY AND PREVIOUS WORK

There have been various land uses and transfers of ownership of the landfill properties. In 1964 the Pratt family entered into agreement with a Mr. John Neuhauser to fill in the south draw of the Erie Landfill parcel in order to level the area so that it could be eventually farmed. Mr. Neuhauser, along with a Mr. Carl Smith, formed a company called Sanitation Engineering, Inc. This company hauled solid waste from surrounding communities and also accepted industrial and chemical wastes at least in part from IBM-Boulder, "Cheyenne Air Force Base" and Sundstrand Aviation (IBM-Boulder 1991). It is unknown which U.S. Air Force base the term "Cheyenne Air Force Base" actually refers to as there is no listed U.S. Air Force base by this name (U.S. Air Force 1992a and 1992b).

On August 9, 1966, Boulder County personnel noted three pits at Erie Landfill; two were used for the disposition of chemicals, and the third was used for burning chemicals, including propellant. A September 1966 inspection, conducted by the CDH, noted that part of the site was being excavated in order to divert natural drainage around the facility. On July 17, 1968, a Certificate of Designation (CD) (a permit specifying proper operations) was issued to Mr. Neuhauser by the Weld Board of County Commissioners. On July 26, 1968, an uncontrolled chemical fire burned approximately 3,000 gallons of waste chemicals in the southwestern corner of the Erie Landfill. On October 30, 1968, the CD was suspended by Weld County for 33 days,

but was held in abeyance for a six-month probation period. Mr. Neuhauser sold his share of the company to his partner, Mr. Smith, in late 1968 (CDH 1990).

Although information is inconclusive, it is believed that Browning-Ferris Industries (BFI) operated all the Weld County Landfills, including the Erie Landfill, from 1969 to 1974 (CDH 1990). In June 1975 the Colorado Department of Health (CDH) inspected the landfill and noted the presence of oil/water waste. The February and April 1976 inspections indicated that approximately 1,500 gallons per week of oil/water waste were deposited at the base of the landfill. In October 1976, a Mr. Ralph Roweder (a BFI employee) purchased the contract to operate the Weld County Landfills. A February 7, 1978 memorandum from the Dacono Fire Department noted frequent fires at the Erie Landfill requiring from 10,000 to 100,000 gallons of water to extinguish (CDH 1990).

In June 1979, Colorado Landfill, Inc. (CLI) purchased the Erie Landfill. CLI was not interested in operating the old Erie Landfill, thus Weld County Commissioners revoked the Erie Landfill CD on June 6, 1979. During that same month, surface rights to the Columbine Mine No. 1 were sold to CLI, which added an additional 160 acres west-southwest of the original 35-acre Erie Landfill. CLI received a CD from Weld County to operate a sanitary landfill (authorized to accept municipal solid wastes only) on the new 160-acre parcel, which was designated as the Columbine Landfill (CDH 1990). The Columbine Landfill is currently known as the Laidlaw South Landfill (Figure 2).

A November 1981 CDH inspection noted oil, grease and ponded sludge at the northeast end of the site, probably due to the 500 gallons per week of car wash and grease trap wastes that the landfill was accepting. CDH reinspected the site in September 1982 and noted that during a 6-8

week period, 6,000-9,000 gallons per day of sand and grease trap waste sludges were being deposited at the Columbine Landfill. A CDH memorandum dated May 1983 stated that some of the trap wastes contained cyanide, and that exposed trash areas were noted at the Columbine Landfill. A May 1985 inspection noted a black liquid discharge into a pond at the west end of the Columbine Landfill. In December 1985, the Columbine Landfill was purchased by Western Disposal. In January 1988, Laidlaw Waste Systems, Inc. purchased the property, which became known as Laidlaw South (Figure 2). Laidlaw developed and implemented a closure and post-closure maintenance plan for the old 35-acre Erie Landfill parcel (CDH 1990).

Daniel Horst (of Landfill Systems) developed an operations plan for a landfill north of the Columbine Landfill. The 80-acre site, approved for municipal solid waste only, was annexed by the town of Erie on November 8, 1984. The property was sold to a GSX Corporation in August 1986. In November 1986, GSX was purchased by Laidlaw Waste Systems, Inc. and the property became known as Laidlaw North (Figure 2)(CDH 1990).

Two Preliminary Assessments (PAs) and two Site Inspections (SIs) have been performed by the CDH at the site. The 1984 PA stated that approximately 1,500 drums containing 84,000 gallons of solvents, organics, inorganics, acids and bases were deposited in the Erie Landfill, by IBM-Boulder from 1965 to 1969. The SI was performed at the site in June 1984. Several EPA target compounds and tentatively identified compounds (TICs) were detected in groundwater, including 1-butene (130 μg/l) and oxybismethane (310 and 370 μg/l). Two shallow monitoring wells (103A and 103B) were drilled on the north side of the Laidlaw North property in December 1984 and in March 1988, respectively. The CDH 1990 PA mentioned "high concentrations" of volatile organics, including 1,1 dichloroethane, methylene chloride, tetrachloroethene, 1,1,1-

trichloroethane, chloroethane, chloroform and trichlorofloromethane, which were detected in the December 1987 sampling of well 103A (CDH 1990).

CDH conducted the additional PA in November 1990. The groundwater pathway was the major pathway of concern addressed in the 1990 PA. The SI was conducted in two phases in the spring of 1991. Samples were analyzed for VOA, BNA, pesticides/PCBs and inorganics. Observed releases of benzene, 1-1 dichloroethane, dichlorofluoromethane, tetrahydrofuran and 2-fluoro-4-nitrophenol were detected in on-site monitoring wells. Higher concentrations of inorganic compounds were also detected in these wells, indicating degrading water quality compared to background monitoring wells. No observed releases were detected in domestic wells associated with the Laramie-Fox Hills Aquifer (CDH 1991).

IBM-Boulder contracted Dames and Moore in 1980 to assess the Erie Landfill, and again in 1990 to address the geohydrologic and water-quality conditions in the vicinity of the landfills. EPA sent a Section 104(e) request to IBM-Boulder in October 1991, requesting documentation of IBM-Boulder's disposal practices at the landfill complex. The waste characteristics section of this report addresses IBM-Boulder's November 1991 response (IBM-Boulder 1991).

3.4 SITE GEOLOGY

A detailed description of the site geology, hydrogeology and hydrology is provided in the Preliminary Assessment for the Columbine (Erie) Landfill, written by the Colorado Department of Health in 1990 (CDH 1990).

The site is on the northwestern flank of the Denver Basin. The soils on-site are comprised of calcareous silt, with some clay and very fine sands. The soil deposits were formed by wind and stream disposition and by weathering of the bedrock. The soil thickness ranges from approximately 2 to 21 feet due to irregular bedrock and land surfaces. Thus, the depth to bedrock also varies from 2 to 21 feet on site. The irregular bedrock surface somewhat parallels the surface topography (CDH 1990).

The Laramie Formation, which forms the bedrock under the site, is divided into upper and lower lithologic units. The upper unit is comprised of organic claystone with interbedded sands and the lower unit consists of fine-grained, moderate to well-cemented sandstone which grades to carbonaceous claystone. The sandstones occur at depths of 400 to 450 feet below ground surface and comprise the upper part of the Laramie-Fox Hills Aquifer (CDH 1990).

The coals of the Laramie Formation have been extensively mined in the area, as noted by the presence of the Columbine Mine No. 1 which underlies the Laidlaw South Landfill parcel (Figure 2). Overburden thickness above the mine ranges from 150 to 400 feet with the probable extracted coal seam thickness ranging from 0 to 15 feet. The mine was operated by the room and pillar extraction method. After the coal seams were exhausted, the pillars were typically removed. The area has never been evaluated to determine past or future mining potential (CDH 1991).

The Fox Hills Sandstone is beneath the Laramie Formation. The upper unit (Milliken Sandstone) is composed of fine to medium-grained, parallel, thick-bedded sandstone, thin siltstone and shale interbeds. The unit ranges in thickness from 40 to 90 feet. The Milliken Sandstone and the overlying lower sandstone unit of the Laramie Formation comprise the Laramie-Fox Hills

Aquifer. Pierre Shale beneath the Fox Hills Sandstone, consists of a 7,000- to 8,000-foot thick sequence of gray to brown, clayey marine shales (CDH 1990).

The site lies in a structurally complex area. Bedrock has been highly distorted through both folding and faulting, with faults that generally align in a northeasterly direction. Regionally, the bedrock dips one degree to the southeast (CDH 1990).

3.5 SITE HYDROGEOLOGY

The direction of regional groundwater flow in the Laramie-Fox Hills Aquifer is to the east-southeast. Groundwater is generally produced from the sandstone units at depths of 400 to 450 feet below ground surface. Exploratory drilling programs have identified two shallow groundwater systems at the site. The shallowest groundwater system is associated with the alluvial and colluvial soil materials in the topographic drainages. Recharge to the alluvial groundwater system occurs by direct infiltration of snowmelt and rainfall from topographically elevated areas. The saturated thickness of the shallow system is generally less than 5 feet and is perched at approximately 10 to 20 feet below the ground surface at the bedrock interface (CDH 1990).

The deep groundwater system found at the site is located within a saturated bedrock unit consisting of siltstone, sandstone and coal units. The depth to saturated bedrock ranges from 21 to greater than 82 feet below ground surface. Bedrock immediately above and below the saturated unit is dry. Because of the large difference in the potentiometric elevation between the local shallow bedrock groundwater systems and the regional Laramie-Fox Hills Aquifer, the low hydraulic conductivity of the upper Laramie Formation claystones, and the unsaturated

bedrock beneath the deep perched system, it has been concluded that the perched and regional groundwater systems are not hydraulically connected (CDH 1990).

3.6 SITE HYDROLOGY

The site lies on westward sloping topography with a 1-5% gradient. Locally, flat areas, between the draws, are often farmed. Drainages are oriented east-west and generally flow into Clear Creek within one-half mile to the west. There are three unnamed drainages, with an east-west trend, which are located in the vicinity of the site. The drainage that bisects Laidlaw North Landfill (Figure 2, Section 20), is referred to as the north draw. The drainage that bisects the Laidlaw South and Erie Landfill (Figure 2, Section 29) is referred to as the middle draw, and the drainage to the south of the site is referred to as the south draw (Figure 2, Section 29) (CDH 1990).

The middle and south draw are well-developed and join together in (Figure 2, Section 30). At that confluence, the draws are bermed and water ponds behind it. Downgradient from the berm, the stream bed is dry and there is no discharge to Coal Creek. The south draw has four additional berms (Figure 2, Section 29). Behind each berm, water is ponded and subsequently, that water supports wetland vegetation. The north draw is not bermed and it is generally dry except during storm events (CDH 1990).

Coal Creek is the only perennial stream located within two miles of the site (Figure 1). Surface water conditions are routinely monitored by Laidlaw Waste Systems, Inc. EPA priority pollutants have not been detected in samples and on average, water quality is equivalent at the

upstream and downstream monitoring stations. There is no indication of degraded surface water quality in Coal Creek from the landfill operation (CDH 1990).

3.7 SITE METEOROLOGY

The site receives moderate amounts of precipitation. The average annual precipitation is 16 inches per year while the mean annual lake evaporation is 38 inches per year, yielding a net precipitation value of negative 22 inches per year (U.S. Department of Commerce 1968). The corresponding HRS net precipitation factor value is one (Office of the Federal Register 1990). Additionally, the 2-year, 24-hour rainfall event for the site is two inches (Dunne and Leopold 1978).

4.0 SITE WASTE QUANTITY AND CHARACTERISTICS

4.1 IBM-BOULDER WASTE

IBM-Boulder first generated chemical waste in 1966. From October 7, 1966, to March 18, 1968, IBM-Boulder had a contract with Denver Clean-Up Service to haul chemical process wastes to a landfill in the Denver area. During the same period of time, Sanitation Engineering, Inc. hauled non-hazardous office trash to the Erie Landfill. On May 7, 1968, Sanitation Engineering, Inc. began disposing both IBM-Boulder trash and chemical waste in the Erie Landfill. Due to poor waste handling practices by Sanitation Engineering, Inc., IBM-Boulder terminated their contract in May 1969. IBM-Boulder then used local dumps to dispose of site trash and hired Conservation Chemical Company of Kansas City to haul and dispose of all site chemical waste.

The total volume of waste organics, inorganics, solvents, acids and bases disposed of at the Erie Landfill by IBM-Boulder from May 7, 1968 to May 1969 was reported by IBM-Boulder to be 88,520 gallons (IBM-Boulder 1991). Most of the waste was contained in 55-gallon drums and one- to five-gallon fireproof safety cans. Table 1, which follows, summarizes the composition of IBM-Boulder waste sent to the Erie Landfill, based on information provided by IBM-Boulder in the Section 104(e) response (IBM-Boulder 1991).

Table 1

Composition and Quantity of IBM-Boulder Buried Wastes
May 1968 - May 1969

TYPE	WASTE	GALLONS BURIED
MIXED SOLVENTS		
Composed of:	Cyclohexanone	27,000
	Toluene	21,500
	Methyl ethyl ketone	3,000
SLUDGE		
Approximately 75% composed of:	Ferric oxide	
	Ferrous oxide	
	Conductex SC (carbon black)	
Approximately 25% composed of:	Hycar 1432 (acrylonitrile rubber)	
	Epon 834 (epichlorohydrin/bisphenol)	
	Mondur CB-75 (polyisocyanate in ethyl acetate solution)	
	VAGH-1 (91% vinyl chloride, 6% vinyl alcohol, 3% vinyl acetate)	
	Duomeen TDO (N-tallow-trimethylene diamine dioleate)	
	Robane (squalane)	
	Freon TF (trichlorotrifluoroethane)	
	Multron R-16 (polyester resin)	
	Isopropyl alcohol	
	SLUDGE TOTAL	18,000
OTHER		
	Trichloroethane (including Chlorothene)	4,000
	Epoxy	4,000

Table 1
(Continued)
Composition and Quantity of IBM-Boulder Buried Wastes
May 1968 - May 1969

TYPE	WASTE	GALLONS BURIED
	Methylene chloride (contained in Lonco Sonic Solve No. 115 and M-17 solvent)	2,000
	Alcohols (primarily isopropyl alcohol and small quantities of ethyl, methyl, and propyl alcohols)	1,900
	Ferric chloride	1,700
	Sulfuric acid (Enplate Conditioner 470 and battery acid)	400
	Ammonium persulfate	250
	Cellosolve acetate (contained in AZ-111 Photo Resist)	100
	Trichloroethylene (contained in M-17 solvent)	75
	Tetrahydrofuran (contained in M-17 solvent)	75
	Nitric acid	50
	Sodium chloride	50
	Ethyl acetate (contained in Jaysol solvent)	10
	Methyl isobutyl ketone (contained in Jaysol solvent)	10
	Plating solution and Heat Treat waste composed of cyanide, chromic, oxides, copper, caustics, barium and nitrate salts	4,400
	IBM-BOULDER TOTAL	**88,520**

4.2 OTHER WASTE

Other potentially hazardous substances which have been sent to the site are included in Table 2, which follows. The list of substances were compiled from the CDH 1991 Sampling Activities Report and from the information included with the IBM-Boulder Section 104(e) submittal (CDH 1991 and IBM-Boulder 1991). As stated previously, waste was deposited in the Erie Landfill from the mid 1960s to 1979, at which time the Columbine (currently Laidlaw South) Landfill opened. All waste listed, which was deposited after 1980, was pre-approved by the Colorado Department of Health and/or Weld County as well as the landfill operator (IBM-Boulder 1991).

Table 2

Other Potentially Hazardous Substances Deposited at the Erie Landfill Site

SOURCE	WASTE	AMOUNT	YEAR	LANDFILL
"Cheyenne Air Force Base"	unknown	unknown	late 1960s	Erie
Sundstrand Aviation	Torpedo propellant	unknown	late 1960s	Erie
unknown	Protex (55-gal. drums)	unknown	1968-1969	Erie
unknown	Oil/water waste	1,500 g/wk (TVU)	1976	Erie
Shattuck Chemical (S.W. Shattuck Chemical Co., Inc.)	Soil contaminated with spent petroleum catalysts & heavy metals	32 truck loads (TVU)	1980	South
unknown	Car wash and grease trap waste	500 g/wk (TVU)	1981	South
unknown	Sand and grease trap sludges (1% solids) - cyanide-contaminated	6,000-9,000 g/d for 6-8 wks.	1982	South
Berthoud Fire Department	Soil contaminated with methanol and methylene chloride	"small" (TVU)	1983	South
Analytical Development Corporation	Pineapple green chop tops (contaminated with pesticides)	3,600 lbs.	1983	South
Continental Pipeline Company (CPL)	CPL jet fuel filters (below RCRA limits for leachate metals)	unknown	1983	South
unknown	Asbestos	900 bags/mt (TVU)	1983-1985	South
unknown (private citizen)	DDT (overpacked in 5-gal. can)	1 gal.	1984	South
unknown	Gas-contaminated soil and pads	20-30 gal.	1984	South
unknown	Mercury (Hg)-contaminated materials	1/2 - 1 tsp. (Hg)	1984	South
Lakeside & Southglen Malls	Asbestos	45 cu. yds.	1987	South

Erie=Erie Landfill
g/w=gallons per week
lbs.=pounds
cu. yds.=cubic yards
ppm=parts per millon

South=Laidlaw South Landfill
g/d=gallon per day
bags/mt=bags per month
yds/d=yards per day
TVU=total volume unknown

gal.=gallon(s)
wks.=weeks
tsp.=teaspoon
con.=concentration

Table 2
(Continued)
Other Potentially Hazardous Substances
Deposited at the Erie Landfill Site

SOURCE	WASTE	AMOUNT	YEAR	LANDFILL
unknown	Flyash	865 cu. yds/d (TVU)	1987	South
Rothman Oil Company	Petroleum-contaminated soil (low con. of heavy metals)	350 cu. yds.	1987	South
AT&T	Gas & diesel-contaminated soil (average con. 100 ppm)	250 cu. yds.	1988	South
Laidlaw (Adams County facility)	Petroleum-contaminated soil	"large" (TVU)	1988	South
Gilpin School (Denver Public Schools)	Primatol-contaminated soil (<1ppm con. of Primatol)	500 cu. yds.	1988	South
Johnson Publishing Company	Empty 55-gal. drums contaminated with lithographic printing ink	unknown	1988	South
Custom Pumping Company	Solidified trap sludge & cement kiln dust	unknown	1989	South
IBM-Boulder	Toner barrels	unknown	1989	South
AT&T	Condensation Reflow Solder Machine with residual 3M Flourinert (non-hazardous)	unknown	1989	South
unknown	Asbestos	40 cu. yds.	1989	South
City of Broomfield	Wastewater grit	unknown	1989	South
George Oil Company	Petroleum-contaminated soil	"large"	1990	South
City of Longmont	Petroleum-contaminated soil	"large"	1990	South
HW Moore Equipment Co.	Petroleum-contaminated soil	8,000 cu. yds.	1990	South

Erie=Erie Landfill
g/w=gallons per week
lbs.=pounds
cu. yds.=cubic yards
ppm=parts per millon

South=Laidlaw South Landfill
g/d=gallon per day
bags/mt=bags per month
yds/d=yards per day
TVU=total volume unknown

gal.=gallon(s)
wks.=weeks
tsp.=teaspoon
con.=concentration

4.3 DATA GAPS

The IBM-Boulder Section 104(e) response summarized in Table 1, identified the Tier A, hazardous constituent quantities of wastes deposited by IBM-Boulder at the Erie Landfill, totaling 88,520 gallons. Due to poor record keeping in the 1960s and 1970s, the complete nature, quantity and composition of hazardous wastes deposited by parties other than IBM-Boulder at the Erie Landfill is unknown. Table 4.2.1 lists Potentially Responsible Parties (PRPs) and most importantly, generators responsible for depositing waste at the site pre-1980, at which time waste was approved by the Colorado Department of Health and/or Weld County. Supplementary sources of information might include "Cheyenne Air Force Base" (if the specific base could be determined) and Sundstrand Aviation as additional generators responsible for depositing waste at the Erie Landfill in the late 1960s. Information received from Section 104(e) requests directed to "Cheyenne Air Force Base" and Sundstrand Aviation may help to further characterize the Tier A waste specifications of the site.

5.0 SUMMARY

In the late 1960s, the Erie Landfill accepted hazardous waste. During a one-year period of time, IBM-Boulder generated 88,520 gallons of waste, which was deposited at the Erie Landfill. During the same period of time it is documented that "Cheyenne Air Force Base" and Sundstrand Aviation also shipped waste to the Erie Landfill. After 1980, a variety of non-municipal wastes was accepted by the Columbine Landfill, currently known as Laidlaw South. Wastes such as asbestos and petroleum-contaminated soil were approved by the Colorado Department of Health and/or Weld County and deposited at the Columbine Landfill, after 1980. Waste quantity and composition information is not complete, and follow-up Section 104(e) requests to additional PRPs could provide further information needed for HRS specifics.

6.0 REFERENCES

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U.S. Department of Commerce, Bureau of the Census. 1990. Census Data.

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U.S. Geological Survey (USGS). 1979. (Photo-revised) 7.5 Minute Topographic Quadrangle. Erie, Colorado.

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U.S. Geological Survey (USGS). 1983. 1:100 000-Scale Metric Topographic Map, Denver West, Colorado.

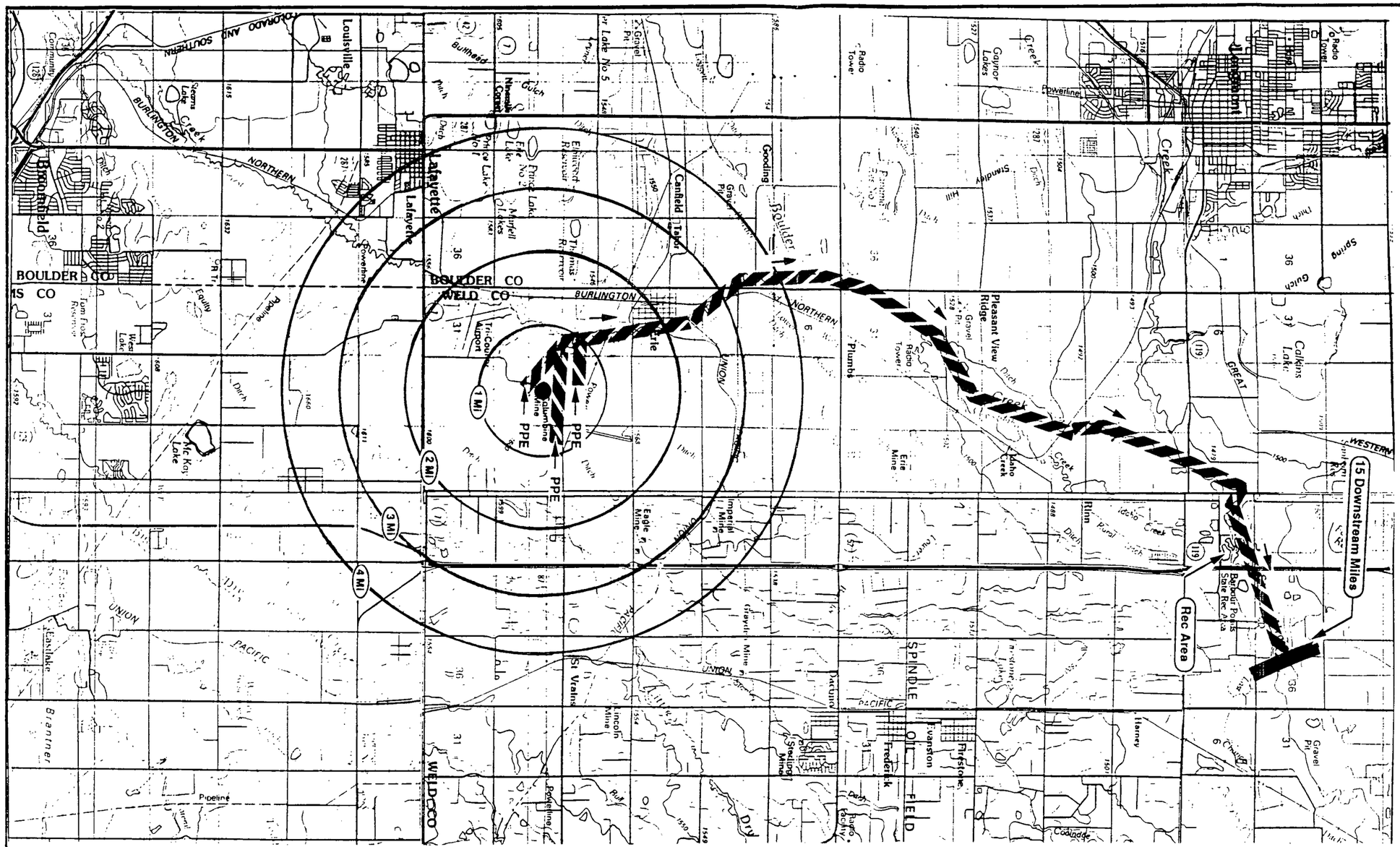
U.S. Geological Survey (USGS). 1984. 1:100 000-Scale Metric Topographic Map, Estes Park, Colorado.

U.S. Geological Survey (USGS). 1982. 1:100 000-Scale Metric Topographic Map, Greeley, Colorado.

7.0 FIGURES

Figure 1, Radius of Influence Map, and Figure 2, Site Map, are found on the following pages.

FIGURE 1



KILOMETERS 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

MILES 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13

LEGEND

- ● - Site Location
- PPE - Probable Point of Entry
- → - Direction of Flow
- ▨ - Stream

Source: USGS Topographic Maps - Denver East, Colorado, 1981
Greeley, Colorado, 1982
Denver West, Colorado, 1983
Estes Park Colorado, 1984

Site Investigation Prioritization (SIP)

URS Job No. 41881.26

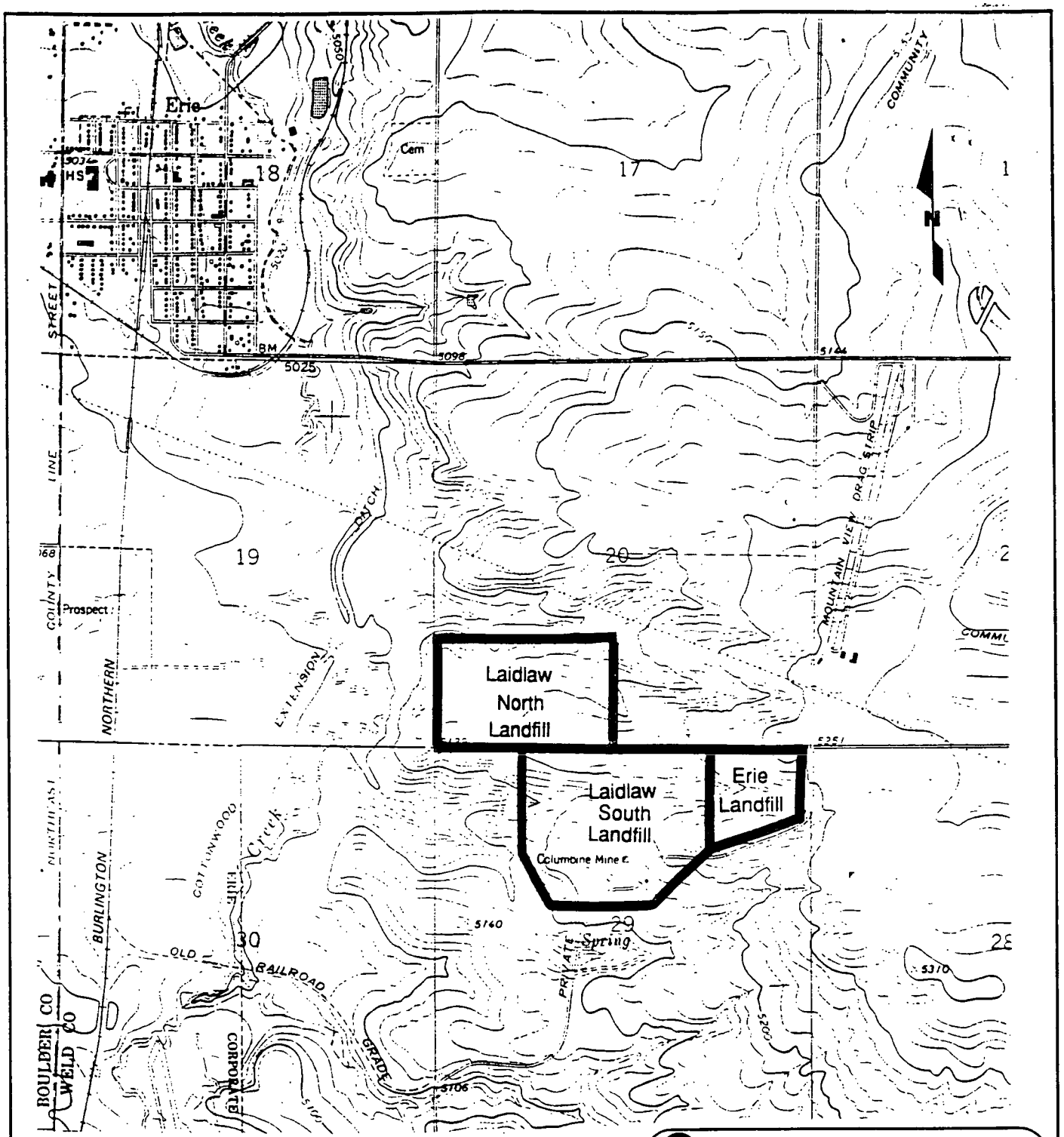
Erie Landfill Site
Weld County, Colorado

Radius of Influence Map
Figure 1

June, 1992

URS CONSULTANTS

FIGURE 2



0 1 MILE

SCALE

Source: USGS Topographic Map, Erie, Colorado, 1979

Site Investigation Prioritization (SIP)

URS Job No. 41881.26

Erie Landfill Site
Weld County, Colorado

Site Map
Figure 2

June, 1992

URS CONSULTANTS

487497 - R8 SDMS
0449588
487497

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

Ref: 8HWM-SR

OCT 11 1991

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IBM, Legal Counsel Manager
Department 802/001
P.O. Box 1900
Boulder, Colorado 80301

Re: Request For Information Pursuant to Section 104 of CERCLA for Erie South Landfill Site Located in Weld County, Colorado

Dear Sir or Madam:

The United States Environmental Protection Agency (EPA) is currently investigating the source, extent and nature of the release or threatened release of hazardous substances, pollutants or contaminants, or hazardous wastes on or about the Erie South Landfill site (including surrounding landfill areas) in Weld County, Colorado, hereinafter referred to as "the Site". This investigation requires inquiry into the identification, nature and quantity of materials that have been or are generated, treated, stored or disposed of at, or transported to, the Site and the nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from the Site. EPA obtained information in 1981 that IBM disposed of chemical waste at the Erie South Landfill. (See attached Notification of Hazardous Waste Site). Additional information is required by EPA with respect to the nature of the substances disposed of by IBM at the Erie South Landfill, and referenced in the aforementioned notification.

Pursuant to the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Section 9604, as amended, you are hereby requested to respond to the Information Request set forth in Enclosure 1, attached hereto.

Compliance with the Information Request set forth in Enclosure 1 is mandatory. Failure to respond fully and truthfully to the Information Request within (15) days of receipt of this letter, or adequately to justify such failure to respond, can result in enforcement action by EPA pursuant to Section 104(e) of CERCLA, as amended. This statute permits EPA to seek the imposition of penalties up to $25,000 for each day of continued noncompliance. Please be further advised that

provision of false, fictitious, or fraudulent statements or representations may subject you to criminal penalties under 18 U.S.C. Section 1001.

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. Section 3501, et seq.

Your response to this Request must be accompanied by a notarized certificate that is signed and dated by the person who is authorized by you to respond to this Request. The notarized certificate must state that the response submitted to EPA is complete and contains all documents and information responsive to this Request that are known to you following a complete and thorough review of all information and sources available to you. A suggested format for the notarized certificate is included with this Request as Enclosure 2.

Your response to this Information Request should be mailed to:

U.S. Environmental Protection Agency
Gregory J. Phoebe, Civil Investigator
Superfund Remedial Branch, 8HWM-SR
999 18th Street, Suite 500
Denver, Colorado 80202-2405

Due to the legal ramifications of your failure to respond properly, EPA strongly encourages you to give this matter your immediate attention and to respond to this Information Request within the time specified above. If you have any legal or technical questions relating to this Information Request, you may consult with EPA prior to the time specified above. Please direct legal questions to Peter Ornstein, Attorney, Office of Regional Counsel at (303) 294-7581. Gregory J. Phoebe is also available to discuss this Request at (303) 294-7036.

Thank you for your cooperation in this matter.

Sincerely,

Diana Shannon, Chief
Superfund Remedial Branch

Enclosures

ENCLOSURE 1

ERIE SOUTH LANDFILL SITE

FIRST INFORMATION REQUEST

Instructions

1. Please provide a separate narrative response to each and every Question and subpart of a Question set forth in this Information Request.

2. Precede each answer with the number of the Question to which it corresponds.

3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to EPA. Moreover, should you find, at any time after the submission of your response, that any portion of the submitted information is false or misrepresents the truth, you must notify EPA of this fact as soon as possible and provide EPA with a corrected response.

4. For each document produced in response to this Information Request indicate on the document, or in some other reasonable manner, the number of the Question to which it corresponds.

5. The information requested herein must be provided even though the Respondent may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments Reauthorization Act (SARA), 42 U.S.C. Sections 9604(e)(7)(E) and (F), Section 3007(b) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6927(b), and 40 C.F.R. Section 2.203(b), by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary" or "company confidential." Information covered by such a claim will be disclosed by EPA only to the extent, and only by means of the procedures set forth in 40 C.F.R. Part 2, 41 Fed. Reg. 36,902 (1976) (amended at 43 Fed. Reg. 40,000 (1978), and 50 Fed. Reg. 51,661 (1985)). If no such claim accompanies the information when it is received by EPA, it may be made available to the public by EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain

categories of information are not properly the subject of such a claim.

6. All questions asked in the past tense should be interpreted to apply to the present as well.

Definitions

The following definitions shall apply to the following words as they appear in this Enclosure 1:

1. The term "you" or "Respondent" shall mean the addressee of this Request, the addressee's officers, managers, employees, contractors, trustees, partners, successors, assigns, and agents.

2. The term "person" shall have the same definition as in Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21): an individual, firm, corporation, association, partnership, consortium, joint venture, or commercial entity, the United States Government, a State, municipality, commission, political subdivision of a State, or any interstate body.

3. The terms "the Site" or "the Facility" shall mean and include the Erie South Landfill (including adjacent landfill areas) located in Weld County south of the town of Erie, Colorado.

4. The term "hazardous substance" shall have the same definition as that contained in Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14), and includes any mixtures of such hazardous substances with any other substances, including petroleum products.

5. The term "pollutant or contaminant" shall have the same definition as that contained in Section 101(33) of CERCLA, 42 U.S.C. Section 9601(33), and includes any mixtures of such pollutants and contaminants with any other substances, including petroleum products.

6. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA, 42 U.S.C. Section 6903(5).

7. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA, 42 U.S.C. Section 6903(27).

8. The term "materials" shall mean all substances that have been generated, treated, stored, or disposed of or otherwise handled at or transported to the Site, including, but not limited to, all hazardous substances, pollutants and contaminants, hazardous wastes and solid wastes, as defined above.

9. The term "hazardous material" shall mean all hazardous substances, pollutants or contaminants, and hazardous wastes, as defined above.

10. The term "non-hazardous material" shall mean all material as defined above, excluding hazardous substances, pollutants and contaminants, and hazardous waste.

11. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.

12. The term "identify" means, with respect to a corporation, partnership, business trust or other association or business entity (including a sole proprietorship) to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

13. The term "identify" means, with respect to a document, to provide its customary business description, its date, its number if any (invoice or purchase order number), and the substance or the subject matter.

14. The term "release" has the same definition as that contained in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22), and includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.

15. The terms "document" and "documents" shall mean any writing, recording, or stored information and includes, but is not limited to, writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, cancelled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreements and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intraoffice communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording or any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written

material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which is produced, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document and (e) every document referred to in any other document.

16. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.

17. The term "arrangement" means every separate contract or other agreement between two or more persons.

18. The terms "transaction" or "transact" mean any sale, transfer, giving, delivery, change in ownership, or change in possession.

19. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

20. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, 42 U.S.C. Section 9601, et seq; RCRA, 42 U.S.C. Section 6901, et seq; or their regulations found at 40 C.F.R. Part 300, et seq; or 40 C.F.R. Part 260, et seq, respectively, in which case the statutory or regulatory definitions shall apply.

21. The term "property interest" means any interest in property including, but not limited to, any ownership interest, including an easement or right of way, any interest in the rental of property, any interest in a corporation that owns or rents or owned or rented property, and any interest as either the trustee or beneficiary of trust that owns or rents, or owned or rented property.

QUESTIONS

1. Identify the person(s) answering these Questions on behalf of Respondent.

2. For each and every Question contained herein, identify all persons consulted in the preparation of the answer.

3. For each and every Question contained herein, identify documents consulted, examined, or referred to in the

preparation of the answer or that contain information responsive to the Question and provide accurate copies of all such documents.

4. List the EPA RCRA Identification Numbers of the Respondent, if any, and identify the corresponding units, facilities or vessels assigned these numbers.

5. Identify all persons, including Respondent's employees, who have knowledge, information or documents about the generation, use, purchase, treatment, storage, disposal or other handling of materials at or transportation of materials to the Site.

6. Describe all arrangements that Respondent may have or may have had with each of the following persons: Kenneth Pratt and Karen Landers (believed by EPA to be one time owners of the Site), Laidlaw Waste System Inc., and Town of Erie, Colorado.

7. Identify all persons, including you, who may have given, sold, transferred, or delivered any material or item to the Site. In addition:

a. State the dates on which each such person may have given, sold, transferred, or delivered such material;
b. Describe the intended purpose of each sale, sale, transfer, or delivery of materials; and
c. Describe the source or process that produced the materials that may have been sold, transferred, or delivered.

8. Describe the materials or items that may have been given, sold, transferred, or delivered, including type of material, quantity, chemical content, physical state, concentrations reported in percent, ug/l, mg/kg, ppb, ppm, quantity by volume and weight, and other characteristics. If records are no longer available determine nature of chemical wastes from employee interviews and knowledge of IBM industrial processes. Note that the Notification of Hazardous Waste Site lists the general categories of waste materials as being organics, inorganics, solvents, acids, and bases.

9. Describe all leaks, spills or releases or threats of releases of any kind into the environment of any hazardous substances, pollutants, or contaminants that have occurred or may occur at or from the Site, including, but not limited to:

a. When such releases occurred or may occur;
b. How the releases occurred or may occur;
c. What materials were released or may be released. The answer to this question shall include the common

name, the chemical name, grade, and chemical composition of the substance. If the substance is known to include impurities or manufacturing contaminants, include these also;

d. What amount of each such hazardous material was released;

e. Where such releases occurred or may occur;

f. Any and all activities undertaken in response to each such release or threatened release;

g. Any and all investigations of the circumstances, nature, extent or location of each such release or threatened release including, the results of any soil, water (ground and surface), or air testing that was undertaken; and

h. All persons with information relating to subparts a. through g. of this Question.

10. Identify all persons, including you, who may have manufactured, given, sold, transferred, delivered, or otherwise handled materials at the Site. In addition:

a. Describe in complete detail all arrangements pursuant to which such persons may have so handled such items or materials;

b. State the dates on which such persons may have handled each such item or material;

c. State the amounts of such items or materials that may have been so handled on each such date;

d. Identify the persons to whom such items or materials may have been given, sold, transferred, or delivered;

e. Describe the nature, including the chemical content, characteristics, physical state (e.g., solid liquid) and quantity (volume and weight) of all material identified in barrels, in tanks, in other containers, or elsewhere on the Site and describe all tests, analyses, and results of such tests and analyses concerning such items or materials;

f. State whether any of the materials identified in in subpart e. exhibit any of the characteristics of a hazardous waste identified in 40 C.F.R. Part 261, Subpart C;

g. State whether any of the materials identified in subpart e. of this question are listed in 40 C.F.R. Part 261, Subpart D;

h. Describe the nature of the operations that were the source of the hazardous waste found at the Site;

i. Provide copies of all documents including, but not limited to, invoices, receipts, manifests, shipping papers, customer lists and contracts which may reflect, show or evidence the giving, sale, transfer or delivery, or other arrangements under which the

giving, sale, transfer, or delivery of any materials to the Site took place; and

j. Describe the type, condition, number, and all markings on the containers in which the materials were contained when they were handled. Provide any inventories prepared of drums or barrels, or other containers on Site along with documentation which evidence their transfer or disposal.

11. Identify all persons, including you, who may have:

a. Disposed of or treated materials at the Site;
b. Arranged for the disposal or treatment of materials at the Site; and
c. Arranged for the transportation of materials to the Site (either directly or through trans shipment points) for the disposal or treatment. Such persons hereinafter will be referred to as "Generators."

12. For each and every instance in which a generator performed any of the actions specified in parts a. through c. of the previous Question:

a. Identify the Generator;
b. Identify the persons with whom the Generator made such arrangements including, but not limited to, transporters;
c. Identify all persons who may have directly or indirectly transported or otherwise brought any materials to the Site;
d. State every date on which each Generator made such arrangements;
e. Describe the nature, including the chemical content, characteristics, physical state (e.g., solid, liquid) and quantity (volume and weight) of all hazardous materials involved in each such arrangement;
f. State whether any of the hazardous materials identified in subpart e. of this Question exhibit any of the characteristics of a hazardous waste identified in 40 C.F.R. Part 261, Subpart C;
g. State whether any of the hazardous materials identified in subpart e. of this Question are listed in 40 C.F.R. Part 261, Subpart D;
h. In general terms, describe the nature and quantity of the non-hazardous materials involved in each such arrangement;
i. Identify the owner of the hazardous materials involved in each such arrangement;
j. Describe all tests, analyses, analytical results or manifests concerning each hazardous material involved in such transactions;

k. Describe as precisely as possible any and all of the locations at which each hazardous material involved in such transactions actually was disposed or treated. This answer should include, but not be limited to, the details surrounding the receipt, storage, cleaning and transfer or disposal of any drums, barrels, or other containers containing material;

l. Identify the persons who selected the location to which the hazardous materials were to be disposed or treated;

m. Identify who selected the Site as the location at which hazardous materials were to be disposed or treated;

n. State the amount paid in connection with each such arrangement, the method of payment, and identity of persons involved in each arrangement;

o. Describe in detail what was done to the hazardous material and/or drums, barrels, or other containers once they were brought to the Site;

p. Describe the final disposition of hazardous materials and/or drums, barrels or other containers with material involved in each arrangement. This should include any information available regarding location within the Site where materials were disposed of;

q. Describe the measures taken by the Generator to determine how the disposal of the hazardous materials involved in each arrangement would actually take place; and

r. Describe the type, condition and number of containers in which the hazardous materials were contained when they were disposed, treated, or transported for disposal or treatment and describe any labels, numbers or other markings on the containers.

13. Identify all persons, including you, who may have transported materials to the Site. Such persons will hereinafter be referred to as "Transporters."

14. For each such Transporter, further identify:

a. In general terms, the nature and quantity of all non-hazardous materials transported to the Site;

b. The nature of the hazardous materials transported to the Site including the chemical content, characteristics, and physical state (e.g. solid, liquid);

c. Whether any of the hazardous materials identified in subpart b. of this Question exhibit any of the

characteristics of a hazardous waste identified in 40 C.F.R. Part 261, Subpart C;

d. Whether any of the hazardous materials identified in subpart b. are listed in 40 C.F.R. Part 261, Subpart D;

e. The persons from whom the Transporter accepted hazardous materials;

f. Every date on which the Transporter transported the hazardous waste to the Site;

g. The owners of the hazardous materials that were accepted for transportation by the Transporter;

h. The quantity (weight and volume) of the hazardous materials brought by the Transporter to the Site;

i. All tests, analyses, analytical results and manifests concerning each hazardous material accepted for transportation to the Site;

j. The precise locations at the Site to which each hazardous material was transported;

k. Who selected the location to which the Transporter would take each hazardous material;

l. Who selected the Site as the location to which the Transporter would take each hazardous material;

m. The amount paid to each Transporter for accepting the hazardous material for transportation, the method of payment, and the identity of the persons who paid each Transporter;

n. Where the persons identified in f. of this Question, intended to have such hazardous materials transported and all documents or other information (oral or written) evidencing their intent;

o. All locations through which such hazardous materials were trans shipped, or were stored or held, prior to their final treatment or disposal;

p. What activities transpired with respect to the hazardous materials after they were transported to the Site (e.g. treatment, storage, or disposal);

q. The final disposition of each of the hazardous materials brought to the Site;

r. The measures taken by the persons who gave the hazardous materials to the Transporters to determine what the Transporters would actually with the hazardous materials they accepted; and

s. The type, number and condition of containers in which the hazardous materials were contained when they were accepted by the Transporters and when they were left at the Site and any other labels, numbers or other markings on the containers.

15. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any Question contained herein or who may be able to provide

additional responsive documents, identify such persons and the additional information or documents that they may have.

16. For each and every question contained herein, if information or documents responsive to this Information Request are not in your possession, custody or control, then identify the persons from whom such information or documents may be obtained.

ENCLOSURE 2

NOTARIZED CERTIFICATE

I,_____, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by _____ to respond to the Environmental Protection Agency's (EPA's) Request for information concerning the Erie South Landfill Site in Weld County, Colorado.

2. I have made a complete and thorough review of all documents, information, and sources relevant to the Request.

3. I hereby certify that the attached response to EPA's Request is complete and contains all information and documents responsive to the Request.

_____

(Signature) (Name, Title)

(SEAL)

Subscribed and sworn to me this____ day of_____, 1991.

_____

Notary Public

My Commission Expires_____

My address is_____

_____

bcc: Peter Ornstein, Office of Regional Counsel
Pat Smith, Superfund Management Branch
Greg Phoebe, Superfund Remedial Branch

November 27, 1991

Request For Information Pursuant to Section 104 of CERCLA for Erie South Landfill Site Located in Weld County, Colorado

This response is being submitted by the International Business Machines Corporation, located at 6300 Diagonal Highway, Boulder, Colorado, with E.P.A. Hazardous Waste Identification number COD 001883164, in reply to EPA's information request received on October 16th, 1991.

The information that is provided herein was gathered from the available historical documentation and from interviews of numerous employees that were employed at the IBM Boulder site during the period of time in question. Documents will be referred to by an assigned exhibit number that appears on each document. Multiple paged documents may also include page number references. Personnel consulted to assist in preparing a response will be referred to by a letter which correlates to the attached Personnel Summary Sheet, Exhibit 1.

IBM Boulder Process and Product History

In March of 1965, IBM's Chairman of the Board announced that a five building manufacturing and development laboratory complex would be constructed near Boulder, Colorado. In November of 1965 the first employees occupied small portions of the new site designed to house three separate divisions of IBM. These divisions were identified as the Systems Manufacturing Division (SMD), Information Record Division (IRD), and Systems Development Division (SDD).

Systems Manufacturing Division

SMD originally consisted of the Advanced Manufacturing Engineering Laboratory (AME Lab) located in building 002, and Copier/Printer and Computer Tape Drive manufacturing housed in building 003. Within the two years that followed, 1967-1968, SMD expanded the Computer Tape Drive manufacturing processes into Building 004. (Exhibits 2, 3, and 4)

Advanced Manufacturing Engineering Laboratory

The AME Lab worked on developing and improving new processes and procedures associated with Copier/Printer and Computer Tape Drive manufacturing. Small laboratory "bench top" processes that simulated the actual manufacturing processes were used for experimental purposes so that proposed changes or improvements could be tested in the laboratory and evaluated prior to implementing the changes on the production line. The waste streams generated from this process included small amounts of acids, salt solutions and Freon's. (Exhibits (1-B,Q) and 5)

Machining
Copier/Printer & Computer Tape Drive Parts

The bulk of the Systems Manufacturing Division operations were the machining processes that utilized lathes and milling machines to turn raw metal stock into finished copier, printer and tape drive parts. In this operation coolants were mixed with water and used to wash parts as they were being machined and to cool the tooling equipment. When the machined parts were completed, the residual coolant and fine metal particles were cleaned from the parts with Mineral Spirits. The waste stream from these processes included coolants, water, mineral spirits and metal shavings. (Exhibit 1-C,F,W)

Plastics Manufacturing

In 1967 the newly constructed plastics molding manufacturing process was located in building 004 for the purpose of producing plastic parts used in computer tape drives. Later the plastics operation was expanded to produce parts for many IBM products. The plastic parts were made in plastics presses that would heat plastic pellets to the liquid state and then inject the liquid into a casting mold which was held closed by hydraulic pressure until the molten plastic cooled. The waste stream from the plastic presses included the hydraulic oils used in the hydraulic cylinders and coolants that cooled the presses. (Exhibit 1-C,W)

Computer Tape Drive Head Manufacturing

In 1968 computer tape drive head manufacturing processes were installed in building 004. These processes included a parts cleaning station where metal tape drive heads were cleaned prior to and during plating operations; several plating baths that were used to plate the tape drive heads with layers of copper, chrome and nickel; and a small machining area where the plated metal blocks were machined into the

final 1″ by 2″ by 2″ metal read/write heads for computer tape drives. The plating operations generated waste acids and metal salts, while the machining operation produced a mixture of waste coolant and water, scrap metal shavings, and filters containing metal particles. (Exhibit 1-A,H)

Information Record Division

This division began as a small satellite building referred to as building 016 that initially housed a small pilot process known as Magnetic Media Manufacturing. IRD operations began construction in mid-1966 with debug and initial operations of the small media coater in late 1966. Later that year building 016 was incorporated into the larger building that was constructed and became building 030. Construction of the large media coater began in early 1967 with operations well underway by mid-year. (Exhibit 1-C) In 1974 the Photoconductor Manufacturing process was transferred to the Boulder site and building 030 was expanded to accommodate the new manufacturing line. Two years later in 1976, the copier/printer supplies organization transferred the Toner manufacturing process to Boulder, and in 1978 the Developer Manufacturing process followed. Both of these processes occupied building 031. Each of these processes are detailed below.

Magnetic Media Manufacturing

The Magnetic Media Manufacturing process produced an iron oxide based magnetic tape used in computers for the storage of electronic information. This manufacturing process used a solvent mixture containing Methyl Ethyl Ketone, Cyclohexanone, and Toluene, mixed with Iron Oxide to produce a very thick sludge-like coating that was applied as a thin layer to a sheet of mylar. The coated mylar was then dried and sliced into magnetic tape products. The waste from this process included a mixture of Methyl Ethyl Ketone, Cyclohexanone, Toluene and Iron Oxide sludge in various consistencies and quantities, and finished product that did not meet engineering specifications.

Photoconductor Manufacturing

Photoconductor is an integral part of copiers and printers that essentially transfers a dry black powdered toner onto a piece of paper using electrostatic charge technology. Photoconductor is manufactured by coating an aluminum backed mylar sheet with alternating layers of polymers and dyes that are suspended in a solvent based solution. After the solutions are applied the photoconductor mylar is dried, cut,

and wound onto a metal spool. The wastes generated from this manufacturing process include mixtures of Tetrahydrofuran, Toluene, N-Butylamine, Ethylenediamine, dyes and resins, and finished product that does not meet engineering specifications.

Toner Manufacturing

Toner is a black powder that is the dry "ink" applied to the paper in copier or printer machines. IBM toner is manufactured by mixing dry resins and carbon black, heating the mixture, extruding it into pellets and grinding it into a fine powder. The waste from this process consists of final product that does not meet engineering specifications.

Developer Manufacturing

Developer is a blend of toner and electrostatically charged coated steel shot. The coated steel shot acts as a transportation media for the toner from the fill reservoir to the electrostatic system within a copier or printer. The production of Developer is a two step operation; first the steel shot is coated with a solvent based paint solution and cured in high temperature ovens. This intermediate product is known as "Carrier". Then the cured shot or "Carrier" is blended with the toner. The waste streams from this process consist of a Methyl Ethyl Ketone and paint mixture, and finished product that does not meet engineering specifications.

Systems Development Division

Development Laboratories

The first product development laboratory occupied building 021 in 1966 and through growth of the business required an additional building by 1968, building 022. These two buildings consisted of pilot test areas, development laboratories and product test laboratories. The wastes generated included small quantities of acids, bases and organic solvents.

Waste Streams

Lowry Landfill Waste Stream

The wastes generated from the machining of copier, printer, computer tape drive parts, and plastic manufacturing created a non-hazardous waste stream composed of coolants, water, and mineral spirits. This waste stream was not a listed or characteristic hazardous waste as

defined in 40 CFR Part 261, Subpart C or 40 CFR Part 261 Subpart D. This waste stream was physically and administratively separated from all other waste streams generated. It was disposed of from 1966-1979 at Lowry Landfill. IBM is currently participating in the Lowry Landfill superfund process and has provided information to EPA in previous letters dated February 14,1991; January 20, 1989; August 12, 1988; June 25, 1986; October 29, 1985; March 14, 1985; August 2, 1983; and April 5, 1983. (Exhibit 3)

Waste Stream Summary
1965-1990

Waste generation at IBM Boulder grew slowly as the site began developing in 1965. The first buildings were occupied in 1966, primarily by office and construction coordination personnel. Processing areas did not begin producing waste until early to mid 1966 with small amounts of waste being generated. (Exhibit 4) Waste disposal was coordinated by site Purchasing initially, with regulatory review and engineering support from the Safety department. Actual waste handling was coordinated by site maintenance personnel. By 1973 a centralized chemical control system was in place with Environmental Engineering staff support in operation by 1975. (Exhibits (1-O,R) and 3)

From the first generation of chemical waste until 1968, Denver Clean-Up Service was hired to haul IBM's chemical process waste to a landfill in the Denver area. Site trash was hauled by Sanitation Engineering Corporation to Erie landfill. As discussed below in more detail, Denver Clean-Up lost its authority to haul waste from Boulder county in 1968. Sanitation Engineering then began to haul and dispose of both trash and chemical waste for IBM at Erie. Following a number of problems with Sanitation Engineering, explained below, and the closure of Erie by local authorities, IBM used other local dumps for site trash and hired Conservation Chemical Company of Kansas City to haul and dispose of all site chemical waste. Detailed information about IBM's involvement with Conservation Chemical Company is available from EPA's Superfund remediation officials in Kansas City, Missouri.

Non-hazardous waste products were sent to Erie landfill not only in the very early years when Sanitation Engineering was hauling trash for IBM (1966-1968), but also in later years from 1976 to 1979 and again from 1984 to the present.

Chemical Waste Streams

No invoices, manifests or shipping papers have survived from the early years that the IBM Boulder site was in operation. However, waste-related documents and personal recollections show that the Purchasing department made contractual arrangements for the removal of waste chemical solvents and acids with a Denver based disposal vendor known as Denver Clean-Up Service. The dates of internal memoranda indicate that these services were in place by October 7, 1966. (Exhibit 6)

During the three years IBM used Denver Cleanup Service for chemical waste disposal there were a number of Colorado Public Utility Commission hearings regarding Denver Clean-Up Service's authority to serve the Boulder area. The Colorado Public Utility Commission regulated trash haulers at that time. The first hearing we find reference to was held during October 1966 when Denver Clean-Up Service applied to expand into several additional counties of Colorado including Boulder county. (Exhibit 7, Page 2)

Four months later, in February of 1967 Denver Clean-Up was granted permission to expand, but their competitors requested another hearing. The request was granted and the hearing was conducted on August 30, 1967. IBM has no record of this hearing, but, because services by Denver Clean-Up were continued it can be assumed that a temporary extension of the permit was granted. (Exhibits 7 and 8)

Denver Clean-Up had been permitted through the authority of the Public Utilities Commission to transport and dispose of waste at dumps in Adams, Arapahoe, and Jefferson counties, but, they had no authority to transport or dispose of waste at the Weld County dump. It was inconvenient for Denver Clean-Up to continue hauling IBM Chemical wastes to their authorized dumps so they continued their efforts to extend their services into Weld and Boulder counties. Denver Clean-Up applied for an extension to their permit and a Public Utility Commission hearing was held on March 5, 1968. The findings of the Commission at the conclusion of the hearing was that there was not enough evidence submitted to establish that public necessity and convenience required the extension of Denver Clean-Up's Authority to other counties. The denial of this extension lead to the termination of the disposal services provided to IBM by Denver Clean-Up on March 18, 1968. (Exhibits 9 and 10)

During the same period of time (1966-1968) that IBM was using the services of Denver Clean-Up for the removal of chemical wastes, the

IBM administrative offices located in buildings 001, 011 and 910 were producing non-hazardous office trash that required disposal. Mr. John Neuhauser of "Sanitation Engineering", doing business over the years under the names "J & I Disposal", "Boulder Disposal", "Boulder Disposal Services" and "Town and Country Disposal" was hauling this office trash for IBM. The earliest documents show that the service received from Mr. Neuhauser were on-going as of August 29, 1967, but it is reasonable to assume that these services were also provided in previous months. (Exhibit 11)

Events of August 1967 give some indication of the involvement of Mr. Neuhauser, Denver Clean-Up and the Public Utilities Commission. In preparation for the August 30, 1967 Public Utilities Commission hearing the attorney for the local Trash Hauler's Association, protestant's to Denver Clean-Up's expansion application, apparently telephoned Mr. Neuhauser to appraise him of the upcoming hearing. Mr. Neuhauser seemed to feel IBM was going to express some concern to the Public Utilities Commission about him, as he contacted the IBM Safety department to discuss his misguided concern that IBM was going to testify that his services were inadequate. (Exhibit 11) An IBM employee did testify at the Public Utilities Commission hearing referenced but it was not in regard to the services rendered by Mr. Neuhauser. In fact, Mr. Higgins, an IBM executive manager, was subpoenaed to testify on behalf of Denver Clean-Up, to assist in determining whether there was a legitimate public need for the extension of Denver Clean-Up services into Boulder county. (Exhibit 12)

It was the following year in March of 1968, when Denver Clean-Up's temporary permit was revoked. (Exhibit 10) IBM contacted the Public Utilities Commission and asked for a listing of carriers authorized to serve the IBM plant area. A listing of fifteen carriers was sent to IBM. Each was contacted with only two companies expressing interest in both trash and chemical disposal. Both companies had the same address and were owned by Mr. Neuhauser.(Exhibits 13 & 14) Mr. Neuhauser approached IBM Purchasing personnel requesting an opportunity to formally offer his services for the disposal of chemical solvents and acid wastes. The memo to file, dated 3-11-68, (Exhibit 15), signed by "RLC", (Robert L. Cross), IBM Legal Counsel, confirms these facts and further discusses Neuhauser's experience and qualifications as a waste disposal vendor. Mr. Neuhauser indicated that he had the required permits for hauling all forms of waste for IBM, and that he operated a disposal area in Weld county for which he held a 20-year lease with a 20-year renewable option. His company's work experience included providing disposal services for other customers including the Cheyenne

Air Force Base, and Sundstrand. The types of wastes that were to be disposed of for IBM included Magnetic Media Manufacturing iron oxide based "ink paste", from Building 016, and small amounts of cyanide and chromic acid wastes produced by the AME laboratory in building 002 and the Development laboratories in buildings 021 and 022. Mr. Neuhauser indicated that he disposed of chemical substances similar to those he proposed to haul from IBM for other companies such as Sundstrand.

Mr. Neuhauser submitted his formal preliminary proposal for the removal and disposal of chemical wastes from IBM dated March 15, 1968, along with a letter of introduction from the Weld County Health Department, the Weld County Health Department's signed approval of the conditions proposed by Sanitation Engineering at the dump site in Weld county, and a copy of the Public Utilities Commission permit to haul and dispose of wastes. (Exhibits 16, 17, 18, 19, 20) An agreement between IBM and Sanitation Engineering dated May 7, 1968 was reached. (Exhibit 21) Sanitation Engineering then began disposing of both IBM trash and chemical waste at Erie landfill.

The first indications that there were any problems with Sanitation Engineering's waste handling and disposal practices were brought to IBM's attention when in July of 1968 there was a serious fire at Erie Landfill. IBM personnel began a review of the terms and conditions of the contract between IBM and Sanitiation Engineering, which included requirements for safe operating practices. (Exhibit 22) A letter requesting assurance that compliance with these safety practices, procedures and waste disposal regulations were being adhered to was sent to Sanitation Engineering (Exhibit 21)

Numerous problems with the quality and reliability of the trash removal services were revealed in the months that followed. The scope of the problems included such items as Sanitation Engineering's employees being unaccountable for the number of hours they worked, excessive travel time to and from the dump, invoices charged by the hour instead of by the load, dump trucks required constant maintenance and repair during normal working hours to keep them operable, and in some cases trucks were unable to run because they were out of gas.(Exhibit 23) Other problems included reports of blowing trash at the disposal site, and littering along the road to the site. (Exhibits (1-R) and 15)

In an effort to improve the situation with the trash and chemical waste services, IBM Purchasing outlined additional steps that Sanitation Engineering would be required to take. Employees would have to record their work hours on a log sheet provided by IBM, an hour and

a half was designated as the amount of time that would be paid for a round trip to the dump, any excessive amount of time taken to go to the dump would be charged to Sanitation Engineering at a rate of $2.71 per hour, and weekly reports detailing the mechanical condition of each truck were to be submitted to IBM. Finally, the vendor was told by IBM Purchasing that improvements in their performance must begin immediately and must be sustained or their services would be terminated. (Exhibit 24 and 25)

In light of the poor services provided by Sanitation Engineering and anticipating the future needs of IBM, Purchasing and Legal personnel began compiling a listing of local disposal vendors that had the authorized Public Utility Commission permits and the necessary equipment to do the job. Thirteen waste disposal vendors were identified and interviewed by Purchasing, six of whom meet the qualifications for the job and were asked to submit a price quotation for their disposal services to the Purchasing department by February 19, 1969. (Exhibits 26 thru 33)

By February of 1969 IBM was faced with a multitude of growing problems pertaining to waste hauling and disposal. The quality of service from Sanitation Engineering had remained poor and their contract was going to be terminated on February 28, 1969. Purchasing had been unsuccessful at retaining a new vendor prior to the termination of Sanitation Engineering, plus the Weld County Department of Health had informed IBM that the Weld County dump used by Sanitation Engineering was going to be closed in the near future for lack of compliance with Weld County ordinances. (Exhibits 34, 35, 36)

In March of 1969 efforts were made to find permanent solutions to the problems at hand. Purchasing extended Sanitation Engineering's contract for 90 days and conducted a detailed investigation into the reasons why local waste disposal vendors were reluctant to submit price quotations for waste disposal. (Exhibit 37)

The Safety department manager made a foresighted proposal to contract with consultants from the Stearns-Roger Corporation to perform a study and appraise the hazards at the Weld County Dump. The scope of the study involved an analysis of the wastes sent to Erie landfill by IBM, an evaluation of the potential environmental hazards posed by the IBM wastes disposed of at the Weld County Dump, and recommendations of alternative methods for the disposal of IBM wastes in the future. (Exhibits 38 and 39)

In May of 1969 Stearns-Roger Corporation completed a "Study of the Chemical Waste Disposal Program of the International Business Machines Corporation". (Exhibit 40)

Hazardous Waste

Analysis of the wastes sent to Erie landfill showed that a variety of organic and inorganic chemicals from IBM had been disposed of by Sanitation Engineering. A detailed listing of the type, composition and volume of the wastes buried is found in the Stearns-Roger report, Exhibit 40, Pages II-5 and II-6)

While there are no laboratory analyses of these wastes available that could be used for classifying the the waste in accordance to RCRA, it is reasonable to assume from reviewing the constituents of the mixture that these chemical wastes would be considered hazardous waste by today's RCRA standards. The mixed solvents and sludge, epoxy, alcohols, and other solvents would probably be considered characteristic hazardous wastes for the property of ignitability under 40 CFR, Part 261, Subpart C, and would be assigned the EPA code, D001. The acid and base mixtures would probably be considered characteristic hazardous wastes for the property of corrosivity under 40 CFR, Part 261, Subpart C, and would be assigned the EPA code, D002. The halogenated solvents would probably be considered "F" listed hazardous wastes under 40 CFR, Part 261, Subpart D.

Waste Volume

The total volume of waste organics, inorganics, solvents, acids and bases disposed of at Erie landfill by IBM for a one year period of time, from May 7, 1968 to May of 1969 was determined to be 84,120 gallons. (Exhibit 21, 37, 40 Page II-6) Interview's of key personnel from the Safety department find that the waste volumes used by Stearns-Roger were derived from tabulating drum tags for this one year period. (Exhibit 1-B) A drum tag was filled out by the generating department and used to track the drum. These tags were summarized on a drum tag log. No drum tags have been found and the only remaining drum tag log is for the month of April, 1969. (Exibit 41) Comments made at the time by IBM personnel concerning the Stearns-Roger report point out that this total waste volume did not include the Plating solution and Heat Treat waste with an estimated yearly amount of 80 drums comprised of cyanide, chromic, oxides, copper, caustics, barium and nitrate salts. Based solely on these comments we believe that an additional 4,400 gallons of waste should be added to the volume resulting in a total waste volume of 88,520 gallons. Although there are numerous "rough

estimates" of the waste volumes referred to in many of the exhibits, IBM now believes that this final waste volume is the most accurate. (Exhibit 42)

A more recent estimate of IBM waste volumes was sent to EPA in 1980 when IBM submitted a voluntary "Notification of Hazardous Waste Site" activity form. It is apparent that this estimate was probably based on a very cursory document review in light of the information found during our current detailed investigation of past waste practices. We now believe this 1980 estimate of total waste volumes is 4,520 gallons lower than the actual volumes of chemical wastes sent to Erie. Similarly, the 1980 "Notification" indicates the period of time that IBM used the Erie Landfill as 1965 - 1969, when in fact supporting documents previously presented here have shown that IBM disposed of wastes at Erie for one year. (Exhibit 43)

Chemical Waste Containers

The wastes sent to Erie were disposed of in various sizes of containers. Employee interviews indicate that 55 gallon steel drums were used the majority of the time. All containers, whether drums or one and five gallon fireproof safety cans, were labeled with the identification of the contents and tagged with a chemical waste disposal tag. (Exhibits 21 and 44)

Chemical Waste Handling

The methods used by Sanitation Engineering for the disposal of the wastes seem to vary. The first method of waste disposal required the dump operator to remove the drum bungs and drain the waste onto the ground. The empty drums were then buried. Stearns-Roger found that there was little evidence to indicate that this method was followed. (Exhibit 40, Page II-2). The second method of waste disposal involved using a bulldozer to unload the drums and then cover them with dirt.(Exhibit 40, Page II-2 and Page II-39).

Recent employee interviews included personnel that recalled visiting the Erie site on numerous occasions during the 1967-1968 time frame. The landfill site was situated on a 30 acre tract and was known as the Old Erie, Pratt or Columbine landfill. (Exhibit 45, Page 5) At that time a shallow gully was being filled eastward from the lower or west end of the site. By the end of the year drums were being placed in the upper, or east end of the gully. The gully was dry and no pools or ponding was noted. (Exhibit 1-R)

A part of the scope of the 1969 Stearns-Roger study was to evaluate the potential environmental hazards posed by the IBM wastes disposed of at Erie landfill. There is considerable discussion in the Stearns-Roger report that focuses on the flammability of the waste and the potential fire hazards associated with the waste. This is understandable considering the concern over the fire that had occurred at the landfill the previous year. In addition, potential air pollution problems from the IBM wastes were reviewed and it was determined that the potential exposures were insignificant. (Exhibit 40, Page II-37) Pollution and contamination of the ground had occurred, but could be somewhat controlled by insuring that the buried drums were covered with dirt to prevent exposure. (Exhibit 40, Page II-38) Contamination of the deep ground water aquifers was deemed extremely unlikely due to the clay-like soil and underlying layer of slate, coal, sandstone and limestone. (Exhibit 40, Pages II-37 thru II-45)

IBM was advised by Stearns-Roger that "removal of the buried waste and disposal elsewhere is not feasible and could be more dangerous than leaving the waste in place". (Exhibit 40, Page II-3).

Finally, it was recommended that in the future disposal of chemical wastes be handled in the following manner; all solvents should be incinerated; all chlorinated hydrocarbons should be incinerated or reclaimed; epoxy and salts could be landfilled in drums; and all acids should be diluted and neutralized. (Exhibit 40, Page I-2).

It became clear to IBM, primarily because of these recommendations, that the hazardous wastes generated could be disposed of more safely using available technologically advanced treatment methods. Early in May of 1969 Purchasing approached the hazardous waste disposal firm, Conservation Chemical Company in Kansas City, Missouri, and requested a detailed proposal outlining treatment methods that they could use on IBM's chemical wastes. (Exhibits 46 and 47) We believe that shortly thereafter a contractual agreement was signed that retained Conservation Chemical Company as the vendor for the disposal of IBM's hazardous wastes. This agreement is referenced in a July 3, 1969 memo that records comments about the Stearns-Rogers study, and that explains that waste chemicals are being sent out of state to a vendor in Kansas City. (Exhibit 48) The second agreement IBM signed for hazardous waste disposal with Conservation Chemical Company is dated October 7, 1969 and is numbered 0054B. The letter B was used by Purchasing as a code signifying that this was the second agreement for the same services with the same company. (Exhibits 48 and 49) Detailed information about IBM's involvement with Conservation

Chemical Company is available from the EPA Superfund remediation officials in Kansas City, Missouri. (Exhibits 50 and 51 Page 4)

Years later, as the future regulatory laws were developing eventually culminating in the enactment of RCRA in 1976 and CERCLA in 1980, IBM became even more concerned about our past waste practices. In 1982, the Environmental Engineering department requested that a comprehensive evaluation of Old Erie (Pratt) landfill be completed by the consulting firm of Dames & Moore. (Exhibit 52)

The potential for contamination of soil and water caused by releases of the IBM waste buried at the old Erie site requires an understanding of the geologic and hydrogeologic conditions at the site. The Dames & Moore study reports that the surface soils consist of bentonitic siltstones and claystones that have a high degree of impermeability to liquids. The depth to potable ground water was in excess of 300 ft, which minimized the exposure for leachate to migrate to ground water. The only geological limiting factor would be the fractures due to land subsidence over the mined area that would allow vertical migration of liquids. However, the underlying soils composed of fine grained claystones and siltstones have plastic annealing properties that would tend to seal or fill the fractures. As of the date of this report there had been no confirmed evidence of soil or ground water contamination. It was recommended to IBM that no further actions be taken at the site.(Exhibit 45, Pages 1-2, 7-12, 16-17, Appendix A, Appendix E)

In May of 1990 a proposal for the expansion of the Denver Regional Landfill, at Erie, prompted concerns about the conditions that exist at the landfill site. Once again IBM contracted Dames & Moore to revisit the hydrogeologic conditions of the site. The study reports that the quarterly ground water monitoring results sent to the State Health Department by Laidlaw indicate that, in general, elevated levels of sulfate, chloride, total dissolved solids, total organic carbon, total organic halides and nitrate/nitrite are found in the vicinity of the landfill. However, some of the critical lab analysis performed on well 203 are confounded by inorganic chloride, the absence of analysis of light-weight organic halides, and inappropriate laboratory methodology. (Exhibit 53 Pages 16-20)

Owners and Operators

Our investigation into the Erie site finds that the Old Erie landfill was first developed in the middle to late 1960's by an individual named Osborne. Mr. John Neuhauser operated the dump from at least 1967 to 1969 and possibly in earlier years. From approximately 1969 to 1976

the landfill was operated by Browning Ferris Industries who subsequently sold the operations to Mr. and Mrs. Ralph Rohweder. The Rhoweder's operated the site until 1979 when it was apparently closed by order of the Weld County Board of Commissioners. (Exhibit 45, Pages 1-2, 13-14, Appendix D, Appendix I)

The 1982 Dames & Moore study reports that the Weld County Assessor's records indicate that the Pratt family had retained ownership of the landfill property for the entire period of the operations and that the present owners were Mr. Kenneth E. Pratt and Ms. Karen K. Landers. The mineral rights for the site were held by Rocky Mountain Fuels Company of Denver. (Exhibit 45, Pages 13-14, Appendix H)

In 1979 the 160 acre Southwest Weld County landfill site, which is adjacent to the Old Erie landfill, was put into operation by Mr. C. Lynn Keirnes of Colorado Landfill, Inc. In 1985, Danny L. Sounders of Western Disposal purchased Colorado Landfill, Inc. and Columbine Landfill. In 1987, Laidlaw Waste Systems purchased the Columbine Landfill which is now known as the "Laidlaw Denver Regional Landfill" (South Site), Erie. (Exhibit 45, Appendix I, 54 and 55)

Non-Hazardous Waste Streams

Toner and Carrier Waste

Toner has been produced at the IBM Boulder site since 1976. Toner is in effect the black powdered "ink" that forms the images on a page that is copied or printed. It is made up of finely ground dry resins and carbon black. The attached Exhibit 65, includes MSDS and laboratory analysis that assist in determining the RCRA classification of the toner waste. The lab results include analyses of several IBM wastes, so it is important to note that only the marked samples are of toner wastes. (Exhibit 58)

IBM sent Toner and Carrier waste streams to the Erie landfills from 1976 to 1979 and then again from 1984 until 1990. From 1979 to 1983 IBM used the Longmont landfill for these wastes. These two waste streams represent non-hazardous waste streams, what IBM classified as "Industrial Waste" in order to differentiate them from hazardous waste but to assure additional care beyond regular trash. This care was required in the case of toner to prevent dust releases of the fine powder, and for the carrier waste stream to assure that the material could not be resold or reused by IBM competitors. (Exhibit 56).

Toner is scrapped and sent for disposal if it does not meet final product standards, and may be in the finely ground state, or in an intermediate pelletized state. Because of the dustiness of the finely ground toner, it has routinely been disposed of in reconditioned 55 gallon steel drums. In the early years toner drums were generally unlabelled. Later the drums were marked with a white adhesive paper label stating "Industrial Waste - Not Restricted" and since 1984 "Toner Related Material". (Exhibit 57)

Developer waste has been generated since 1978 when the manufacturing process began operations. Developer is made of small steel shot, coated with one of several types of coatings, cured at high temperature, and then mixed with toner. Developer is used as a transport media for the toner inside a copier or printer. Developer may be disposed of as uncoated raw steel shot or as coated and cured final product that fails product quality testing. Due to the weight of steel shot Developer waste has been placed in steel 55 gallon drums. Lab analyses are attached. (Exhibit 58)

With Toner first produced in 1976 and Developer in 1978, these wastes were sent to the Old Erie (Pratt) site until it closed in 1979. Both were sent to Longmont landfill from 1979 to 1984. When the City of Longmont restricted non-Longmont drummed waste at the landfill in 1983 these wastes were sent to the newly opened Colorado Landfill, South Erie site. IBM continued to send these wastes to Erie until the manufacturing processes were sold to Lexmark International in 1991. (Exhibit 59)

Photoconductor Waste

Photoconductor has been made at IBM Boulder since 1974. Photoconductor consists of a mylar sheet coated with various resins and dyes that provides image transfer in copiers and printers. Photoconductor is disposed of when rolls or sections do not meet quality standards, when rolls are trimmed, and at splices in rolls. It may be loose or in rolls, packaged in drums or in large cardboard boxes called powerpacs, or placed loose along with site trash. Lab analyses of Photoconductor are attached. (Exhibit 60)

As with Toner and Developer wastes, Photoconductor was sent to Erie from 1974 when it was first produced until the Erie site closed in 1979. It was then sent to the Longmont landfill until 1984, then back to Erie until 1991 when the manufacturing process was sold.

Magnetic Media Products

Magnetic media products were made at IBM Boulder from 1966 until 1986 when the last of magnetic products production facilities were removed from Boulder. Magnetic products are items such as floppy diskettes, half-inch computer tape, and magcards. Magnetic products are made by coating large rolls of mylar sheeting with a mixture of iron oxide resins. Magnetic media scrap includes product that fails quality tests and the trimmed media from roll ends or splices. Records and personnel interviews find large amounts of waste magnetic tape were sent to the Erie landfills. Exact volumes cannot be accurately determined, since most of the magnetic tape was shipped loose, often mixed with site trash. Personnel recollections seem to indicate between two and three loads of waste tape were removed each day, in both loose and/or compacted trucks. (Exhibit 1-R) Magnetic media non-hazardous waste was sent to Erie from 1966 to 1979, to Longmont from 1979 to 1984 and then back to Erie from 1984 until 1986 when the process was discontinued.

Site Trash

IBM used Erie landfills for site trash (office paper, cardboard, pallets, cafeteria waste, etc) from 1966 to 1979 and then again from 1984 until present. From 1979 to 1983 Longmont landfill was used. Paper and cardboard were segregated for recycling in the late 1970's as were wooden pallets. Trash has been transported loose and in compactor type trucks. Demolition and rip-out debris were sometimes taken to Erie. (Exhibit 61) Scrap equipment was also sent. (Exhibit 62) Volumes fluctuated as site population, remissioning activity and site construction varied.

Volumes of Non-hazardous Waste Streams

Since EPA's request for information seeks only general information on non-hazardous waste streams, volumes of the non-hazardous waste streams discussed above have not been researched to any depth. IBM realizes that if a more specific volume estimate is needed a detailed review will have to be conducted.

Non-hazardous Waste Activities

IBM initially used Erie for non-hazardous wastes as part of the original 1966 plant start-up and use of the nearest dump. IBM personnel visited Erie in the early years, primarily to check on litter complaints (Exhibit 1-F,R) In about 1975, an IBM environmental engineer visited the Erie site to review how the IBM non-hazardous waste was being handled. He recalls seeing IBM media tape litter and generally an unkempt situation. (Exhibit 1-E) In 1984, following the closure and reopening of Erie, IBM reviewed the site prior to use for our non-hazardous wastes. An IBM environmental engineer and other staff visited Erie. His report, and the subsequent internal memoranda, (Exhibits 56 and 57) summarize his observations and recommendations. In addition to noting waste handling operations, agency activity and other issues, he references the 1980 IBM EPA "Notification" and the volumes of chemical waste reportedly sent to Erie. As noted above, we now feel those volume estimates are incorrect.

Since 1984 IBM has used Western Disposal to haul non-hazardous wastes to Erie and has had contracts in place with the landfill operators for disposal of non-hazardous wastes. Pricing and handling details are noted in Exhibits 63 and 64.

Since IBM began re-using Erie in 1984, the operators have followed specific policies regarding non-hazardous wastes. Correspondence between IBM, the operators, and approving agencies gives us a good record of the way these wastes have been handled. (Exhibits 65 thru 73)

Other Responsible Persons

IBM's legal obligations set forth in EPA's request for information, pursuant to Section 104 of CERCLA, compels IBM to identify persons who may have disposed of materials at the Erie site. In response to this requirement exhibit 74 is being provided. The documents that comprise this exhibit were compiled from research pertaining to the site and acquired from the Weld County Health Department and Colorado Department of Health files.

ENCLOSURE 2

NOTARIZED CERTIFICATE

I, Robert W. Arnold, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by International Business Machines Corp. to respond to the Environmental Protection Agency's (EPA's) Request for information concerning the Erie South Landfill Site in Weld County, Colorado.

2. I have made a complete and thorough review of all documents, information, and sources relevant to the Request.

3. I hereby certify that the attached response to EPA's Request is complete and contains all information and documents responsive to the Request.

Robert W. Arnold

ROBERT W. ARNOLD FACILITIES ENG MGR

(Signature) (Name, Title)

(SEAL)

Subscribed and sworn to me this 25 day of Nov, 1991.

Linda Pfeffer

Notary Public

My Commission Expires 10-21-95

My address is 8044 Walker Rd.
Longmont, CO 80503

Response to Instructions

A revised format has been prepared based on a telephone conversation on October 18, 1991 between Mr. Greg Phoebe of EPA and Ms. Susan Peil of IBM. A narrative response is provided that, rather than noting question numbers prior to each paragraph, uses the following index to locate each question. Where questions are not answered in the narrative, because they may not apply to IBM, or do not fit within our response format, they are answered within the index.

No confidential protection is requested. Where documents have confidential notations these notations have not been removed for historical reasons, but the documents are no longer considered confidential to IBM.

Index to Specific Numbered Questions

The following index provides guidance to locating questions that have been responded to in the response text. It also provides actual responses to some questions. Questions that do not apply to IBM are noted and/or omitted.

1. This response has been prepared by the staff of IBM Boulder's Environmental Engineering Dept, supervised by Susan P. Peil, IBM Senior Associate Engineer.

2. A number of people have been consulted in preparing responses to this request. IBM began gathering information about Erie in 1982. At that time a number of employees were interviewed about IBM's past waste activities at various sites including Erie. Again in 1991, in preparation of this response, several available employees were interviewed. Many of those interviewed in 1982 have since retired or have left IBM. This response contains information gathered during both interview sessions. The persons listed in the attached Personnel Summary Sheet are referenced in the text by the corresponding letter for that person noted on the summary.

3. Specific documents used to support this response are referenced in the text and have been individually numbered and attached as exhibits.

4. The IBM Boulder EPA RCRA number is found on Page 1, Paragraph 1 of the main response document. This number was assigned to hazardous waste drum and tank storage units.

5. Personnel, including IBM past and present employees, that have knowledge about Erie have been identified in the Personnel Summary Sheet (Exhibit 1) See also Question 16 below.

6. IBM has never had any direct arrangements or contracts with Kenneth Pratt or Karen Landers. These two people are one time owners of the Erie landfill site. While using Erie, IBM dealt only with operators of the site. See page 14 paragraph 2 of the main response text. IBM has dealt directly with Laidlaw Waste Systems for disposal of trash and toner related waste at Erie. See the discussion on page 14 paragraph 3 of the main response text. IBM has had no dealings with the Town of Erie.

7. See page 5 paragraphs 2 - 12 and page 14 paragraph 4 through page 17 of the response text for information about dates when wastes were shipped to Erie landfill. IBM intended the waste materials sent to Erie to be buried. See page 1 paragraph 4 through page 4 paragraph 4 and page 14 paragraph 4 through page 16 paragraph 2 of the response text for information about the processes that generated wastes sent to Erie.

8. See page 10 paragraph 2 through page 11 paragraph 2, and page 14 paragraph 4 through page 16 of the response text for information about nature of the wastes sent to Erie.

9. As noted in the response text, IBM has had no active involvement in the operations at the Erie site. IBM has no direct knowledge, therefore, of any releases of hazardous substances from the site. The response page 11 paragraphs 4 and 5, page 12 paragraph 1, and page 13 paragraph 3 and 4 provides types and volumes of materials IBM sent to Erie, and Exhibit 74 provides information on other transporters and generators that may have used Erie.

Sub-question g of this question deals with investigations of releases. Response text page 8 paragraphs 3 and 4 and page 12 paragraph 1 discusses a fire, wind blown trash and other problems at Erie. Groundwater monitoring data and summaries gathered from agency files by IBM's consultants (Exhibits 40, 45, 53) may also be of interest.

Sub-question h seeks personnel information about releases. Various documents noted above, including Exhibits 45, 53 and 74 contain agency, public and operator's names that may have such information.

10. This question focuses on material handling activities at the Erie site. Since IBM had no active role in activities at the Erie site, we can provide only limited information about this topic. We believe our responses to question 12 below cover this question as well.

11. Other than IBM, other users mentioned by personnel or in documents are identified on page 7 paragraph 3, page 8 paragraph 1, and page 13 paragraph 5 through page 14 paragraph 3 and in Exhibits 45 and 74. These references include companies and individuals authorized by the PUC to haul in the area (and presumably using the site), those that lived or operated near the site, and those identified to our personnel as using the site. We have no direct knowledge that these persons or companies ever used Erie, however.

12.a. IBM was the generator.

b. See page 6 paragraph 5 through page 9 paragraph 4, and page 14 paragraph 4 through page 17 of response text.

c. See same as b.

d. IBM sent materials to Erie from 1968 to present, excluding 1979 to 1983.

e. See page 10 for chemical information.

f. See page 10 paragraph 3.

g. See page 10 paragraph 3.

h. See page 14 paragraph 4 through page 16.

i. IBM owned the materials until they were transferred to Erie.

j. No waste analyses have been found for the chemical waste sent to Erie. No manifests have been found.

k. See page 11 paragraph 4 and 5 for personal recollections of the location of wastes at Erie.

l. IBM has had no control over where wastes were buried at the Erie site.

m. See page 7 paragraph 3 through page 8 paragraph 2 for information about the Erie selection process.

n. See page 8 paragraph 5 through page 9 paragraph 1 for payment information.

o. See page 11 paragraph 4 for site waste handling information.

p. See page 11 paragraph 5 for information about where the containers were buried.

q. See page 11 paragraphs 4 and 5 for information on IBM's efforts to determine how waste was actually handled at Erie.

r. See page 11 paragraph 3, and page 10 paragraph 4 for information about container types, numbers, and labels.

13. and 14. These questions deal with transporters. IBM has never owned or operated any off-site waste transportation services. The only information available about transporters can be found on response text page 6 paragraph 2, page 7 paragraph 2, and page 17 paragraph 2.

Sub-question l. deals with persons who may have selected where waste materials would be transported. In the early years there appears to have been no specific direction given to transporters. This changed by 1968. IBM still used independent transporters but specified the location to which they should carry waste materials. See response page 7 paragraph 3, page 12 paragraph 4, and page 17 paragraph 2. In the case of Erie, the owner of the transportation company was often the dump operator, so it was assumed, and was in fact the case, that the transporter used the Erie site. In cases where separate companies were used (Western Disposal for trash to Erie or Longmont dumps, etc) the decision to use a specific carrier or disposal site would most often be made jointly by Environmental Engineering, Traffic and Purchasing departments as discussed in the response text on page 17 paragraph 1.

15. This question asks IBM to provide the names of other persons who may be able to provide more information about Erie. In addition to the many documents listed in this response that contain the names of non-IBM personnel involved in the site, we assume many agency personnel, local residents, local officials, PUC authorized carriers, current and previous landowners and site operators could provide information. Response text page 7 paragraph 3 and page 8 paragraph 1 also addresses this issue.

16. We believe the persons mentioned in question 15 may have additional information pertaining to Erie landfill.

EXHIBIT
1

IBM PERSONNEL INTERVIEWED

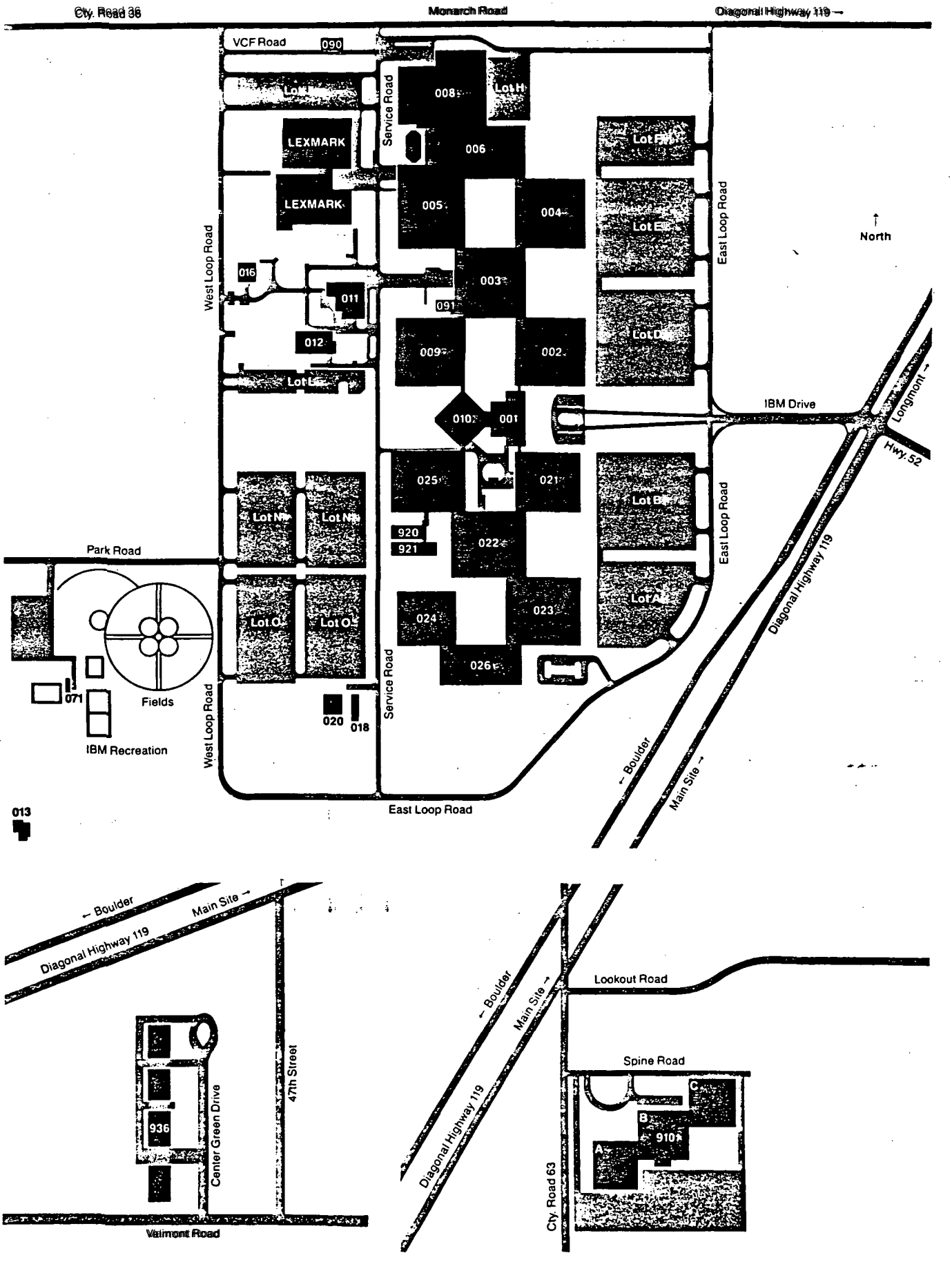
EMPLOYEE	JOB DESCRIPTION
A. Arnold, Bob	Engineering Manager 1966-1980
B. Bocim, Warren	Safety Engineer, Chemical Coordinator 1966-1971
C. Browne, Mike	Machine Maintenance, Dept. Technician 1966-1968
D. Bustamante, George	Purchasing Agent
E. Campbell, Gary	Environmental Engineer Manager 1973-1983
F. Converse, Ken	Machine Maintenance 1966-1979
G. Davies, Jim	Machine Maintenance 1972-1978
H. Denight, Ron	Machine Maintenance 1965
I. Duncan, Chuck	Chemical Distribution 1975-1989
J. Frazier, Elwyn	Facilities Engineer 1969-1976
K. Freeman, Lee	Machine Maintenance 1972-1976
L. Gerbrandt, Gordon	Plating Area Manager
M. Hein, Phil	Machine Maintenance 1972-1983
N. Hollis, Chilson	Facilities Engineer 1968
O. Joffs, Eric	Facilities Engineer Environmental Manager 1967-1979
P. King, Phil	Machine Maintenance, 1966- 1979

Q. Martin, John	Chemical Control 1987-1983
R. McGuire, Bob	Facilities Maintenance
S. McKeeman, Kathleen Kallhoff	Laboratory Technician 1978-1981
T. O'Grady, Bob	Machine Maintenace 1970
U. Parsons, Mark	Environmenatal Engineer Manager 1981-1990
V. Stone, Dick	Purchasing Agent 1970-1983
W. Waits, Ron	Machine Maintenance 1966-1068
X. Webster, David	Facilities Environmental Engineer 1968-1976
Y. Wengert, Jim	Chemical Distribution 1966-1989
Z. Williams, Frank	Safety Engineer Manager 1965-1978

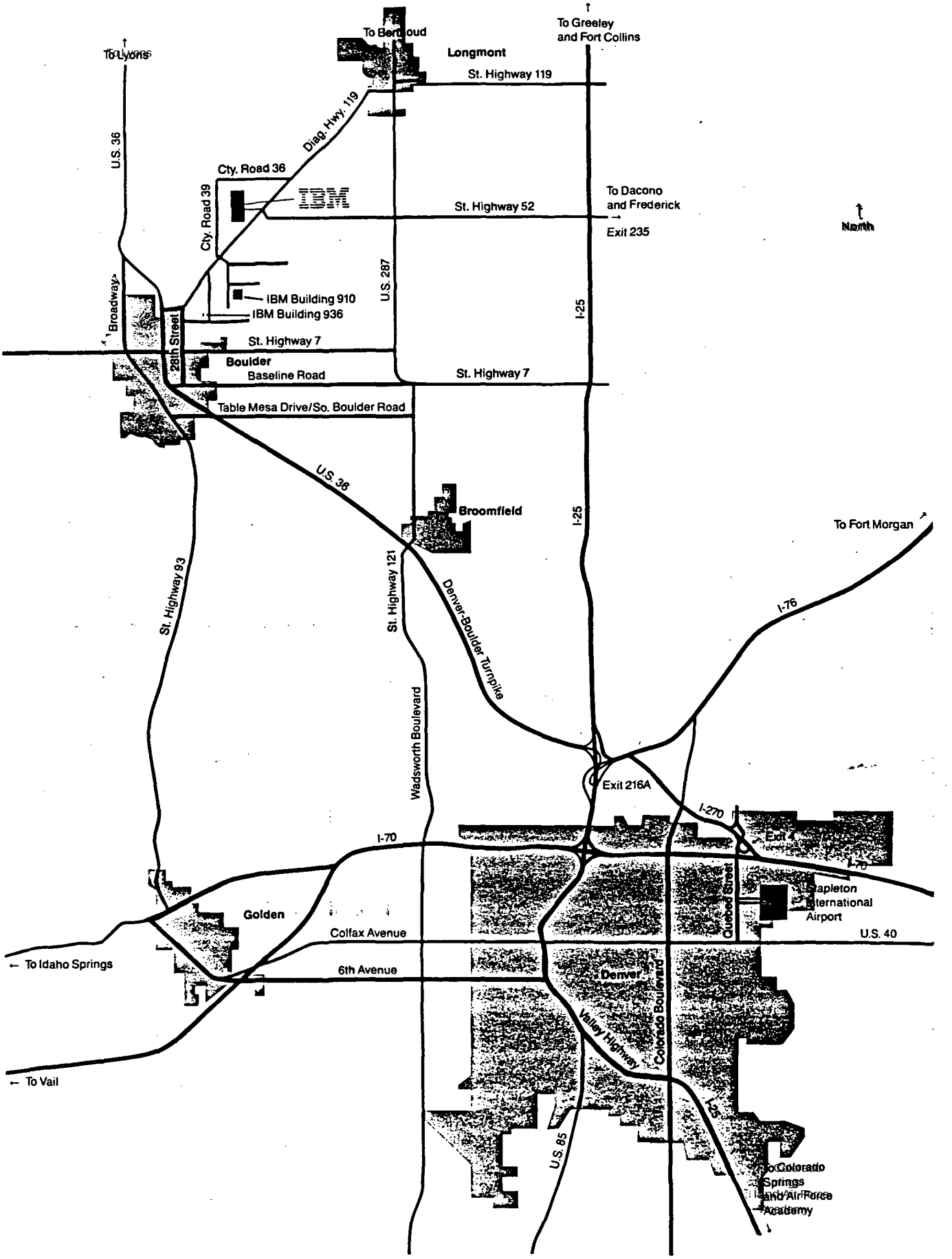
IBM Boulder

EXHIBIT

2



Boulder-Denver Area Map



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CHEMICAL WASTE PRODUCING PROCESSES - IBM BOULDER FACILITY

Systems Manufacturing Division

Building Number	Product	Process	Waste Stream	Disposal Vendor	Date Vendor Used
003	Computer Tape Drives	MachiningTape Drive Parts	Coolants, Water, & Mineral Spirits	Waste Transport (Lowry)	1966-1979
			Metal Shavings	Iron & Metals, Inc. (Denver)	1966-1989
	Copier/Printer Machines	Machining Copier & Printer Parts	Coolants, Water, & Mineral Spirits	Waste Transport (Lowry)	1966-1989
			Metal Shavings	Iron & Metals, Inc. (Denver)	1966-1989
004	Computer Tape Drives	Machining Tape Drive Parts	Coolants, Water, & Mineral Spirits	Waste Transport (Lowry)	1966-1979
			Metal Shavings	Iron & Metals, Inc. (Denver)	1966-1989
		Molding Plastic Parts for Tape Drives	Hydraulic Oils & Coolants	Waste Transport (Lowry)	1966-1979
		Plating Tape Drive Heads	Copper, Chrome & Nickel	Conservation Chemical (Kansas City)	1969-1974
		Machining Tape Drive Heads	Coolant & Water	Waste Transport (Lowry)	1966-1979
			Metal Shavings	Iron & Metals, Inc. (Denver)	1966-1989
			Metal Particles on Filters	Sanitation Engineering, Corp. (Erie Landfill)	1968
002		AME Laboratories	Acids, Bases & Organic Solvents	Denver Clean-Up Services, Denver	1966-March 1968
				Sanitation Engineering, Corp.	May 1968-May 1969

EXHIBIT 3

Information Record Division

Building Number	Product	Process	Waste Stream	Disposal Vendors	Dates Vendors Used
030	Magnetic Tape	Magnetic Tape Manufacturing	Iron Oxide, MEK, & Toluene	Denver CleanUp Service, Denver	1966-May 1968
				Sanitation Engineering Corp. (Erie Landfill)	May 1968-May 1969
				Conservation Chemical Co.	May 1969-Jan 1974
				Seymour Mfg. Co.	
				SCA-Model Cities, NY	1974-1976
			Waste Media Product	Sanitation Engineering, Corp.	1966-1979
				Longmont	1979-1983
				Erie Landfill	1984-1986
	Photoconductor	Photoconductor Manufacturing	THF, Toluene, NBA, EDA, Dyes, & Resins	Seymour Mfg.	1976-1978
			Waste Product	Erie Landfill	1976-1979
				Longmont Landfill	1979-1983
				Erie Landfill	1984-1990
031	Toner	Toner Manufacturing	Carbon Black & Resins-Waste Product	Erie Landfill	1976-1979
				Longmont Landfill	1979-1983
				Erie Landfill	1984-1990
	Developer	Developer Manufacturing	Steel Shot & Toner Waste Product	Erie Landfill	1978-1979
				Longmont Landfill	1979-1983
				Erie Landfill	1984-1990
			MEK & Paint	Seymour Mfg. Co.	1976-1978

Systems Development Division

021,022	Development Laboratories	Acids, Bases & Organic Solvents	Conservation Chemical	1969-1974
			Seymour Mfg. Co.	1976-1978
			Rollins - Houston TX	1976-1980
			Nuclear Engineering, NM	1978-1980
			ENSCO, El Dorado, AR	1975-1990

Overall Site Administration Offices

001, 011, 910 Subsequent Buildings		Trash, Debris	Erie Landfill	1966-1979
			Longmont Landfill	1979-1983
			Erie Landfill	1984-1991

S.P.P.-Prepared November 20, 1991.

EXHIBIT
4

IBM

Date: July 7, 1966
From (Dept/Loc): 702 - 910 SMD Boulder
Telephone Ext.: 7548

Subject: Industrial Waste Treatment System

Reference:

To: J.J. Jefferson

Copy

Suspense 7/26/6 WTB

Plant Engineering Department condensed and compiled into a format previous surveys and reports concerning industrial wastes expected to be generated at IBM-Boulder.

The current problems differ from the picture presented late last year, primarily, in quantity terms. Early predictions of industrial waste quantity have been scaled down in recent months.

RECD is expected to review with the Architect and his consultant Boulder plant industrial waste situation and recommend disposal techniques and/or treatment facilities.

Culminating all of this review and design, RECD will be expected to install the requirements as recommended and approved.

RECD REPORT BY AUGUST 1, 1966

E.W. Higgins, Manager
Facilities Engineering and Maintenance

EWH:DMW:fms
cc: O.J. Davenport
T.J. Liguore
J.S. McDonald
F.T. Williams

INDUSTRIAL WASTE DISPOSAL

INTRODUCTION

This report has been compiled to provide RECD with the latest information available to Plant Engineering Department concerning industrial waste at the IBM-Boulder Site. Mr. E.W. Higgins referenced the development of this report in his correspondence dated June 20, 1966 and July 5, 1966 to Mr. J.J. Jefferson.

Careful consideration of the industrial waste disposal system proposed by Chester Engineering firm and re-evaluation of the quantities and types of industrial waste involved necessitates the reconsideration of previously propounded methods of disposal and the possibility of an entirely different method of disposal.

SCOPE

The industrial waste discussed in this report shall be confined to liquids and sludge/solids derived from manufacturing processes and laboratory experiments at Building 002, 003, 016 and 021 of the IBM-Boulder operation. Since gaseous waste and solvent vapors were previously discoursed with RECD they will not be discussed further in the report. Industrial wastes of a trash nature (e.g. cardboard, oily rags, glass) are presently being collected and disposed of by Maintenance personnel and need not be considered.

A method of industrial waste disposal must be flexible and adaptable to large fluctuation in quantity and types of waste to be disposed of; facility growth and production expansions must also be provided for.

SERVICES AVAILABLE

The Purchasing Department located the Denver Clean-Up Service, a scavenger, willing and equipped to take all industrial waste generated by IBM-Boulder and dispose of, or transport it, to a reclaimer of IBM choice. The Purchasing Department is confident a contract can be signed that will protect IBM against any responsibility once the industrial waste is in the scavenger's possession. This scavenger is able to provide 10,000 gallon tank truck, several 4,000 gallon tanks on a truck bed, or a tractor trailer with 26' bed for precartoned container loads.

The Maintenance Department will provide in plant transportation services for industrial waste as required during disposal. Special conveyance equipment required by Maintenance to transport industrial waste will be a part of the RECD recommendations and systems. Maintenance personnel will not be qualified to mix or combine industrial waste.

FACILITIES AVAILABLE

Although a partial system of acid and solvent collection is installed in the Engineering Building 021, and a system for acid collection and neutralization is included in Systems Manufacturing Building 002, recommendations will be necessary from RECD for components and procedures to complete the systems. No special systems are at present installed in Systems Manufacturing Building 003 or Information Records Building 016.

REQUIREMENTS

It is anticipated that RECD will provide a system of industrial waste disposal consistent with present and future needs of the IBM-Boulder installation, while retaining the flexibility necessary to process the wide variety of industrial wastes involved.

ATTACHMENTS

A concise list of industrial waste materials expected to be generated at the IBM-Boulder Site is produced in Appendix A.

APPENDIX A

Building 016 - IRD

Chemical	Disposal Quantities Average
2/3 Methyl Ethyl Ketone 1/3 Toluene and Cyclohexanone	150 gal/day [1]
50% Isopropanol	25 gal/day
Laboratory Chemicals	Beaker Size

1. Possibility of reduction to 50 gal/day of "non-flammable" semi-solids, see Reference No. 4.

Building 021 - Engineering

Chemicals	Disposal Quantities Average
Polymers [1]	10 lbs/wk
Acids [1]	Beaker Size
Solvents [1]	Beaker Size
Other [1]	Beaker Size

1. See Table II, pp. 11-14, Reference No. 1 for detail chemical list

Building 002 - Systems Manufacturing Division

Chemical	Disposal Quantities Average
Salts [1]	1 lb/day
Acids [1]	Beaker Size
Freon Solutions [1]	Beaker Size
Other laboratory mixtures [1]	Beaker Size

1. See Table III, pp. 24-26, Reference No. 1 for detail chemical list

BUILDING 003 - SYSTEMS MANUFACTURING DIVISION

Chemical	Disposal Quantities Average
Oil Solutions [1]	20 gal/day
Cyanide Solutions [1]	2 gal/day

1. See Table II 1 for detail chemical list

REFERENCE MATERIAL

1. Report on Disposal of Industrial Waste Report, The Chester Engineers, March 25, 1966.

2. Dilution of Industrial Wastes in Sanitary Sewers, Letter to Mr. J.J. Jefferson from The Chester Engineers, May 18, 1966.

3. Industrial Waste Treatment, Letter to Mr. J.J. Jefferson from Smith, Hinchman & Grylls Associates, Inc., June 23, 1966, with sketches.

4. IRD Industrial Waste, Letter to Mr. E.W. Higgins from Mr. W.A. Barker, June 23, 1966.

XEROX W.B.

EXHIBIT 5

IBM

Date: May 5, 1967
From (Dept/Loc): 703 - 001 SMD Boulder
Phone Ext.: 4615

Subject: AME Lab Ferric Chloride Waste Disposal

Reference: W. Bocim's Letter to R. Kaper Dated 3/30/67, Paragraph Referring to the Letting of Ferric Chloride to the Sanitary Sewer

To: File

Facilities Engineering has been informed by W. Bocim of the Safety Department that the AME Lab will not dump ferric chloride into the sanitary sewer. The waste will be collected in containers and transported to the waste treatment area where it will be scavengered along with other plant waste by a vendor disposal service.

D.E. Clemenson

DEC:fms
cc: R.G. Kaper
A.H. Kendall
T.J. Liguore
D.M. Webster
F.T. Williams

EXHIBIT
6

IBM
OFFICE OF COUNSEL
OCT 10 3 02 PM '66
BOULDER, COLORADO

IBM

Date: October 7, 1966
From (Dept/Loc): 354/002 SMD Boulder
Telephone Ext.: 4313

Subject: Solvent Waste Removal

Reference:

To: Mr. Ed Higgins
Department 702
Building 001

Arrangements and contractual coverage has been made with Denver Clean-Up Service of Denver to pick up and remove solvent waste from the IBM, Niwot facility.

Waste will be removed on a call basis, with a minimum load of ten 55 gallon barrels per call, at a cost of $3.00 per barrel.

Mr. Herb Horn, has agreed to coordinate the solvent waste collection. The coordination effort will 1. preclude telephone calls from people in several areas who have sperodic waste removal requirements, 2. provide an indication of the type of solvents to be removed and 3. provide a basis for projecting the total quantity of waste solvent we may generate.

This interim measure solves the problem of current waste removal, however, sufficient information is still not available to approach any potential vendor for ultimate volume solvent removal negotiations.

K.N. Colton, Buyer
Purchasing Department

/pl

cc: Ed Newquist
R.L. Cross
R. Rogers
H. Horn

EXHIBIT
7

Date: July 12, 1967
From (Dept/Loc): D/354
Telephone Ext.: 4313

IBM
OFFICE OF COUNSEL
JUL 13 11 [illegible] AM '67
BOULDER, COLORADO

IBM

Subject: Chemical Removal

Reference:

To: R. L. Cross

In response to our request to Denver Clean-Up Service to provide the subject service to IBM Boulder, I am attaching a copy of their response.

Your attention is directed to the last two sentences of the 3rd paragraph which we may decide to act upon.

We will periodically follow the progress of these hearings with Denver Clean-Up Service to provide us with sufficient time to make any internal arragnements necessary for solvent storage and/or removal should an adverse decision be handed down by the P.U.C.

If you have any further information on these hearings through your office, I would appreciate hearing of them.

K N Colton

K. N. Colton, Buyer
Purchasing Department

/vh

cc: E. W. Newquist
T. E. Smail

BOL 003 100 108

DENVER CLEAN-UP SERVICE
INDUSTRIAL, COMMERCIAL, RESIDENTIAL, TRASH SERVICE
755-1105 777-5402
803 SO. JASON DENVER 19, COLO.

July 11, 1967

Mr. T. E. Smail, Asst. Buyer
Purchasing Department
IBM Corporation
P. O. Box 1900
Boulder, Colorado 80302

Dear Mr. Smail:

In answer to your request of June 26, 1967 for our P.U.C. status to haul chemicals from your plant in Boulder County, I can relate to you the following information. We will be allowed a temporary permit until a decision is reached following a rehearing on August 30 and 31, 1967.

In October of 1966 we had a P.U.C. hearing and were opposed by our competitors at which time we proved they had no valid claim to prevent us from expanding into several additional counties of Colorado. The 28th of February, 1967 an order was passed down giving us the authority for which we applied. On March 22nd the Commission granted the Protestants a rehearing and we have been since then setting a date. There has been and still is some "hanky-panky" but our case is getting stronger by the day.

We are very optomistic at this point and feel sure that we will win our case. If the P.U.C. turns down our application again, we will go to the District Court and then the Supreme Court if necessary. The most encouraging aspect of the next hearing is a new law passed during the last session that changes the statutes to regulated competition rather than regulated monopoly. We still need IBM to send a representative to testify at this hearing to help insure our success. Several other industries who need our type service will also testify. We are trying to fill a need in an area of neglect.

I hope this will answer your question. If you need further information, please call.

Yours truly,

Don L. Hentschel

DLH:ew

EXHIBIT
8

July 12, 1967
D/354
4313

IBM
OFFICE OF COUNSEL
JUL 13 11 18 AM '67
BOULDER, COLORADO

Chemical Removal

W. T. Bocium
F. C. Nelson
D. M. Webster

I have been advised by Denver Clean-Up Service that their temporary permit for hauling chemical for IBM Boulder is valid through August 31, 1967. Continuance of the permit will be determined as a result of a re-hearing on August 30th and 31st.

I will keep you posted on the developments as they occure to allow you sifficient time to make the necessary arrangements should an adverse decision be handed down by the P. U. C.

K N Colton

K. N. Colton, Buyer
Purchasing Department

/vh

cc: R. L. Cross
O. J. Davenport

BOL 003 /300 108

EXHIBIT

9

(Decision No. 70975)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * *

IN THE MATTER OF THE APPLICATION OF)
DENVER CLEAN-UP SERVICE, INC., 803)
SOUTH JASON, DENVER, COLORADO, FOR)
A CERTIFICATE OF PUBLIC CONVENIENCE) APPLICATION NO. 22155-Extension
AND NECESSITY AUTHORIZING EXTENSION)
OF OPERATIONS UNDER PUC NO. 3343.)

March 5, 1968

Appearances: James C. Perrill, Esq., Denver, Colorado, for Applicant; Leslie R. Kehl, Esq., Denver, Colorado, and William Andrew Wilson, Esq., Denver, Colorado, for Derby Disposal; Metropolitan Trash, Inc.; Ruben Lee; Industrial Disposal; Bestway Disposal; Golden Disposal; Mountain View; Vanish Rubbish Removal; Englewood-Littleton Rubbish Removal; Sunrise Disposal; Dalberg's Hauling Service; B & W Dispose-All Service; Derby Waste Disposal; Dick's Rubbish Removal; Arvada Rubbish Removal; Wheatridge Disposal Service; Aurora and East Denver Trash Disposal; A-Aurora Removal Service; Alex Gerlach & Son Disposal Company; Freddie's Rubbish Removal; Monarch Disposal Company; Lakewood Disposal, Incorporated; Ray's Ash & Trash Service; Broomfield Rubbish Removal; J & R Disposal Trash Co.; and Boulder Disposal, Protestants.

STATEMENT AND FINDINGS OF FACT

BY THE COMMISSION:

Denver Clean-Up Service, Inc., hereinafter referred to as Applicant, is the owner of Certificate of Public Convenience and Necessity PUC No. 3343, which authorizes:

> Transportation of ashes, trash, and other refuse, between points in the City and County of Denver, and from points in the City and County of Denver, to regularly-designated and approved dumps and disposal places in the Counties of Adams, Arapahoe and Jefferson, State of Colorado.

By the instant application authority is sought to extend operations under said Certificate to include the transportation of liquid waste and other refuse in the Counties of Denver, Adams, Arapahoe, Jefferson, and Boulder, State of Colorado, to dump and disposal points regularly designated within said Counties, as well as the Counties of Elbert and Douglas, State of Colorado, excluding all pick-up points located within areas zoned residential within said Counties.

Protests to the application were filed by Derby Disposal; Metropolitan Trash, Inc.; Ruben Lee; Industrial Disposal; Bestway Disposal; Golden Disposal; Mountain View; Vanish Rubbish Removal; Englewood-Littleton Rubbish Removal; Sunrise Disposal; Dalberg's Hauling Service; B & W Dispose-All Service; Derby Waste Disposal; Dick's Rubbish Removal; Arvada Rubbish Removal;Wheatridge Disposal Service; Aurora and East Denver Trash Disposal; A-Aurora Removal Service; Alex Gerlach & Son Disposal Company; Freddie's Rubbish Removal; Monarch Disposal Company; Lakewood Disposal, Incorporated; Ray's Ash & Trash Service; Broomfield Rubbish Removal; J & R Disposal Trash Co.; and Boulder Disposal (collectively referred to as Protestants).

A prior hearing on the matter was held October 14, 1966, before former Commissioner Ralph C. Horton at Denver, Colorado, and on February 27, 1967, the Commission issued its Decision No. 69085 granting the requested authority. On March 20, 1967, the Protestants filed a Petition for Rehearing and on March 29, 1967, the Commission, in its Decision No. 69265, ordered a rehearing de novo in the matter.

Pursuant to notice to all parties, the rehearing de novo was held August 30 and 31, 1967 and October 19, 1967 in Denver, Colorado, before all three Commissioners. At the conclusion thereof, the parties were requested to file statements of position, which they did, and the matter was taken under advisement.

The Applicant is an experienced and financially sound carrier of liquid and solid wastes. It has three roll-off type trucks and one front loading truck, twenty-nine roll-off containers and three portable packers through which it provides service. The Applicant presently provides service

to several large plants in the Denver area. In such service, it has analyzed and assisted in the solution of various waste problems. Similarly, it has surveyed the waste problems of the shippers supporting the instant application and is of the opinion that its container equipment is needed.

Mr. Gordon Watts, Terminal Superintendent for the Union Pacific Railroad, testified in support of the application. Union Pacific presently has a contract with the Applicant for removing rubbish and sawdust that accumulates at the Denver terminal. This service is provided through the use of 40 cubic yard containers. Union Pacific also has trackage at and performs a switching service for Colorado (Omar) Milling and Elevator in Commerce City, Adams County. Until recently, box cars at this location were cleaned and the refuse hauled away in a pickup truck; a service which was satisfactory to Union Pacific. This operation has been discontinued and Union Pacific wants the Applicant to provide this service through use of container equipment. The evidence indicates that the Railroad is aware of the other carriers who are willing to render this service but predicates its wants on its preference to have a single carrier to take care of its needs rather than to have to deal with several carriers. While the desires of the public should be given serious consideration, we should not lose sight of the fact that it is only public convenience and necessity upon which an extension of authority should be granted. If two or more carriers can render the service satisfactorily the inconvenience of the shipper must be subordinated to the requisites of public convenience and necessity. The evidence is clear that this shipper has not tried the service of the carriers who have testified that they stand ready, willing and able to render the service in a satisfactory manner and proves nothing as to the adequacy of their service.

Mr. Ronald Sindall, the Supervisor of the Material Handling Section, Corporate Engineering Division of the Gates Rubber Company of Denver, Colorado, appeared in response to a subpoena and testified concerning his company's waste disposal problems. It appears that the Applicant presently handles exclusively all of the waste material from Gates' Denver plant and has assisted in analyzing and solving its various waste disposal problems. Gates

anticipates an expansion into Arapahoe County with a plant of similar size to the Denver plant now, however there is no definite target date for completion and the "immediate planning is in the nature of beginning activity in about two to three years." From the evidence we find that this shipper has no current disposal problems which are not being adequately taken care of and the evidence as to the future is too indefinite and uncertain to establish future public convenience and necessity.

Mr. Edward Higgins, an employee of the I.B.M. plant near Boulder, Colorado, also appeared in support of the Applicant. The evidence indicates that the protestant, Boulder Disposal, presently provides a satisfactory service of removal of solid wastes from the plant. The liquid wastes, however, consisting of approximately 20 barrels per week of toxic and flammable wastes, are handled by the Applicant under a temporary authority by the use of barrel containers. Boulder Disposal has the barrel equipment and facilities to handle and to dump this liquid waste if the traffic were tendered to it. It has inquired of I.B.M. concerning this traffic, but has been refused as this service is already being handled by someone else. Although the Applicant plans to place container equipment at the plant if the instant application is granted, there is no evidence from the shipper that it needs such equipment or that the presently available barrel equipment is inadequate. In view of the adequate solid waste service being performed by Boulder Disposal and its tendered, yet untried, liquid waste service, the evidence by this shipper contributes nothing to support public convenience and necessity for granting the application.

Mr. Charles Lacy, the Plant Engineer of Gardner-Denver Company of Denver, Colorado, also testified in support of the application. Gardner-Denver has facilities in Denver and Adams County from which waste products must be removed. His testimony is that the solid and liquid wastes from the Denver plant are presently handled by the Applicant, but it desires that Applicant also serve it in Adams County. The non-liquid wastes of the Adams County plant are presently removed by the protestant Derby Disposal and the liquid wastes, which are strictly water solubles, are presently being poured into an open ditch. Gardner-Denver has been told that this use of the open

ditch would have to be discontinued in the future, but no deadline has been given. Should discontinuance of this practice materialize, the necessary service for its removal is available from Derby Disposal even though its offer to provide such service has heretofore been refused. No evidence was proffered to establish that this carrier cannot satisfactorily provide the necessary service.

Witness Clarence Gilber Wilhelm is the President of a tree-trimming company in Arapahoe County, which has a solid waste removal problem in disposing of tree limbs. The evidence indicates that although Mr. Wilhelm desires to use the services of the Applicant, he has not attempted to obtain this service from existing carriers who are authorized and have suitable equipment to provide it. His predicament results from his failure to try the service of authorized carriers.

A number of witnesses testified concerning water and air pollution problems that recent legislation seeks to remedy and the potential impact thereof on the refuse hauling industry. None of these witnesses proffered any testimony concerning the use of carriers, or the ability, or inability, of existing carriers, to adequately handle such traffic should the need arise.

Much of this type of evidence was adduced to show that federal and local authorities are becoming more and more concerned with the disposition of waste materials which create water and air pollution problems. This evidence indicates that more and more responsibility is being, and will be, placed upon the public to make proper disposal of such materials. Thus, more demands for service, and need therefor should result. This evidence, in general, is not of sufficient quality and weight to find that the presently authorized carriers are, or will be, unable to meet such demands. An existing authorized carrier is entitled to additional future new business if it stands ready, willing and able to handle it.

Evidence was adduced by witnesses who stated that they knew of no carrier desiring to, or who could, provide the services needed. Their lack of knowledge does not provide proof that such carriers do not actually exist.

The evidence of the Protestants on the other hand refutes that such a condition exists.

On the evidence of the Applicant itself, it appears that numerous future new demands are in prospect, and that the existing demands are of relatively recent origin. This, in part, explains the contention, though not reasonably proven, that some of the existing carriers already authorized to provide the service may not have the type of equipment which is desired by the shippers. Until such time as public needs for specialized equipment materialize an unjust burden would be imposed on authorized carriers if they should be compelled to have such equipment on a stand-by basis to meet demands which may never materialize.

The fact that an applicant seeks a broad authority greater than that of any and each of the existing authorized carriers, encompassing their areas, the grant of which might "make it easier" for a customer by having one carrier rather than two or more carriers to deal with, of itself, provides no legal basis for granting the application. The fundamental issue is whether or not existing carriers, individually or collectively, can adequately provide the needed services. We find from the evidence that there are such authorized carriers who are available and capable.

The evidence presented on behalf of the Protestants establishes that they are operating the type of equipment requested of them by the public; that they are willing and able to purchase additional and different equipment when the needs of the shipping public so require; that they are actively soliciting new and additional business and have the capacity to handle it; and that they have not refused to provide suitable service to the shipper witnesses involved in this application. The Commission finds that the Protestants, collectively, are authorized, have available, and are providing an adequate transportation service to meet the requirements of the present and future public convenience and necessity of shippers whom the Applicant seeks to serve.

We point out specifically that the Applicant seeks extension of its authority to include also the transportation of "other refuse" in the Counties of Adams, Arapahoe, Jefferson and Boulder, Colorado, to dump and disposal points regularly designated within said Counties, as well as the Counties of Elbert and Douglas, Colorado, excluding all pick-up points located within areas zoned residential within said Counties. The evidence submitted to establish that public convenience and necessity require such extension of its authority is insufficient, vague, and indefinite, if not altogether lacking, and fails to reasonably prove that the existing available service of carriers presently authorized to render such service is lacking or inadequate.

The Commission finds that the Applicant has failed to sustain the burden of proof to establish that public convenience and necessity, present or future, require extension of Applicant's authority as requested.

O R D E R

THE COMMISSION ORDERS:

That Application No. 22155-Extension be, and the same hereby is, denied.

This Order shall become effective twenty-one days from date.

(S E A L)

THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

HENRY E. ZARLENGO

EDWIN R. LUNDBORG

Commissioners

COMMISSIONER HOWARD S. BJELLAND DISSENTING.

Dated at Denver, Colorado, this 5th day of March, 1968

ATTEST: A TRUE COPY

William D. Mitchell, Executive Secretary

COMMISSIONER BJELLAND DISSENTING:

I respectfully dissent. Without going into unnecessary detail, I would find as ultimate facts, based on proper intermediate findings of fact, (1) that the existing solid waste as well as liquid waste trash disposal services available to industrial, manufacturing, and commercial business enterprises in the area which Applicant seeks to serve are inadequate, (2) that public convenience and necessity, present and future, require the proposed services of Applicant, limited, however, to service to business enterprises and further limited insofar as removal and disposal of solid waste is concerned to the utilization of roll-off equipment, and (3) that the requisite certificate of public convenience and necessity authorizing the rendition of such service as limited should issue.

(S E A L)

HOWARD S. BJELLAND

Commissioner

Dated at Denver, Colorado,
this 5th day of March, 1968

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ATTEST: A TRUE COPY

William D. Mitchell, Executive Secretary

EXHIBIT

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DENVER CLEAN-UP SERVICE

Commercial and Industria

IBM
OFFICE OF COUNSEL
MAR 9 35 AM '68
BOULDER, COLORADO

803 SOUTH JASON ST. • DENVER, COLORADO 80223 • TEL. 777-5402

March 18, 1968

file

Mr. K. N. Colton, Buyer
Purchasing Department
IBM Corporation
P. O. Box 1900
Boulder, Colorado 80302

Re: P.O. #03717V710

Dear Sir:

We will be unable to continue our service under the present contract we have with you now due to the Public Utilities Commission denial of the extension of our permit to service the surrounding counties.

Yours truly,

Robert A Johnson

Robert A. Johnson
Secretary-Treasurer

RAJ:ew

MAR 19 2 06 PM '68

BOL 003 ... 108

Bob.
For your info
Ken Colton