87047R01C
VOLUME 3
ORIGINAL

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the
Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

VOLUME THREE
GROUP IV UTILITY SYSTEMS PROPERTY
Remaining Group IV Properties and Utility Systems

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	09/27/82	

4. TITLE AND SUBTITLE
PROPERTY INVENTORY AND CONDITION SURVEY FOR THE GROUP IV UTILITY SYSTEMS PROPERTY, AND GROUP II CHEMICAL PLANT PROPERTY WITHIN THE SHELL OIL COMPANY LEASEHOLD AREA AT U.S. ARMY RMA

5. FUNDING NUMBERS

6. AUTHOR(S)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

HARLAND BARTHOLOMEW & ASSOCIATES
ST. LOUIS, MO

8. PERFORMING ORGANIZATION REPORT NUMBER

87047R01

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

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12a. DISTRIBUTION/AVAILABILITY STATEMENT

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

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13. ABSTRACT *(Maximum 200 words)*

THIS DOCUMENT CONSISTS OF 7 VOLUMES, VOLUME I: BUILDING NO. 321 - CENTRAL HEATING PLANT. VOLUME 2: BUILDING NO 325 - ELECTRIC POWER PLAN. VOLUME 3: REMAINING GROUP IV PROPERTIES AND UTILITIES SYSTEMS. VOLUME 4: BUILDING NUMBERS 311, 333, 335, AND 728. VOLUME 5: GROUP IV UTILITY SYSTEMS PROPERTY, WATER DISTRIBUTION SYSTEM. VOLUME 6: SHELL CONSTRUCTED BUILDINGS, BUILDING NUMBERS. 316A, 459, 515A, 724, AND 727. VOLUME 7: GROUP I CHEMICAL PLANT PROPERTY, BUILDING ON SHELL LEASHOLD.

14. SUBJECT TERMS	15. NUMBER OF PAGES
GAS, COAL, ELECTRIC, WATER	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED			

VOLUME THREE

GROUP IV UTILITY SYSTEMS PROPERTY

(Remaining Group IV Properties and Utility Systems)

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VOLUME THREE

GROUP IV UTILITY SYSTEMS PROPERTY

(Remaining Group IV Properties and Utility Systems)

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C E R T I F I C A T E

The undersigned Mr. Richard R. Rosenberger and Mr. J. Robert Doyle of Harland Bartholomew & Associates, Inc., St. Louis, Mo, as Architect/Engineer Contractor for the US Army Corps of Engineers, Omaha District, hereby certify that a PROPERTY INVENTORY AND CONDITION SURVEY was performed for the Group II Chemical Plant Property and the Group IV Utility Systems Property within the Shell Oil Company Leasehold area at the US Army Rocky Mountain Arsenal between 23 August 1982 and 15 September 1982 and that the following report and accompanying volumes correctly describe the existence and condition of the facilities therein as of 15th day of September 1982.

Signed this 21st day of September 1982

HARLAND BARTHOLOMEW & ASSOCIATES, INC.

Richard R. Rosenberger

Richard R. Rosenberger, P.E.
Associate and Project Manager

J. Robert Doyle

J. Robert Doyle, P.E.
Resident Engineer

FOREWORD

This PROPERTY INVENTORY AND CONDITION SURVEY has been prepared by Harland Bartholomew & Associates, Inc. under the direction of the US Army Corps of Engineers, Omaha District, and in accordance with the provisions contained in Contract No. DACA 45-82-C-0035, Modification No. P00001. Portions of this contract outlining the specific responsibilities of the Contractor in regard to the inventory and condition surveys of the Group II and Group IV properties are as follows:

4. WORK TO BE ACCOMPLISHED BY THE CONTRACTOR.

a. The Contracting Officer will provide the contractor the original, or a copy of the lease agreement, and all subsequent supplement agreements and exhibits. The contractor will be required to thoroughly familiarize himself with all provisions of the lease agreements. Particular attention shall be paid to Supplement Agreement No. 5 with Exhibits G and H-1 through H-14 and Supplement Agreement No. 22.

b. The contractor shall utilize the existing condition surveys and inventory information of the Group II, and the Group IV properties to conduct a new condition survey and inventory of the Group II and Group IV properties, identified below. The new survey shall be performed in the same format as the old survey, all property items not shown on the existing survey shall be properly identified on the new survey. All property shown on the existing survey and not found on the new survey shall be noted. The contractor will not be responsible to determine ownership, but to merely identify each and every item and condition that has to be resolved in negotiations between the U.S. Government and Shell Oil Corp. All discrepancies shall be clearly pointed out. Photographs are required which will allow government negotiators to compare current conditions with prior conditions. All property previously photographed shall be rephotographed to the best extent possible. the contractor's

inspection teams shall invite a representative of the U.S. Government and a representative of Shell Oil Corp. to accompany the survey team. The Group IV conditional survey and inventory shall be completed first. The Group II conditional survey and inventory shall be completed after the Group IV inventory has been submitted. The Contracting Officer will provide the original, or a copy of what is available, of subsequent conditional surveys and inventory of leased property, of Group II and Group IV properties that was performed at the time the facility was leased to Shell Oil Corp. There are six buildings included in the Group II leasehold and approximately 28 strutures, adjacent land areas, and three lakes in the Group IV lease. These are tentatively identified as follows:

GROUP II BUILDINGS

BUILDING/ FACILITY NO.	DESIGNATION	SIZE
311	Post cafeteria general warehouse	4,597 S.F.
333	General purpose warehouse	11,037 S.F.
335	General purpose warehouse (Including 47 items of "Hastelloy" equipment)	11,037 S.F.
336	General purpose warehouse	11,037 S.F.
356	General purpose warehouse	11,637 S.F.
728	General purpose warehouse	22,775 S.F.

GROUP IV UTILITIES

BUILDING/ FACILITY NO.	DESIGNATION	SIZE
321	Central heat plant gas	56,479 S.F.

(Continued)

BUILDING/FACILITY NO.	DESIGNATION	SIZE
321A	Tank Storage	
321B	Tank Storage	
321C	Tank Storage	
321D	Tank Storage	
321E	Tank Storage	416,000 Gal.
322	Coal sampling building	336 S.F.
322A	Tractor storage shed	556 S.F.
323	Ash handling hopper	3,600 C.F.
325	Elec. power plant gas	16,500 S.F.
326	Water pump plant	613 S.F.
337	Change House	588 S.F.
361	Sub. Station	
371	Water pump building	3,500 S.F.
372	Reservoir	1,000,000 Gal.
372A	Chlorination Station	64 S.F.
375	Well House	56 S.F.
378	Water treatment plant chlor. station No. 1	84 S.F.
381	Chlorination station No. 3	84 S.F.
382	Water treatment plant	68 S.F.
385	Water pump station NP	146 S.F.
386	Water pump	146 S.F.
387	Water pump NP #3	112 S.F.
462B	Fuel Oil Storage Tank	417,000 Gal.
548	Water pump NP	,206 S.F.
549	Cooling tower	8,802 S.F.
551	Elev. wate tank NP	500,000 Gal.
552	Valve Pit	
-	South Plants Lakes	

In addition to the buildings or structures noted above, all utility systems within the Shell Leasehold shall be included in the Group IV inventory and condition survey. These involve electrical, steam, potable and process water, and other utilities. Also, there are extensive amounts of equipment leased to Shell which must have a condition survey and inventory.

g. (1) The contractor shall review the past maintenance records of Rocky Mountain Arsenal's Water Distribution System, presently being operated by Shell Oil Corp. All maintenance records will be acquired from Shell Oil Corp. From these past maintenance records, the contractor shall develop a report which projects the yearly estimated maintenance and repair expenditures of the water distribution system. This report shall give a five-year projection of all maintenance and repair cost.

(2) The contractor shall attend a pre-start meeting at Rocky Mountain Arsenal. The contractor shall present a proposed inventory schedule to the U.S. Government and Shell Oil Corp. representatives. Other reporting information shall be included in the meetings as outlined in the basic contract.

6. SUBMITTALS.

a. The Group IV utilities condition and inventory survey shall be completed within 35 days after receipt of the NTP. Fifteen copies of the report shall be provided to the Contracting Officer.

b. The Group II buildings condition and inventory survey shall be completed within 55 days after receipt of the NTP. Fifteen copies of the report shall be provided to the Contracting Officer.

FOREWORD

(Continued)

Personnel from Harland Bartholomew & Associates, Inc. participating in the field evaluations, research, and report preparation aspects of the property inventory and condition surveys are identified in Section 1.00: GENERAL, of each Building/Facility report. Personnel from Shell Oil Company and the US Army Rocky Mountain Arsenal offering technical assistance to the evaluation teams are also acknowledged in this section. The Contractor is extremely grateful of the degree of cooperation and valuable assistance offered them by representatives of Shell Oil Company and the Arsenal to insure the accuracy and timely completion of this report.

For assistance in the field evaluation, research and report preparation for Building No. 321, Building No. 325 and other selected facilities in the Shell Oil Company leasehold area the Contractor has engaged the firm of Gilbert/Commonwealth, Commonwealth Associates, Inc. under a subcontract agreement. Personnel from Commonwealth Associates, Inc. participating in this portion of the Group II and Group IV property surveys are identified in Section 1.00: GENERAL, of the respective Building/Facility reports.

The overall field investigations and condition surveys for the Group IV: Utility Systems Properties were initiated on 23 August 1982 and completed on 15 September 1982. The actual date (or dates) that the physical survey was accomplished is entered in Section 1.00: GENERAL, of the individual Building/Facility reports. Field surveys of the Group II: Chemical Plant Properties commenced on 13 September 1982 and were completed on 15 September 1982. The existence and condition of the buildings, facilities and equipment outlined in this report and accompanying reports of the Group II and Group IV properties are considered to reflect the information obtained by the field evaluation teams as of the date indicated on the individual survey reports. Additions or removals of property after 15 September 1982 are not contained herein.

CRITERIA

Pursuant to the requirements contained in Article 4, Paragraph b (work to be accomplished by contractor), this PROPERTY INVENTORY AND CONDITION SURVEY and accompanying volumes has been prepared in a format similar to previous condition surveys performed for the Group II and Group IV properties. Some license was taken by the Contractor to standardize the individual condition report format to include the following decimal notation:

1.00 GENERAL
2.00 DESCRIPTION OF BUILDING/FACILITY
3.00 PRESENT CONDITION
.10 Exterior
.20 Interior (by rooms)
4.00 RECORD OF INSTALLED EQUIPMENT
5.00 PHOTOGRAPHS

Photographs of the various buildings, facilities and equipment were taken on the dates noted under each photograph in Section 5.00. To the extent practicable, views were selected to match previous photographs taken during the 01 February 1950 condition surveys. New photographs were taken of additional equipment installed after the previous surveys.

During the progress of the field surveys, each item listed in previous surveys as well as newly installed items were inspected by the field evaluation teams and conditions noted at the time of the survey. The terms used in denoting the present condition of architectural, structural, mechanical, electrical and finish features of the buildings and facilities are as follows:

VERY GOOD CONDITION (VG)

A reasonably high order of perfection when compared to similar types of installations or structures of the same age.

GOOD CONDITION (G)

Better than average condition when compared to similar types of installations or structures of the same age.

FAIR CONDITION (F)

Average or typical of the condition of similar types of installations or structures of the same age.

POOR CONDITION (P)

Below average condition when compared to similar types of installations or structures of the same age.

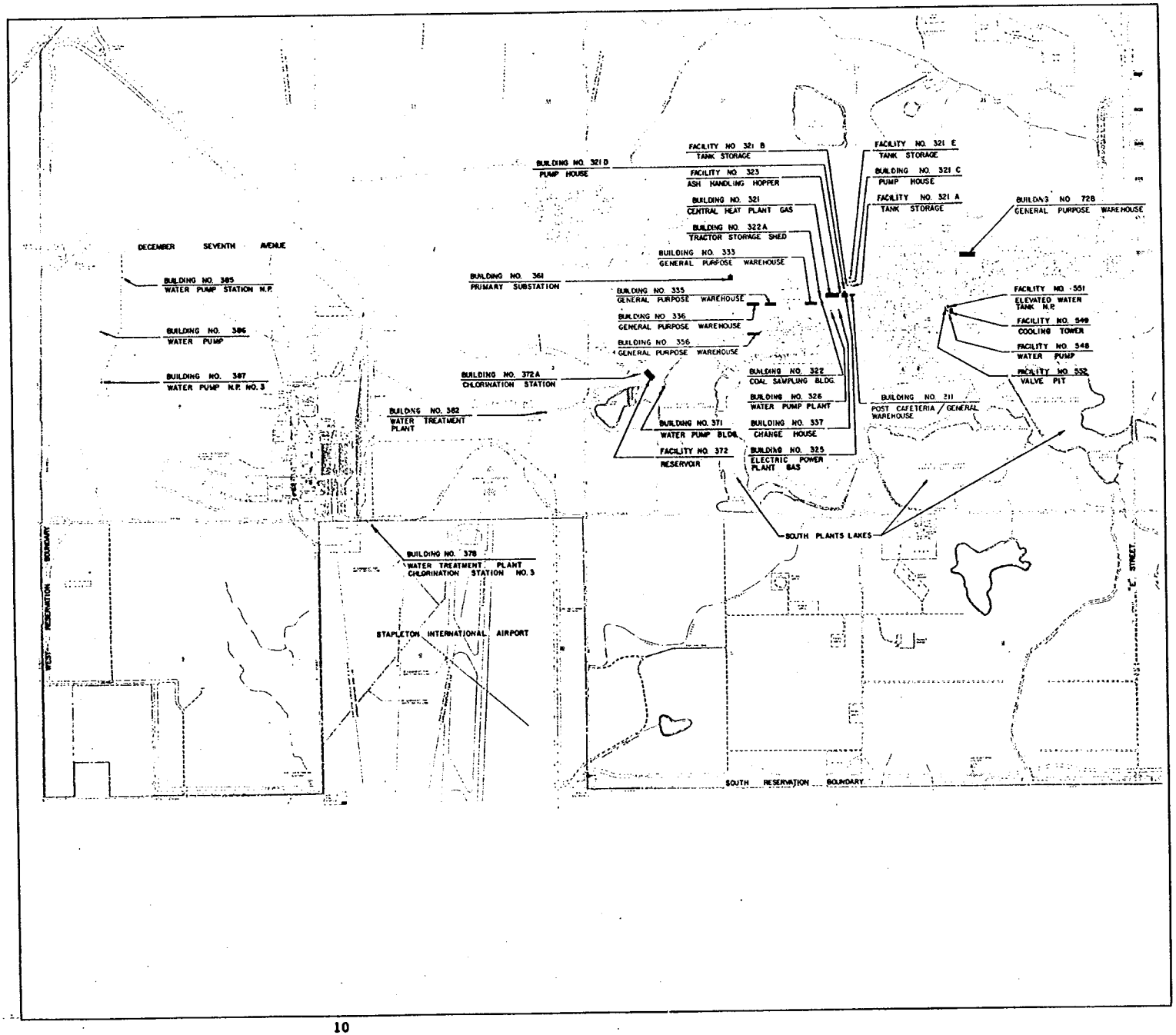
REPAIRS NEEDED (RN)

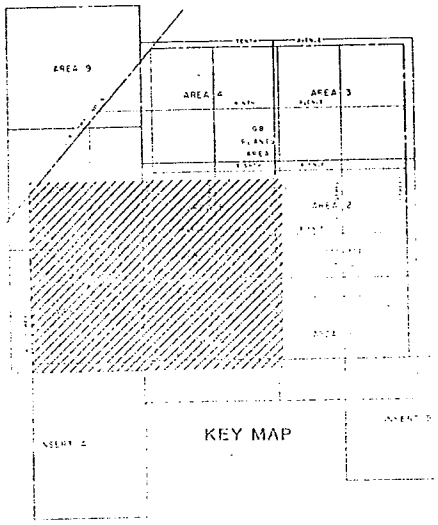
Condition of installation or structure is such that repairs or service is needed.

The code used to describe the condition of equipment entered under Section 4.00 RECORD OF INSTALLED EQUIPMENT is as follows:

Term	Meaning
N	New
E	Used, Reconditioned
O	Used, Usable w/o Repairs
R	Used, Unserviceable

Term	Meaning (with percent of usable life remaining)
1	Excellent (90-100)
2	Good (75-90)
3	Fair (50-75)
4	Poor (below 50)





LOCATION MAP

GROUP IV
UTILITY SYSTEMS PROPERTY

GROUP II
CHEMICAL PLANT PROPERTY

Property Boundary and Construction Status for

Group IV Utility Systems Property

Group II Chemical Plant Property

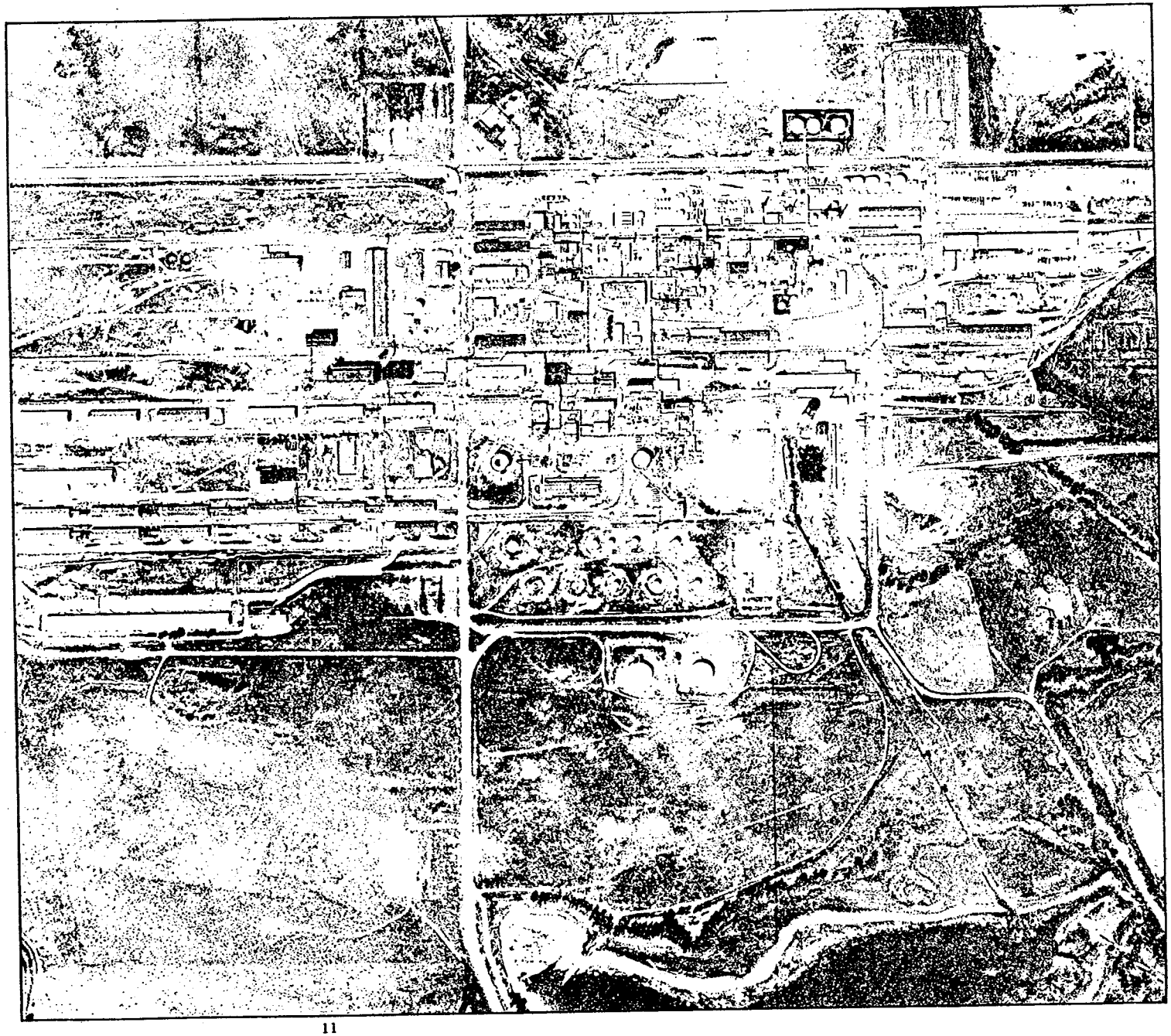
Shell Oil Company Leasehold Area

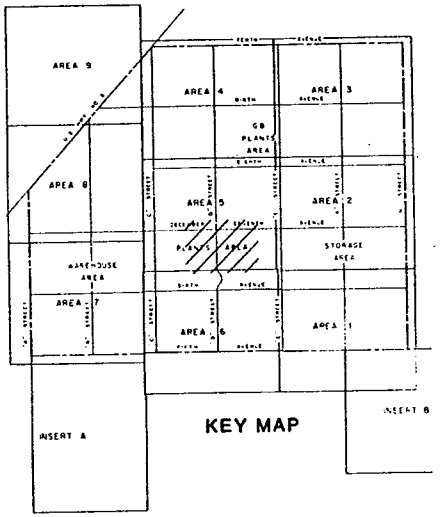
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St Louis MO
and
Gilbert/Commonwealth
Commonwealth Associates Inc

0 1000' 2000' 3000'
GRAPHIC SCALE IN FEET

27 September 1982





KEY MAP

AERIAL PHOTOGRAPH

DATE OF FLIGHT : 16 AUGUST 1982

Property, Inventory, and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
owned by
Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, P

27 September 1982

AERIAL PHOTOGRAPHY BY:
COLORADO AERIAL PHOTO SERVICE
DENVER, CO.

APPROXIMATE SCALE 1" = 485'

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the
Shell Oil Company Leasehold Area
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prepared by
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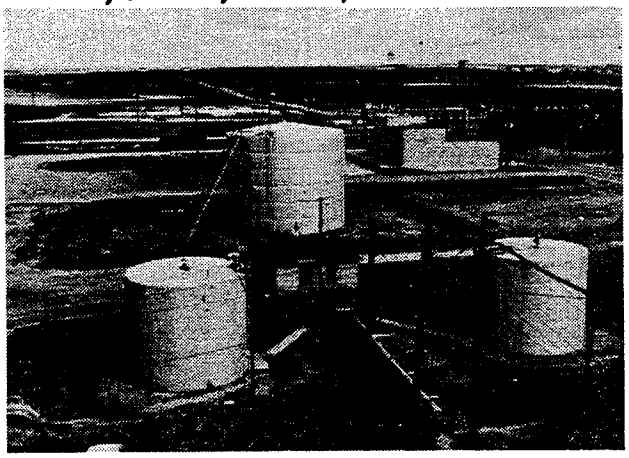
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

FUEL OIL SYSTEM
Including Facility Numbers 321A, 321B, 321C, 321D, 321E



FUEL OIL SYSTEM

(INCLUDING FACILITY NUMBERS 321A, 321B, 321C, 321D, and 321E)

1.00 GENERAL: There is no previous Condition Survey for this facility.

.10 Date of Property Inventory and Building Condition Survey:

30 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

See individual Building/Facility.

.60 Size of Building/Facility:

See individual Building/Facility.

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Co., Engineers

Denver, Colorado

2.00 DESCRIPTION OF BUILDING/FACILITY: The fuel oil storage and handling system consists of three tanks and two pump houses. Numbers 321A,

FUEL OIL SYSTEM

(INCLUDING FACILITY NUMBERS 321A, 321B, 321C, 321D, and 321E)

321B, 321E are tanks, and 321C and 321D are pump houses. Fuel oil can be received in railroad tank cars or tank trucks. It is pumped to the storage tanks and then pumped to Building 321 for burning in their boilers, or to Building 325 for use in their boilers. The tanks and interconnecting lines are steam heated and traced, to keep the viscosity of the oil to a pumpable condition.

3.00 PRESENT CONDITION. The condition of the individual facilities is indicated in the discussion of each facility:

FACILITY NO. 321A.Category Code 12470)

Structure is a welded steel tank, 24'-6" in diameter x 20'-6" high. Capacity 72,000 gallons. The tank has an earth foundation, is equipped with a safety ladder, a flame arrestor, an automatic tank gauge and steam coils, all in good (G) condition.

FACILITY NO. 321B. (Category Code 12470)

Structure is a welded steel tank 23' in diameter x 20'-6" high. Capacity 60,000 gallons. The tank has an earth foundation, is equipped with a safety ladder, a flame arrestor, an automatic tank gauge and steam coils, all in good (G) condition.

BUILDING NO. 321C. (Category Code 12531)

Building is 23' x 24'-6" x 8' high with concrete foundation and floor, wood frame construction, wood walls and roll roofing over wood sheathing. One fire extinguisher is provided. The general condition of the building is poor (P).

FUEL OIL SYSTEM

(INCLUDING FACILITY NUMBERS 321A, 321B, 321C, 321D, and 321E)

BUILDING NO. 321D. (Category Code 12531)

Building is 23' x 24'-6" x 8' high, with concrete floor and foundation, wood frame construction, wood walls and roll roofing over wood sheathing. Two fire extinguishers are provided. The general condition of the building is fair (F).

FACILITY NO. 321E. (Category Code 12470)

Structure is a welded steel tank, 44'-6" in diameter x 34'-6" high. Capacity is 400,000 gallons. The tank has no foundation, but is equipped with a steel stairway, flame arrestor, an automatic tank gauge and steam coils, all in good (G) condition. (This tank was formerly numbered T462B. It was disassembled at its previous location, near T-462A, and re-assembled at the present location.)

.10 Fire protection:

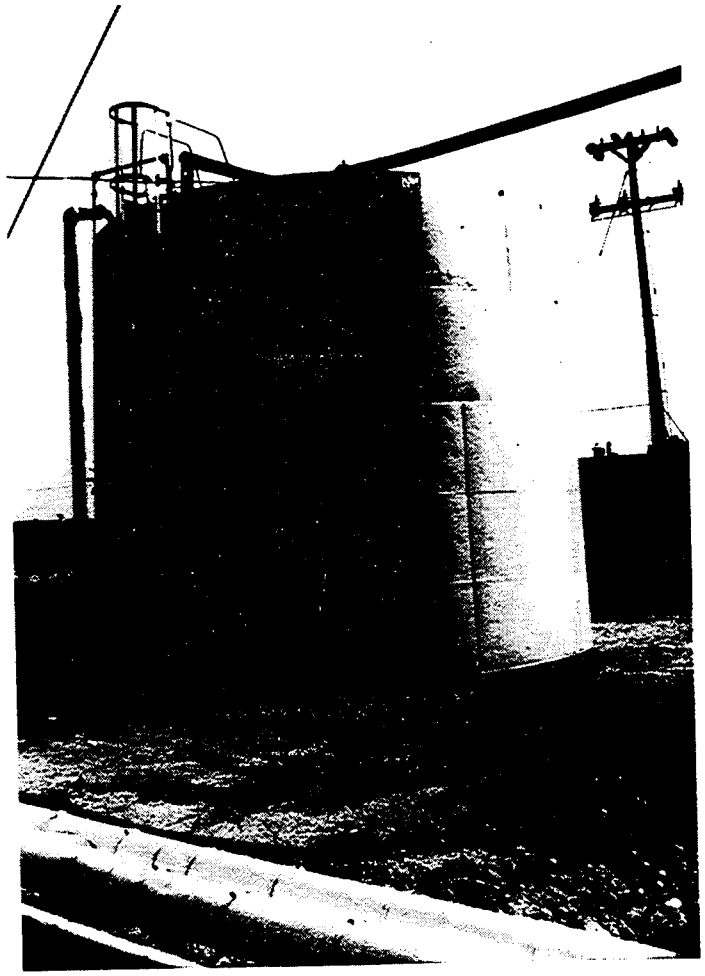
There are no fire protection facilities for the tanks (Nos. 321A, 321B and 321E), but an earthen berm is designed to hold the tank contents in the event of a tank rupture.

FUEL OIL SYSTEM

INCLUDING FACILITY NUMBERS 321A, 321B, 321C, 321D, and 321E)

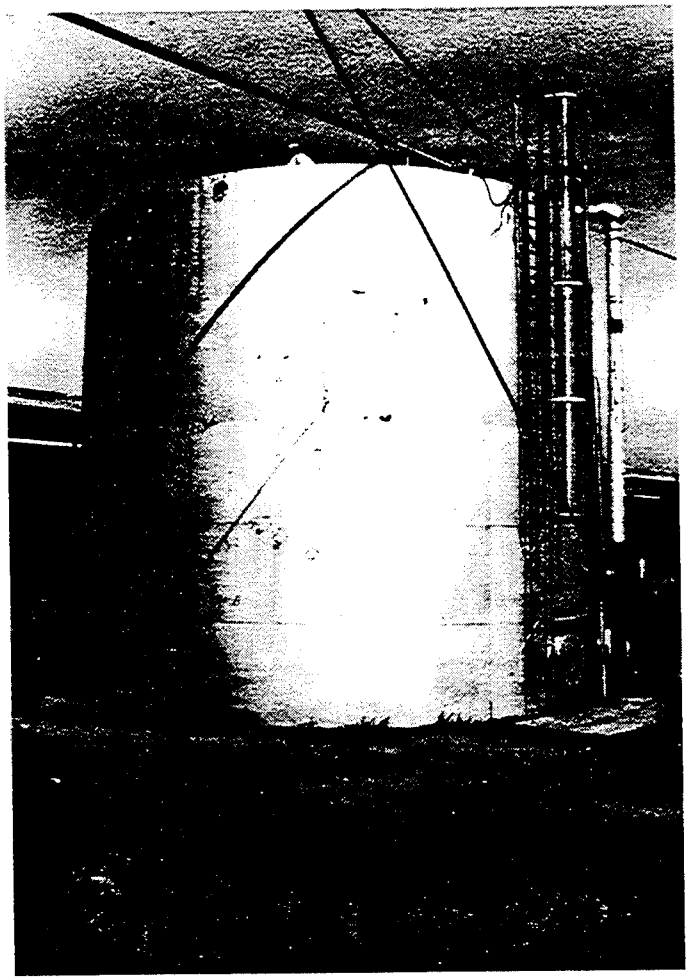
4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
BUILDING NO. 321C						
2	Pumps	N/A	Worthington	N/A	(0-2)	S/N-1406640 S/N-1400488
2	Electric Motors	30 hp	N/A	N/A	(0-2)	S/N-1796541 S/N-1796542
2	Motor Controllers	30 hp	N/A	N/A	(0-2)	
BUILDING NO. 321D						
1	Pump, Steam Driven	N/A	Worthington	N/A	(0-2)	
2	Pumps	N/A	N/A	N/A	(0-2)	
1	Electric Motor	7-1/2hp	Westinghouse	N/A	(0-2)	
1	Electric Motor	10 hp	Louis Allis	N/A	(0-2)	
2	Motor Controllers	10hp	N/A	N/A	(0-2)	

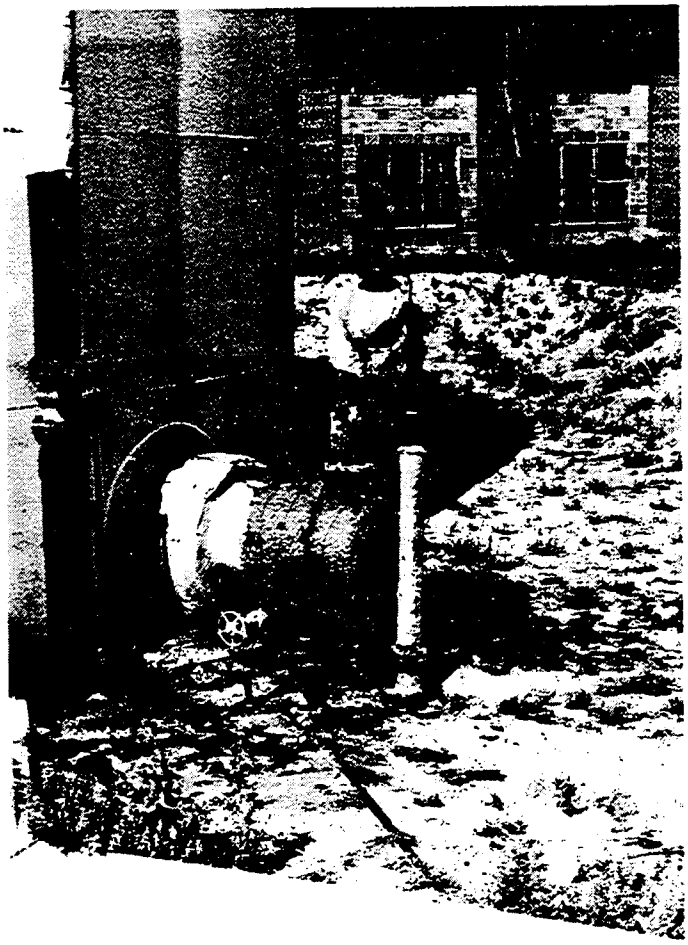


BUILDING NO. 321A (TANK): General View
Exterior. (Looking East)
Date of Photograph: 30 August 1982

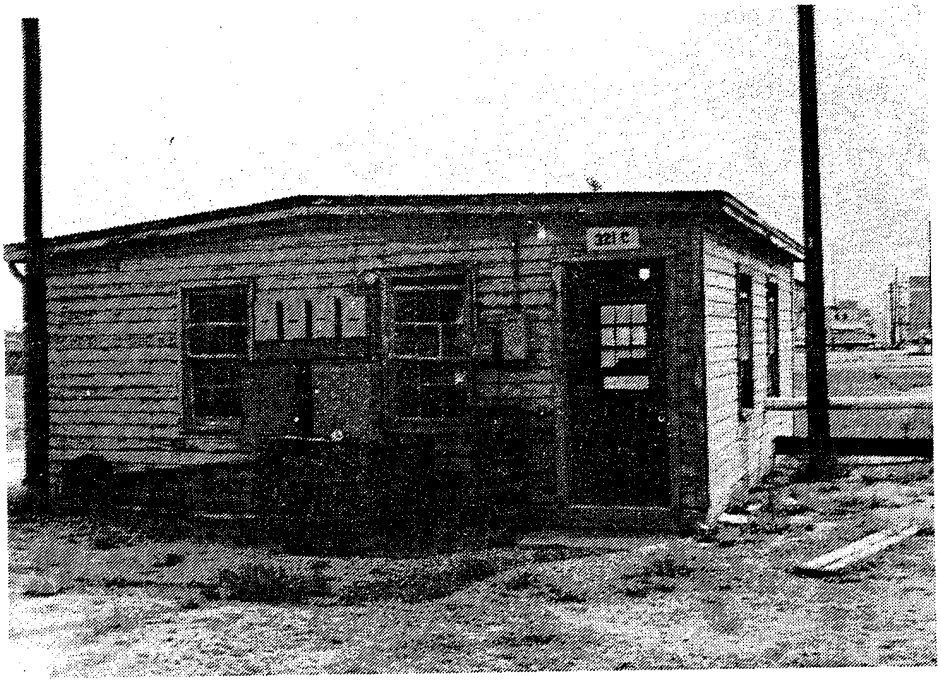
BUILDING NO. 321A (TANK): Pump
Date of Photograph: 30 August 1982

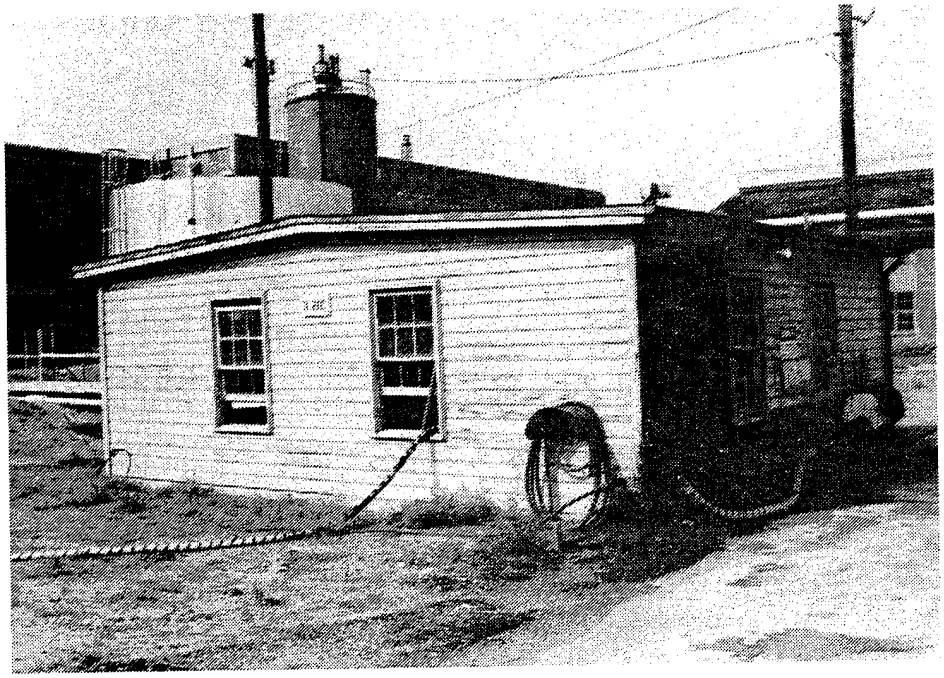


BUILDING NO. 321B (TANK): General View Exterior. (Looking Northwest)
Date of Photograph: 30 August 1982

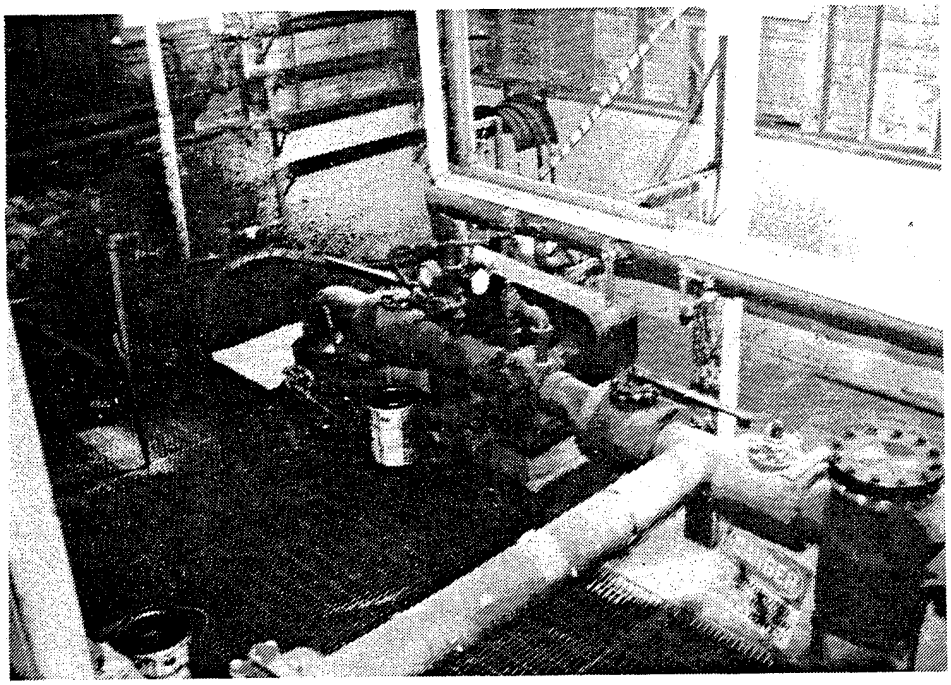


BUILDING NO. 321B (TANK): Pump
Date of Photograph: 30 August 1982

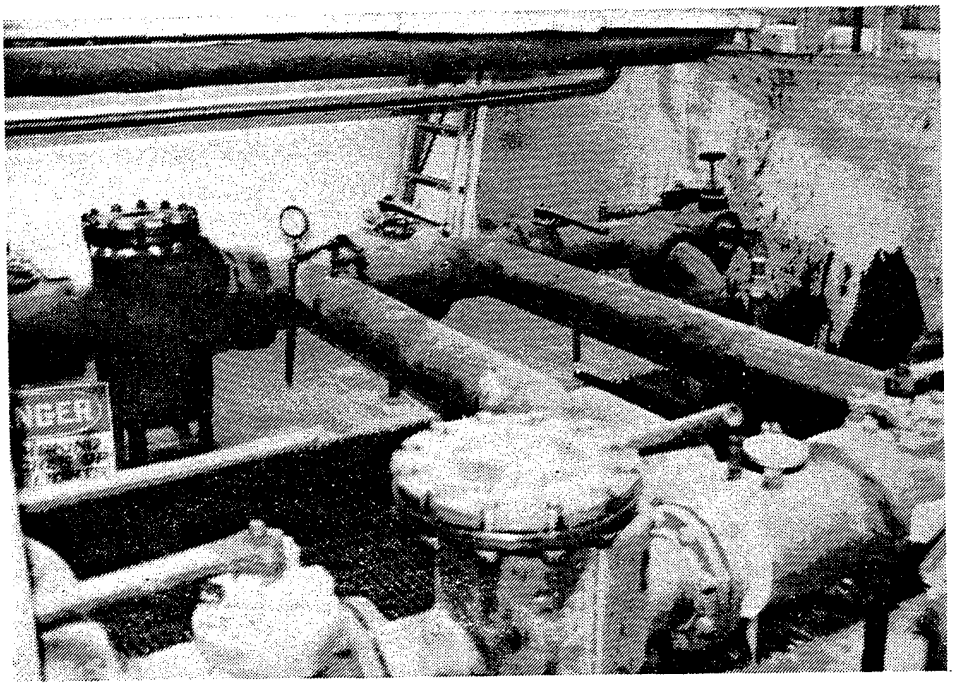




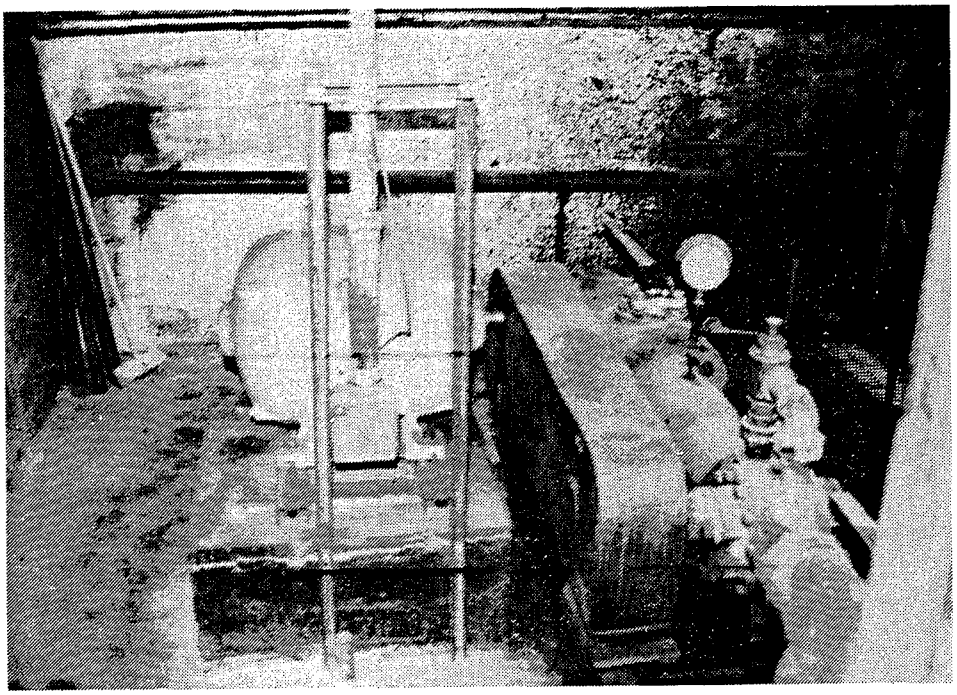
BUILDING NO. 321C: General View Exterior.
(Looking Southwest)
Date of Photograph: 30 August 1982



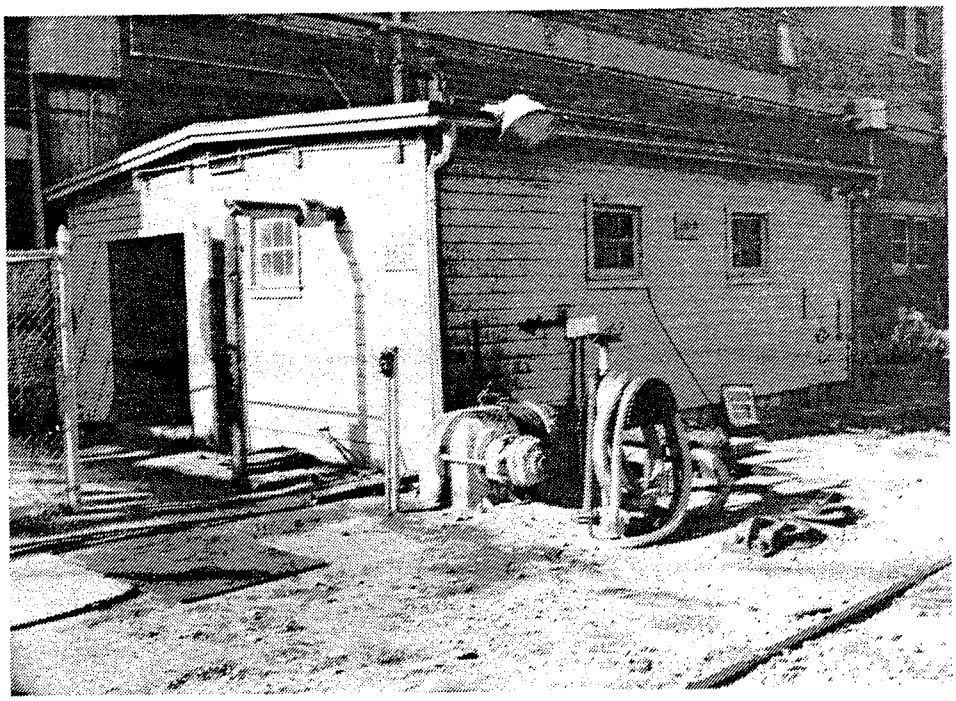
BUILDING NO. 321C: Interior. Pumps and Motors
Date of Photograph: 30 August 1982



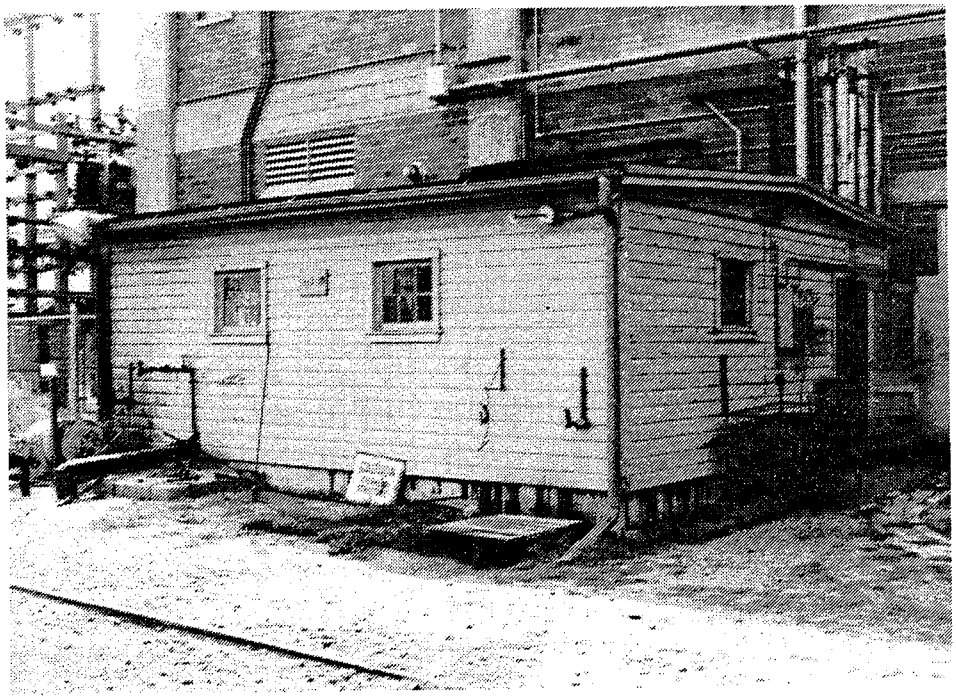
BUILDING NO. 321C: Interior.
Date of Photograph: 30 August 1982



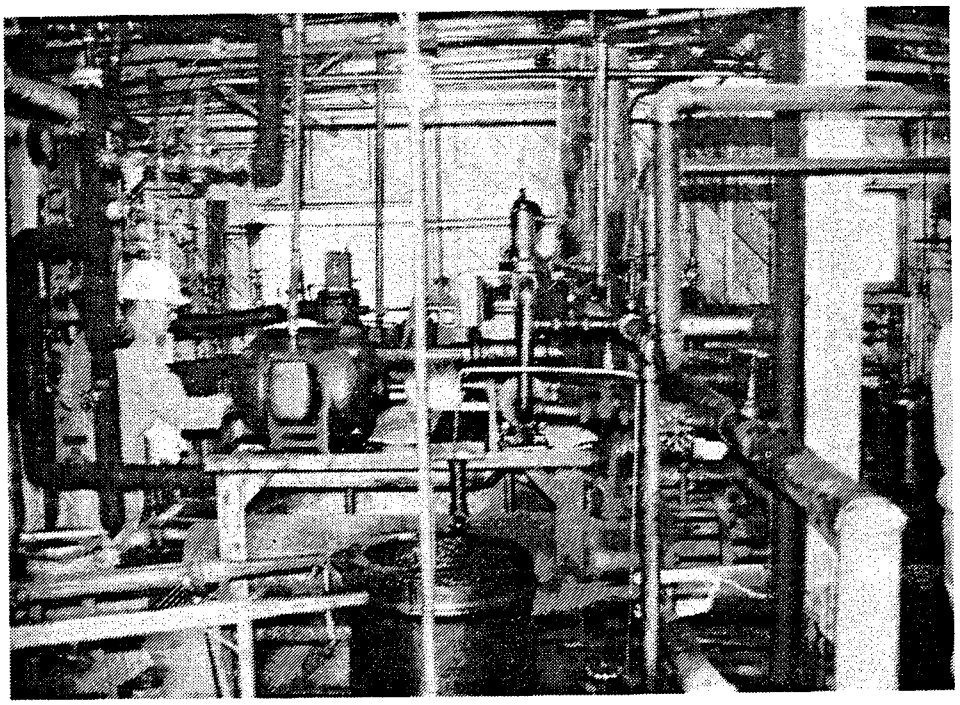
BUILDING NO. 321C: Interior.
Pumps.
Date of Photograph: 30 August 1982



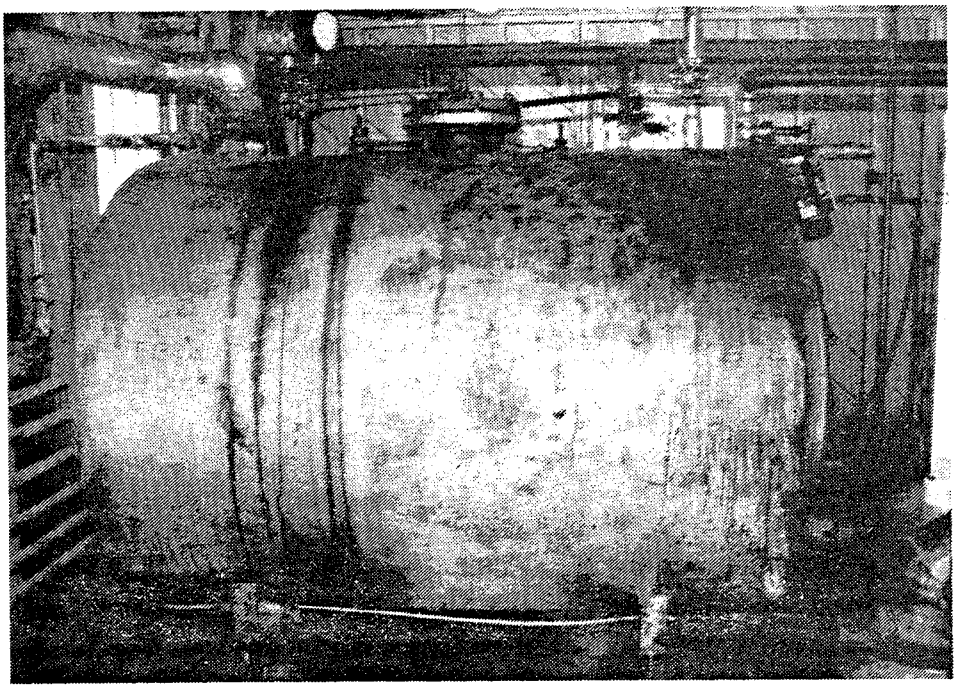
BUILDING NO. 321D: General View Exterior.
(Looking West)
Date of Photograph: 1 September 1982



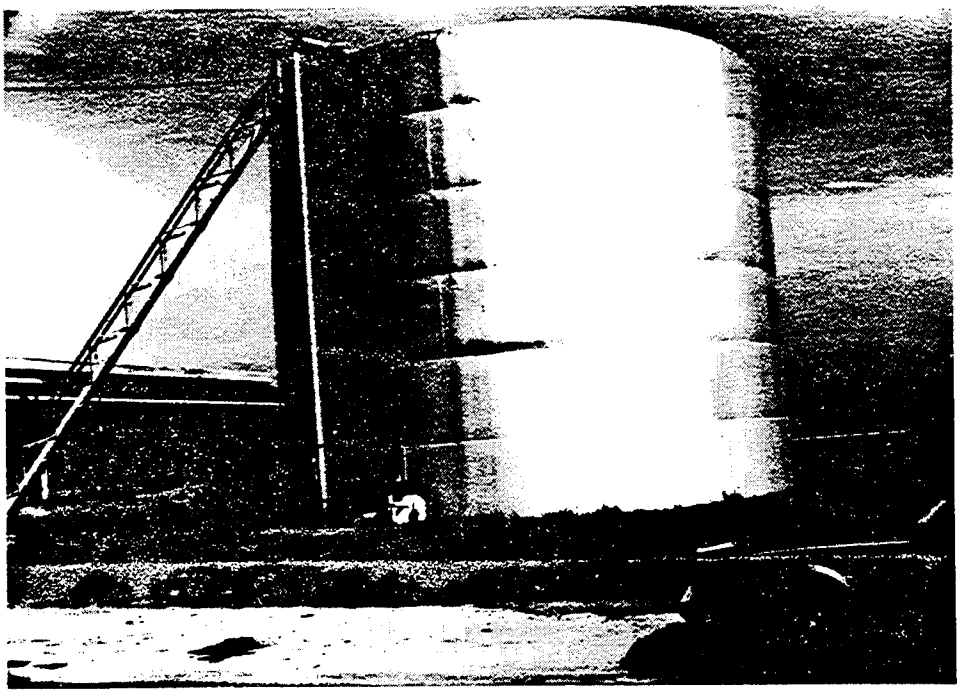
BUILDING NO. 321D: General View
Exterior. (Looking Southeast)
Date of Photograph: 30 August 1982



BUILDING NO. 321D: General View.
Interior Oil Pump.
Date of Photograph: 30 August 1982



BUILDING NO. 321D: Interior.
Oil Tank
Date of Photograph: 30 August 1982



BUILDING NO. 321E (TANK): General View
Exterior. (Looking Northwest)
Date of Photograph: 30 August 1982

BUILDING NO. 321E: Pump
Date of Photograph: 30 August 1982

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
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Shell Oil Company Leasehold Area
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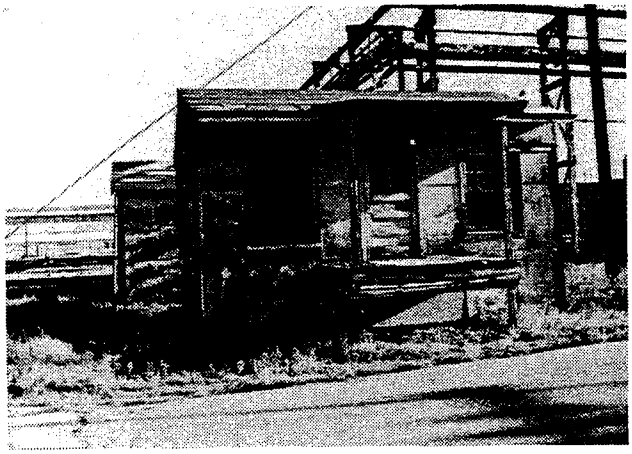
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 322
Coal Sampling Building



BUILDING NO. 322

COAL SAMPLING BUILDING

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code:

82190

.60 Size of Building/Facility:

21'-0" x 16'-0"

70 Year Built:

1943

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. This building was formerly used to receive and process coal samples. At present it is used for miscellaneous storage. The one story building is 16' x 21' x 11' high.

BUILDING NO. 322

COAL SAMPLING BUILDING

The foundation and floor is concrete, the walls Cel-O-Siding and the roof is mineral surface roll roofing over wood sheathing. An "L" shaped wooden platform 4'-6" high and 6' to 8' feet wide extends across two sides. Wooden steps and handrails are provided. Fire extinguishers are available. There is no heating system. The only utility is electricity.

3.00 PRESENT CONDITION. Building No. 322 is in generally fair (F) condition. The estimated remaining useful life of this building from August 1982, with minimum maintenance and no building use change, is 8 years.

.10 Exterior: Building No. 322.

Foundation: Perimeter wall, concrete (G).

Wall Finish: Granule surface siding (F).

Cornice and Trim: Wood (F).

Door: Wood panel glazed (F).

Windows: Wood sash, double hung (F).

Paint Finish: Doors, sash, trim (P).

Roofing: 90 lb. mineral surface (F).

Miscellaneous: General Condition of exterior building is fair (F). 1 - outside fixture (G). 1 - explosion proof outside fixture (G).

.20 Interior: Testing Room.

Floor Finish: Concrete pit (G). Wood floor (G).

Walls: Wood (G).

Ceiling: Open.

BUILDING NO. 322

COAL SAMPLING BUILDING

Windows: Wood sash double hung (F).

Doors: Wood panel glazed (F).

Hardware: Locks, hinges (F).

Glazing: Common clear (F).

Paint Finish: Doors, trim (P).

Electric Fixtures: 5 - explosion proof fixtures (G). 2 - explosion proof switches (G). 2 - explosion proof duplex receptacles (G).

Plumbing: Hose bibb (G).

Heating: None.

Miscellaneous: No installed building equipment. General condition of room is fair (F).

.30 MISSING EQUIPMENT. The condition survey of 1950 found several items of equipment not found in the August 1982 survey:

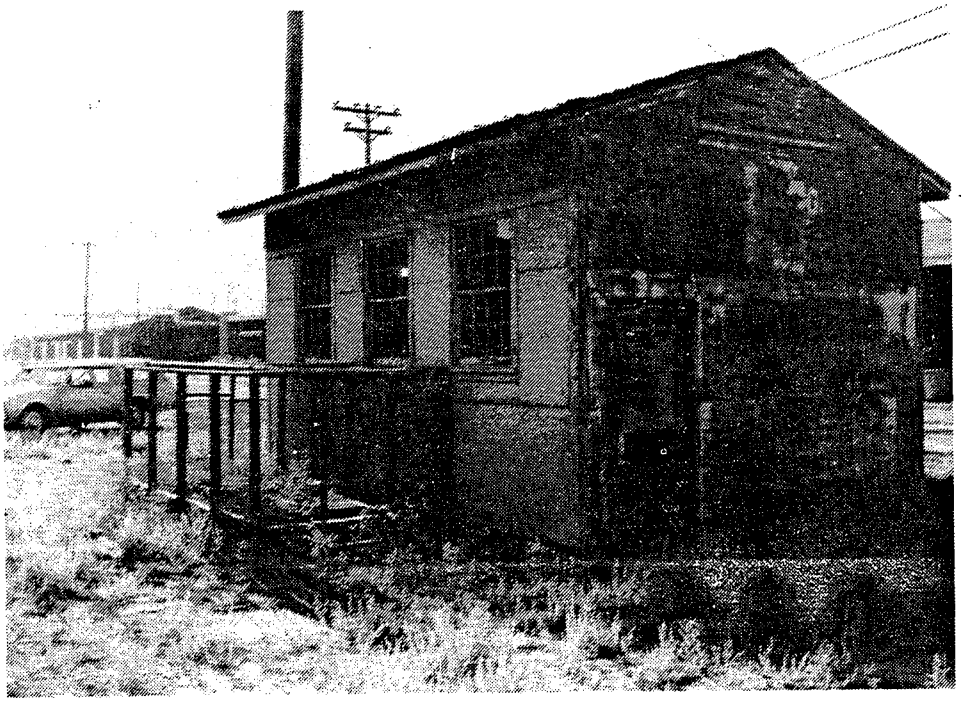
1 - Howe portable platform scale (G).

1 - S.O.S. Pyrene Fire extinguisher (G).

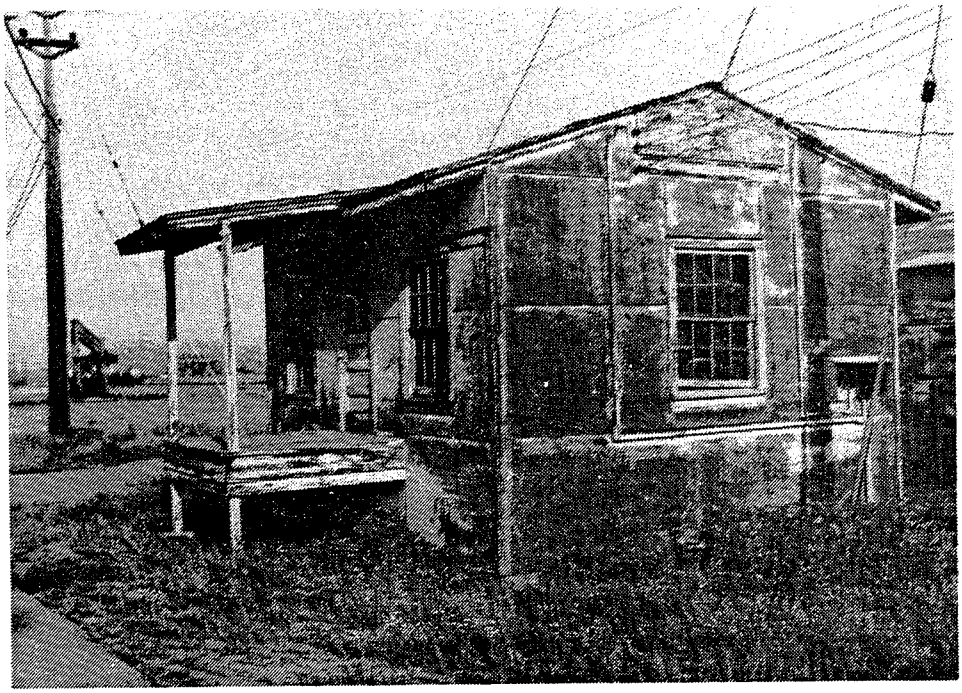
1 - Wheelbarrow (G).

2 - Coal scoops (G).

9 - Canvas coal bags (G).

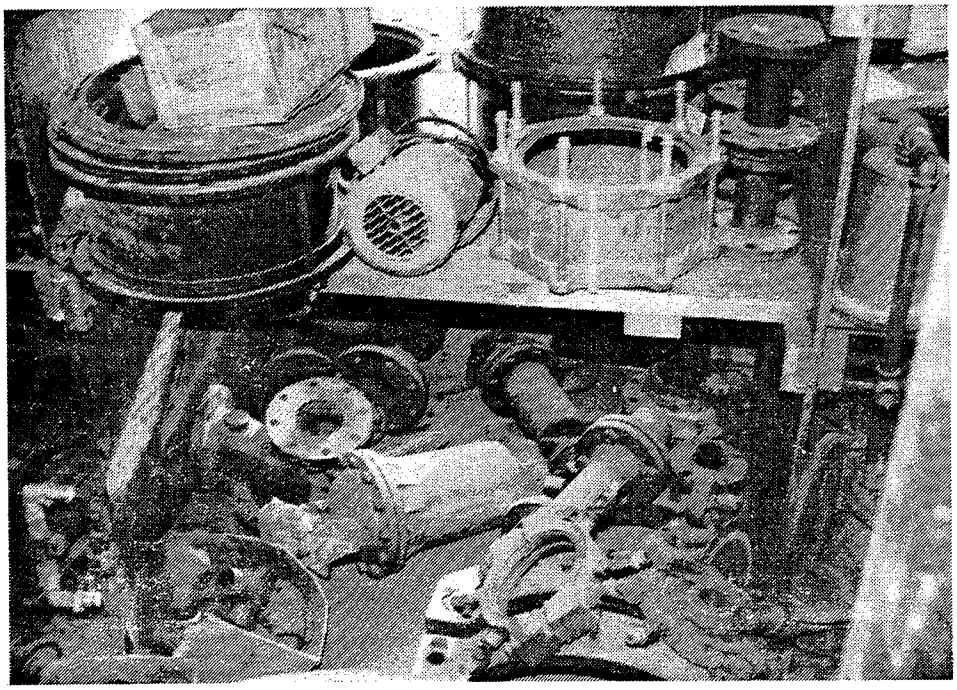


BUILDING NO. 322: General View Exterior.
(Looking East)
Date of Photograph: 31 August 1982

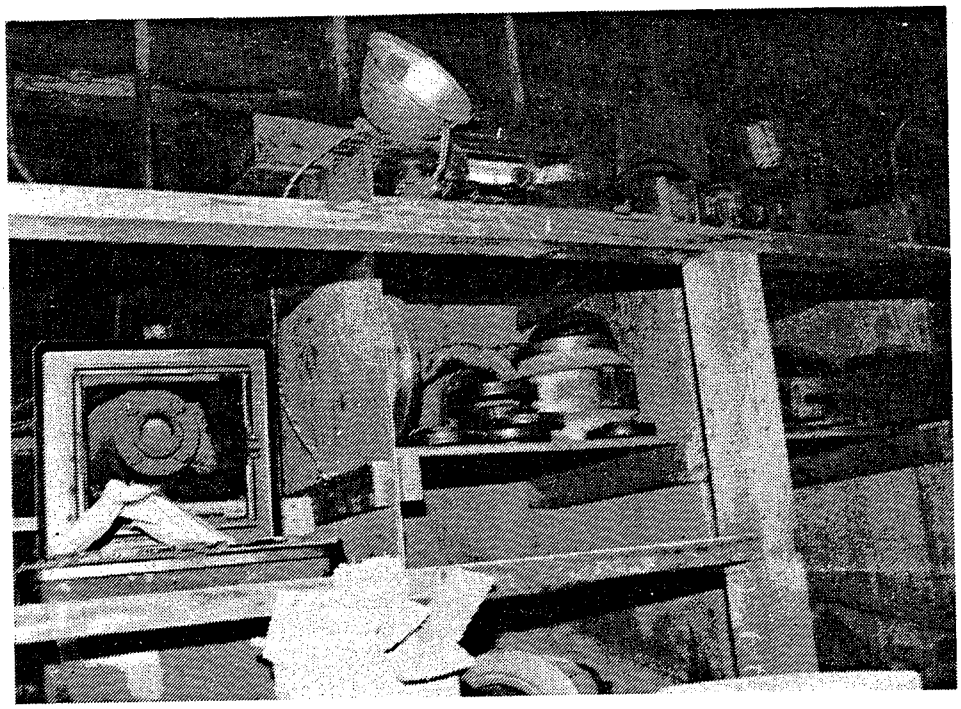


BUILDING NO. 322: General View
Exterior. (Looking Northwest)
Date of Photograph: 7 September 1982

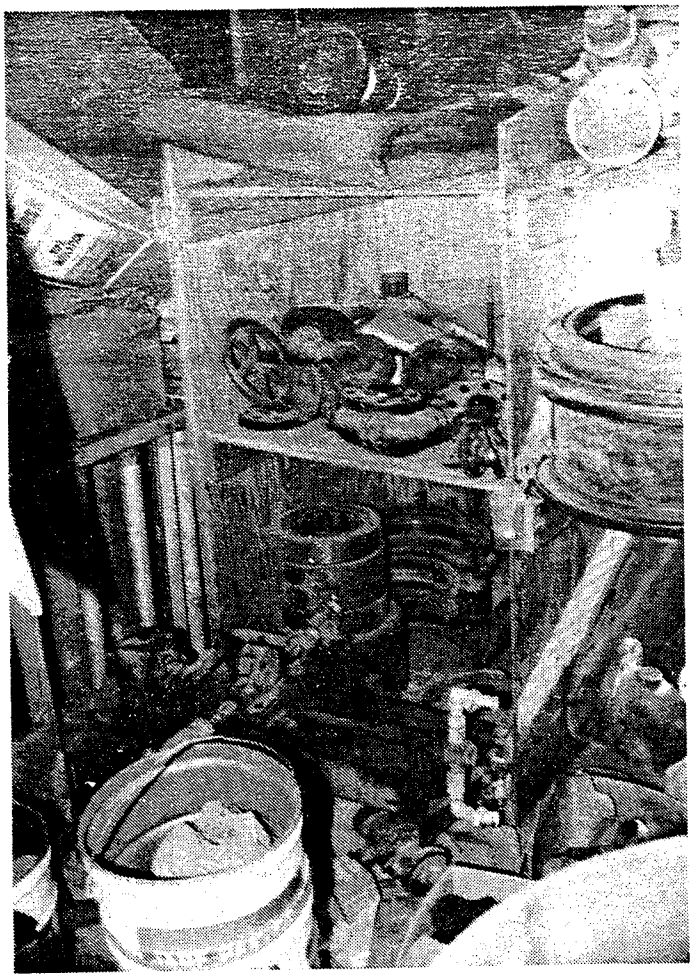
BUILDING NO. 322: Interior. Fire Brick
Date of Photograph: 7 September 1982



BUILDING NO. 322: Interior
Miscellaneous Equipment

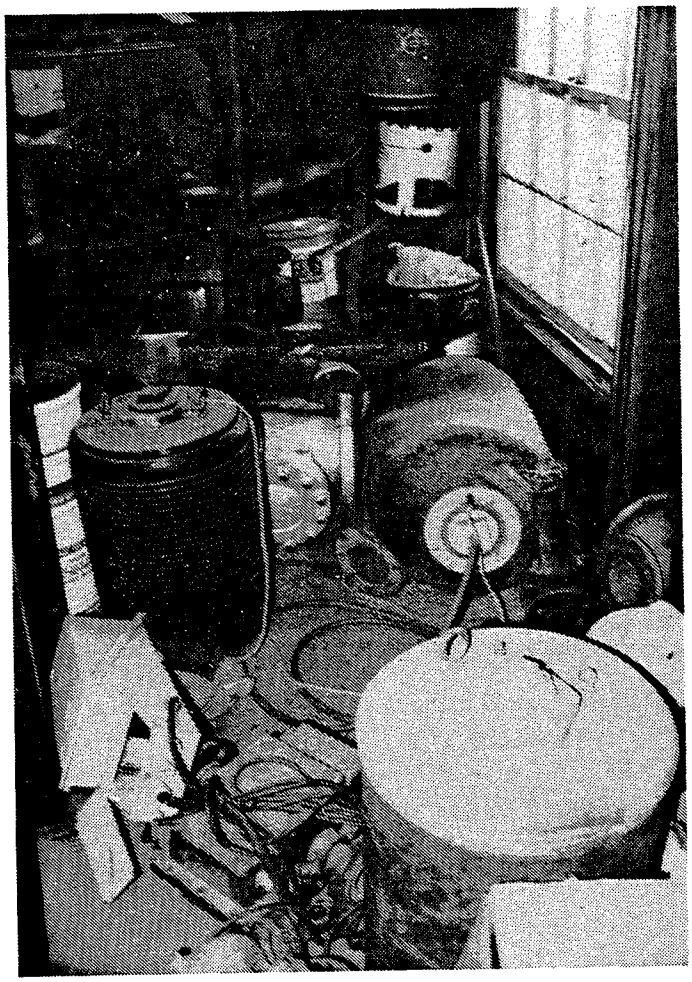


BUILDING NO. 322: Interior
Miscellaneous Equipment
Date of Photograph: 7 September 1982

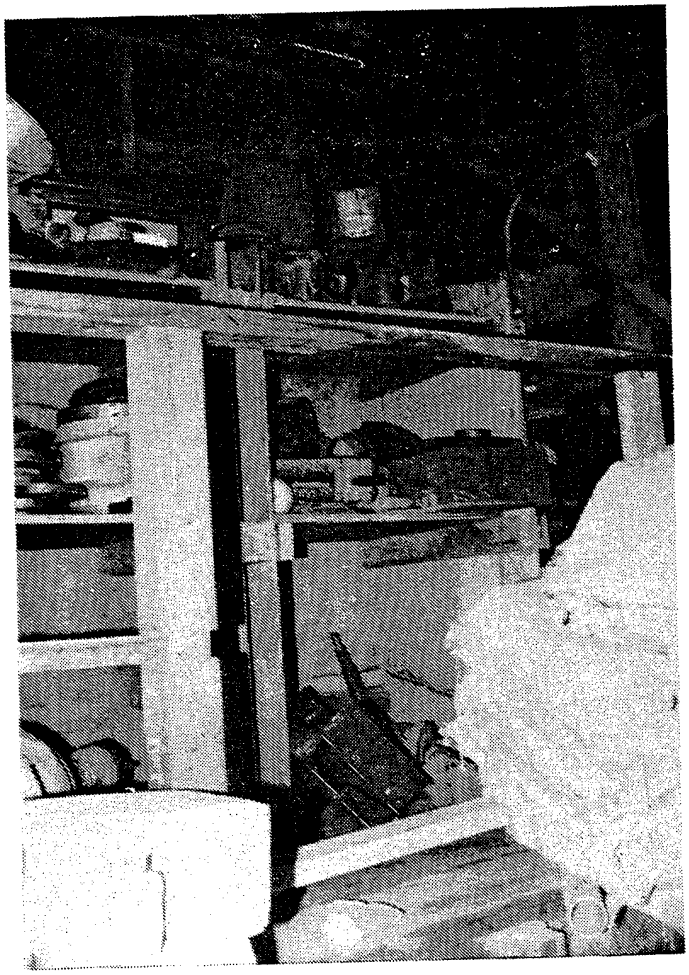


BUILDING NO. 322: Interior
Miscellaneous Equipment
Date of Photograph: 7 September 1982

BUILDING NO. 322: Interior
Miscellaneous Equipment
Date of Photograph: 7 September 1982



BUILDING NO. 322: Interior.
Miscellaneous Equipment
Date of Photograph: 7 September 1982



BUILDING NO. 322: Interior
Miscellaneous Equipment
Date of Photograph: 7 September 1982

Property Inventory and Condition Survey
for the

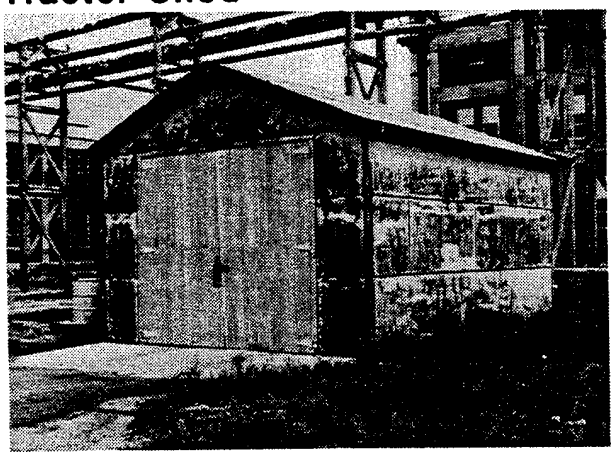
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 322A
Tractor Shed



BUILDING NO. 322A

TRACTOR SHED

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

44181

.60 Size of Building/Facility:

17'-8" x 22'-0"

70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

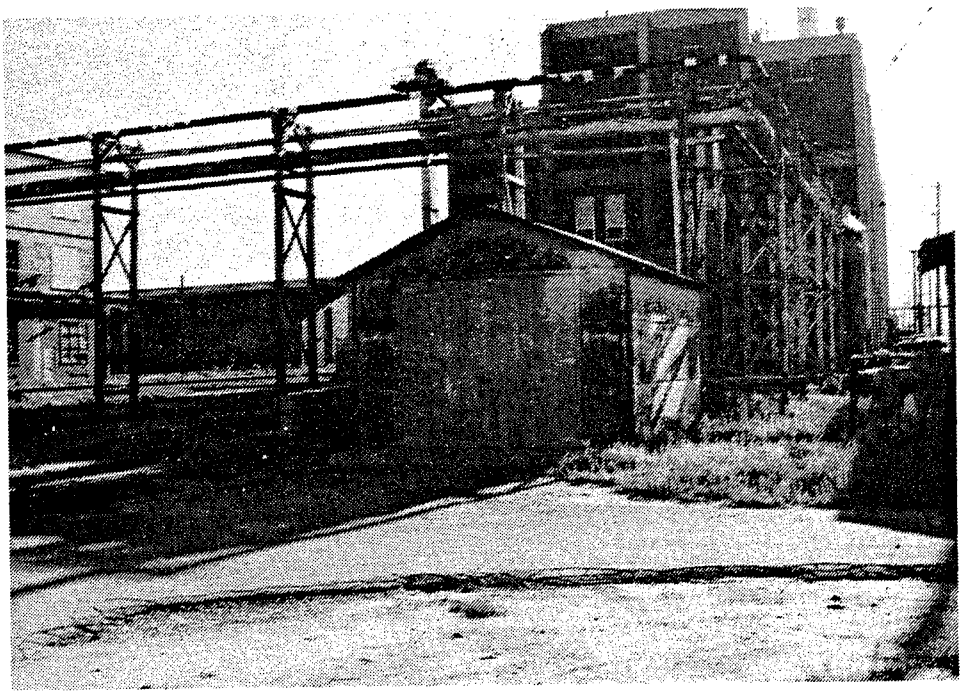
H. A. Kuljian and Company, Engineers

Denver, Co.

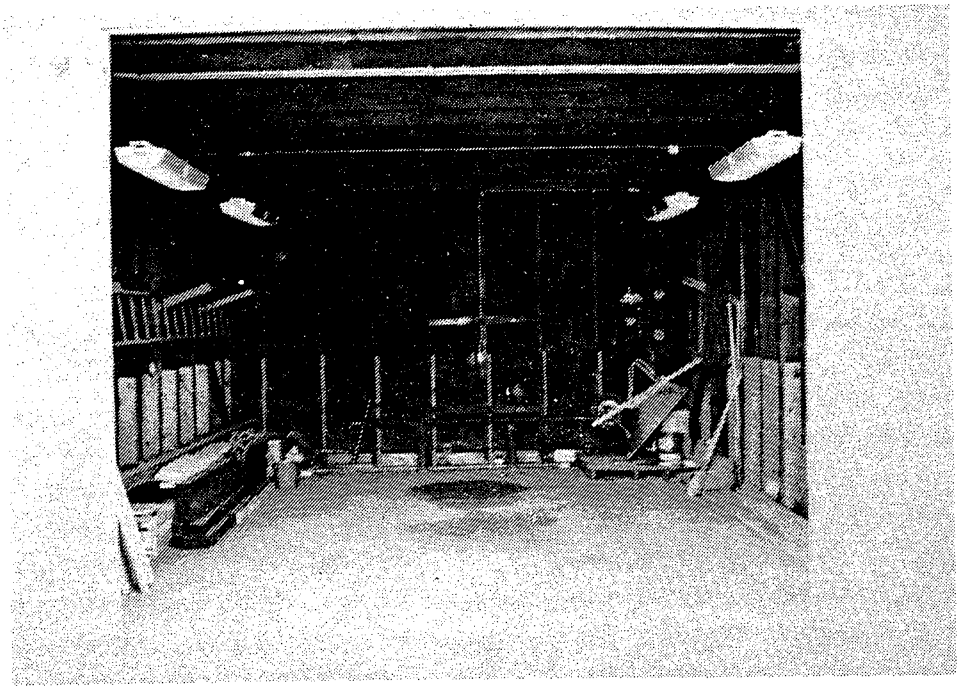
2.00 DESCRIPTION OF BUILDING/FACILITY. This building is used as a vehicle garage. It is one story, 17'-8" x 20' x 8'-6" high. The foundation

and floor is concrete, the walls Cel-O-Siding and the roof is mineral surface roll roofing. There are no fire protection facilities. Two leaf, hinged doors provide access. Heat is provided by steam coils; electricity is the only other utility.

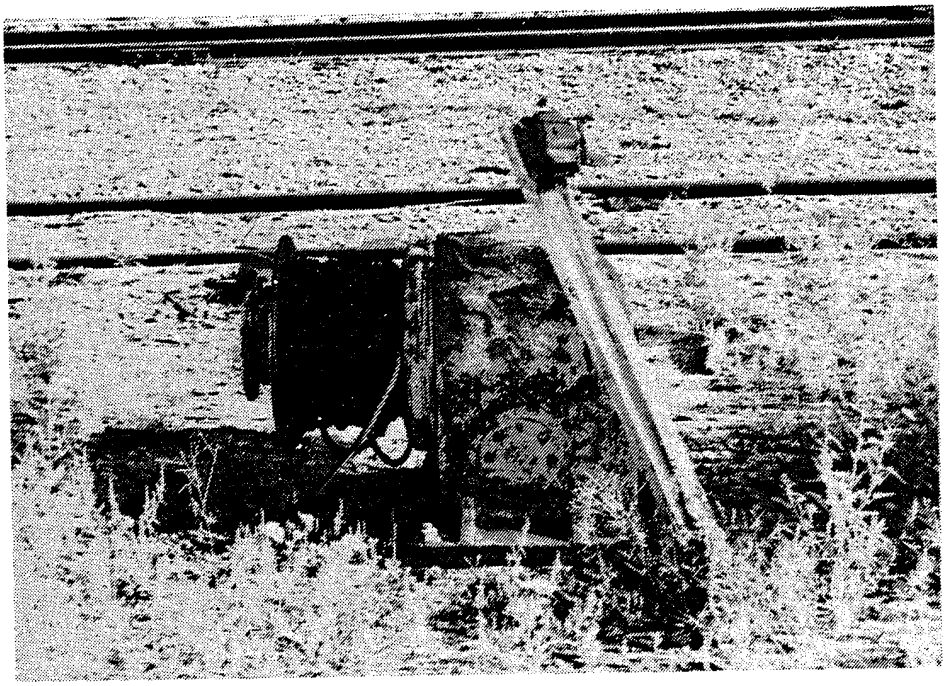
3.00 PRESENT CONDITION. Building No. 322A is in a fair (F) condition. the estimated useful life of this building as of August 1982, with minimum maintenance and no building use change, is 10 years.



BUILDING NO. 322A: General View.
(Looking East)
Date of Photograph: 31 August 1982



BUILDING NO. 322A: General View.
Interior
Date of Photograph: 31 August 1982



GENERAL VIEW OF CAR SPOTTER:
Typical (North of Building No. 322A)
Date of Photograph: 31 August 1982

Property Inventory and Condition Survey
for the

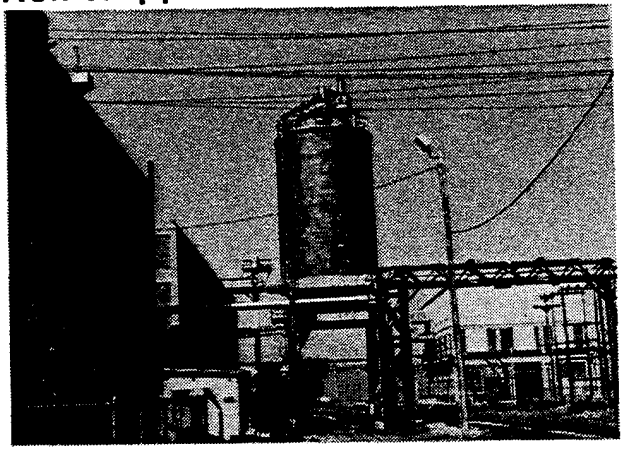
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO.323
Ash Hopper



BUILDING NO. 323

ASH HOPPER

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

82190

.60 Size of Building/Facility:

24'-0" x 24'-0"

70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. Building No. 323 was used to store ashes from the coal fired boilers in Building Nos. 321 and 325. Since

these boilers are now gas/oil fired, the silo is no longer used. The hopper is supported on a concrete platform 24' x 24'. The platform is 31' high and supported on 4 concrete legs, with concrete footings. The hopper itself is 23' O.D. x 31' high (capacity 12,000 cubic feet) and is made of 8" structural tile with a concrete roof, waterproofed with pitch. There is no fire protection, heat nor utilities except electricity.

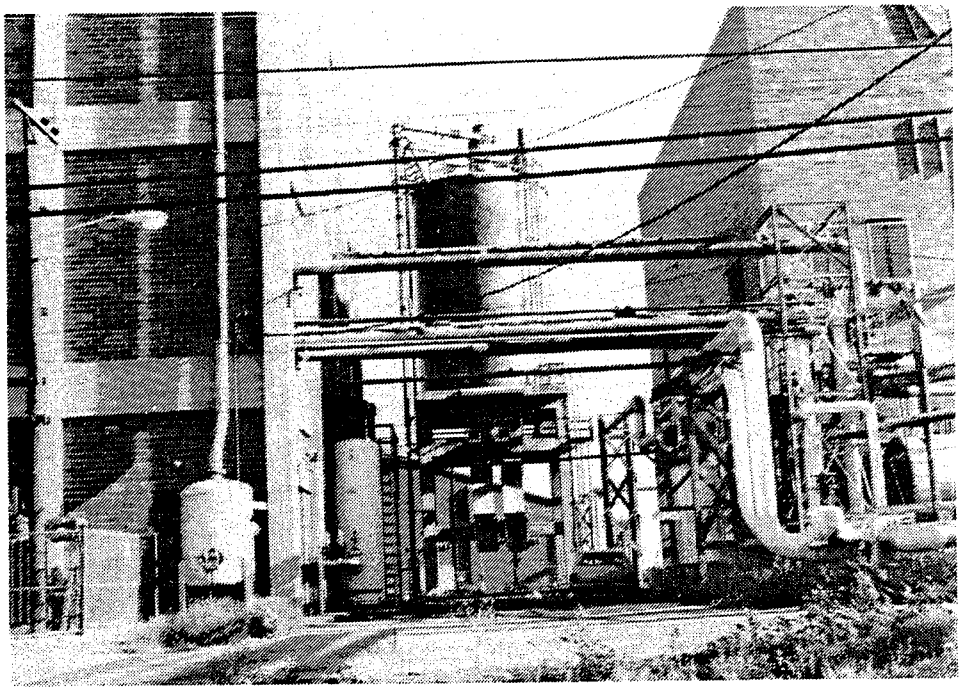
3.00 PRESENT CONDITION. The hopper structure is in good condition (G), but is probably not operational without major work on the equipment. The estimated useful life of the structure as of August 1982, with minimum maintenance and no building use change, is 25 years. (Structure has not been used in many years.)

BUILDING NO. 323

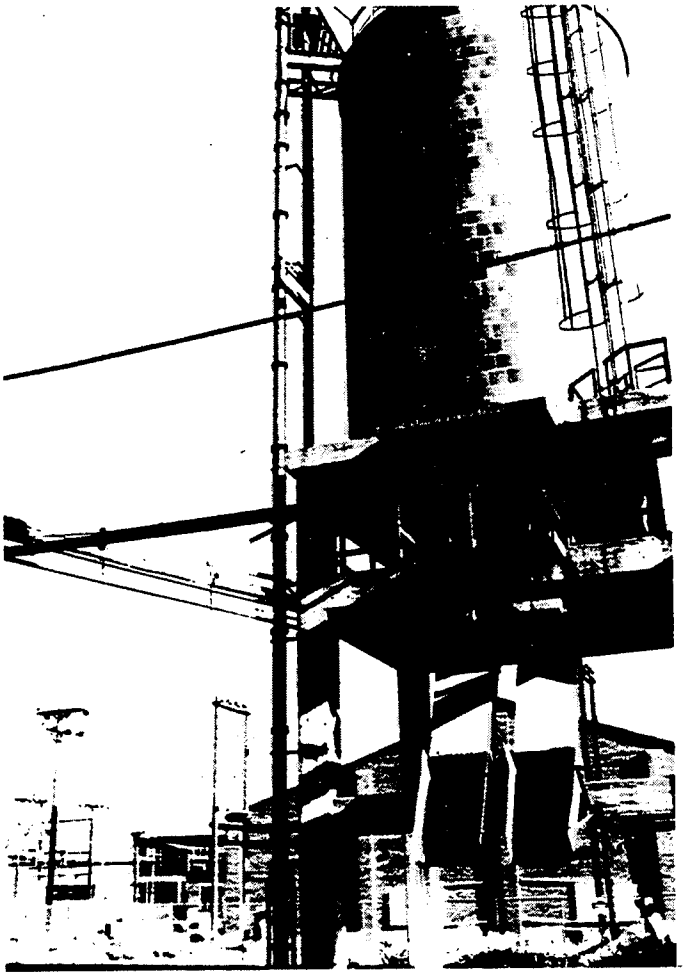
ASH HOPPER

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
3	Spot/Floodlight fixture	12"	N/A	(G)	R-4	



BUILDING NO. 323: Ash Handling
Hopper. General View.
Date of Photograph: 31 August 1982



BUILDING NO. 323: Ash Silo and
Air Wash
Date of Photograph: 31 August 1982

Property Inventory and Condition Survey
for the

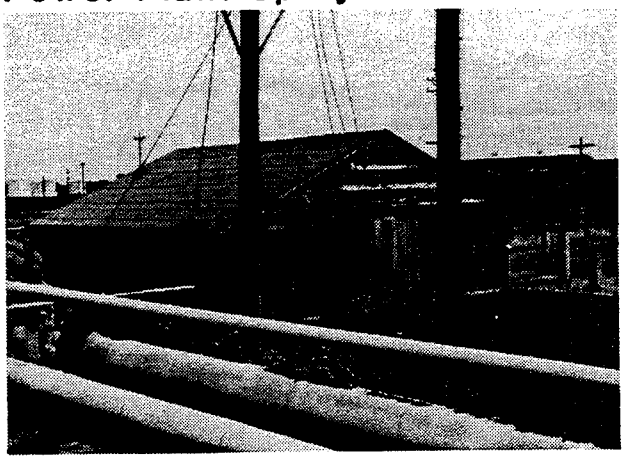
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 326
Power Plant Spray Pond



BUILDING NO. 326

POWER PLANT SPRAY POND

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

27 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code:

84520

.60 Size of Building/Facility:

Building: 25'-6" x 25'-0"

Pond: 168'-0" x 87'-0"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. This building was used as a cooling

BUILDING NO. 326

POWER PLANT SPRAY POND

water spray pond. It is now inoperative. The building is 25' x 24'-6" by 8' high. The spray pond is 87' x 168' x 6' deep. The floor and walls of the pond are of concrete. The foundation and floor of the building are concrete, the walls are 8" structural tile, the roof is mineral surface roll roofing over wood frame and sheathing. One fire extinguisher is provided. Heating is from the central steam heating plant. Utilities available are water, electricity, and steam.

3.00 PRESENT CONDITION. The spray pond louvers are in poor (P) condition and the concrete floor is badly cracked. The piping is in poor condition and has been disconnected (P). The pump house is in fair (F) conditon. The estimated useful life of the building from August 1982, with minimum maintenance and no building use change is 10 years.

.10 Exterior: Building No. 326

Foundation: Concrete Walls (G).

Walls: Tile (G).

Cornice and Trim: Wood (P).

Door: Wood, panel, glazed (P).

Windows: Wood sash (P).

Flashing: Fabric (F).

Paint Finish: Trim (F).

Roofing: North - roll roofing (P) South - composition shingles (F).

Miscellaneous: General Conditions (F).

BUILDING NO. 326

POWER PLANT SPRAY POND

.20 Interior:

Floor: Concrete (G).

Walls: Tile (G).

Ceiling: Open

Windows: Wood sash (P).

Door: Wood panel glazed (P).

Hardware: Locks, hinges (P).

Glazing: Clear (P).

Electrical Fixtures: (P).

Plumbing: None

Heating: Wall hung pipe coil (F).

Miscellaneous: General condition of interior is poor (P).

BUILDING NO. 326

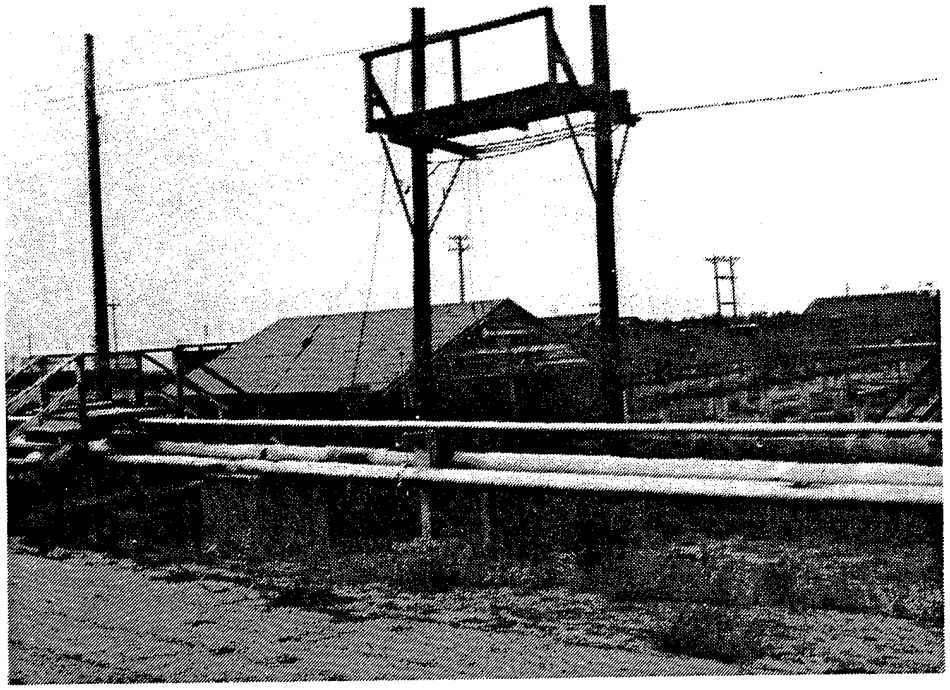
POWER PLANT SPRAY POND

4.00 RECORD OF INSTALLED EQUIPMENT.

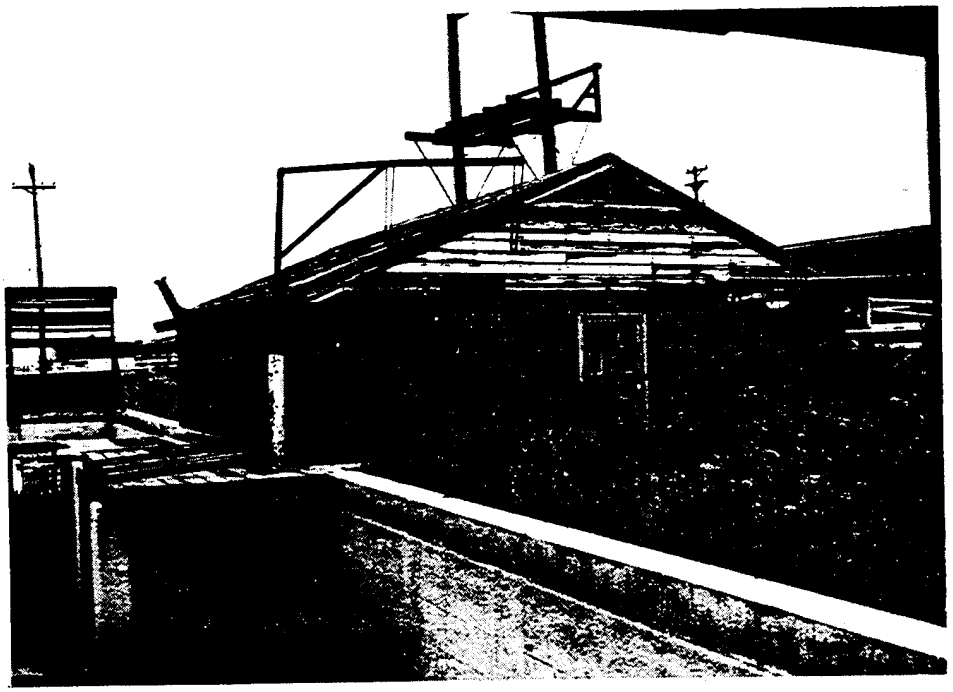
Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Lighting Transformer	1.5 KVA	Allis-Chalmers	(0-2)	(0-2)	RMA-2376
1	Compensator	125 H.P.	General Electric	(0-2)	(0-2)	RMA-2375
1	Meter	5 amp .	General Electric	(0-2)	(0-2)	S/N 22813727
1	Centrifugal Pump	9000 gpm	Buffalo Pump Co.	(0-2)	(0-2)	RMA 4357
1	Transformer	200 amp	Westinghouse	(0-2)	(0-2)	S/N 3296038
1	Transformer	200 amp	Westinghouse	(0-2)	(0-2)	S/N 3309975

.10 The following equipment was listed in the previous survey, but was not found in the current survey:

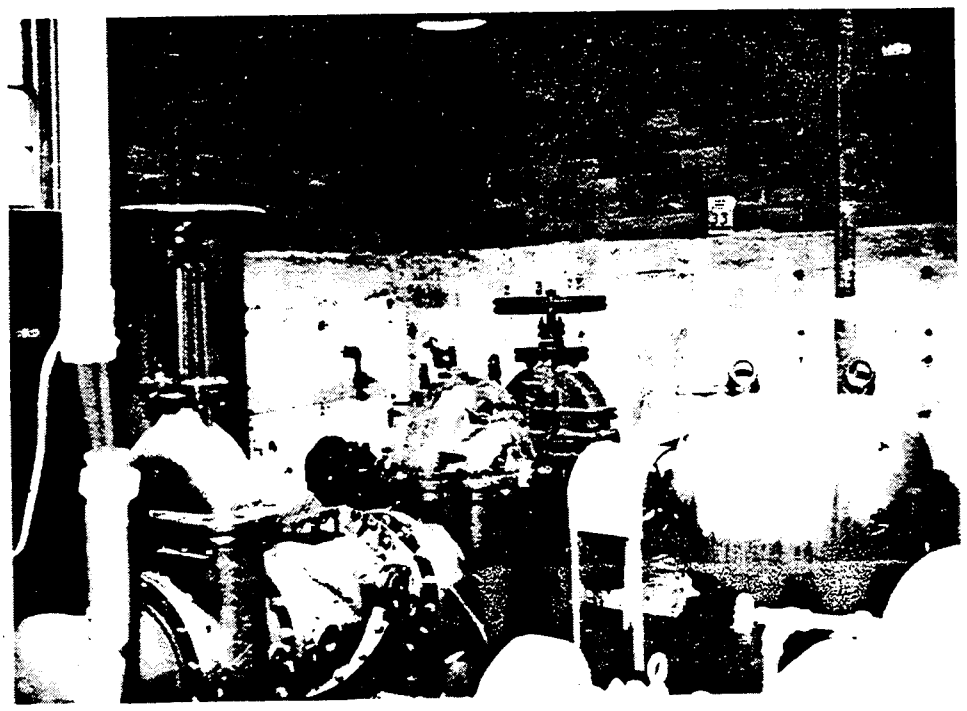
1	Motor	150 hp	Louis-Allis	(0-2)		S/N 599875
1	Rotometer	0-06 lbs	Fisher-Porter	(0-2)		RMA-7553



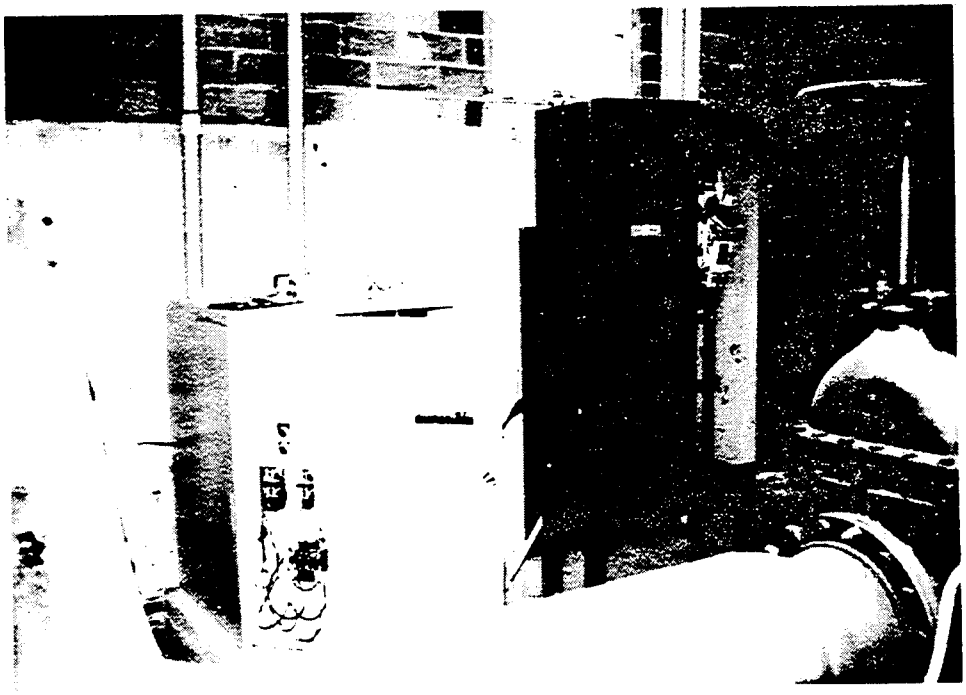
BUILDING NO. 326: General View of
North and West Elevation
Date of Photograph: 27 August 1982



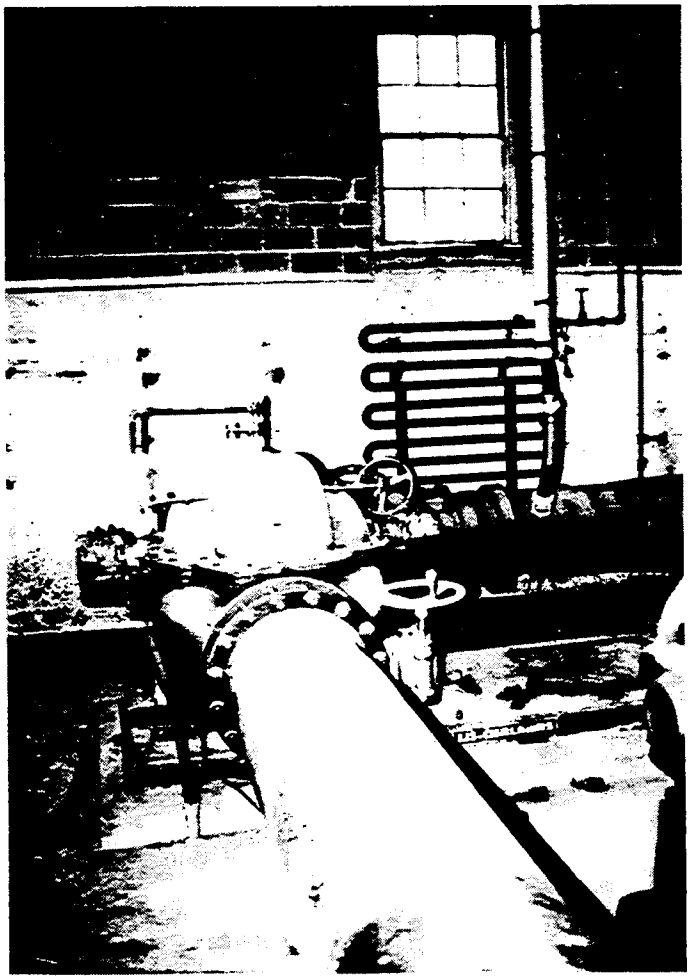
BUILDING NO. 326: General View of
South and East Elevation
Date of Photograph: 27 August 1982



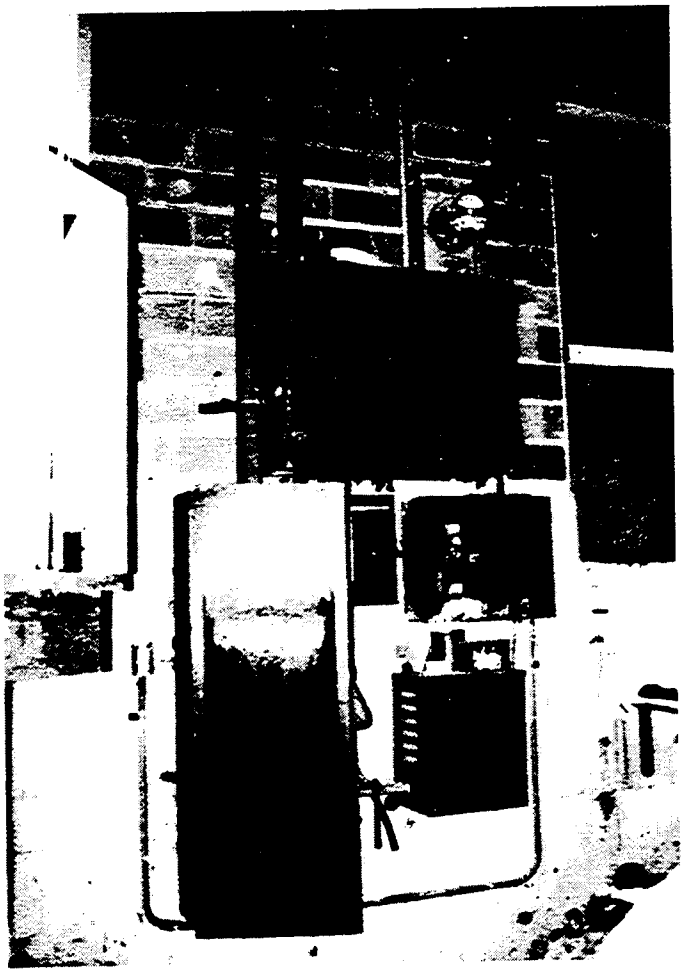
BUILDING NO. 326: General View.
Circulating Pump.
Date of Photograph: 27 August 1982



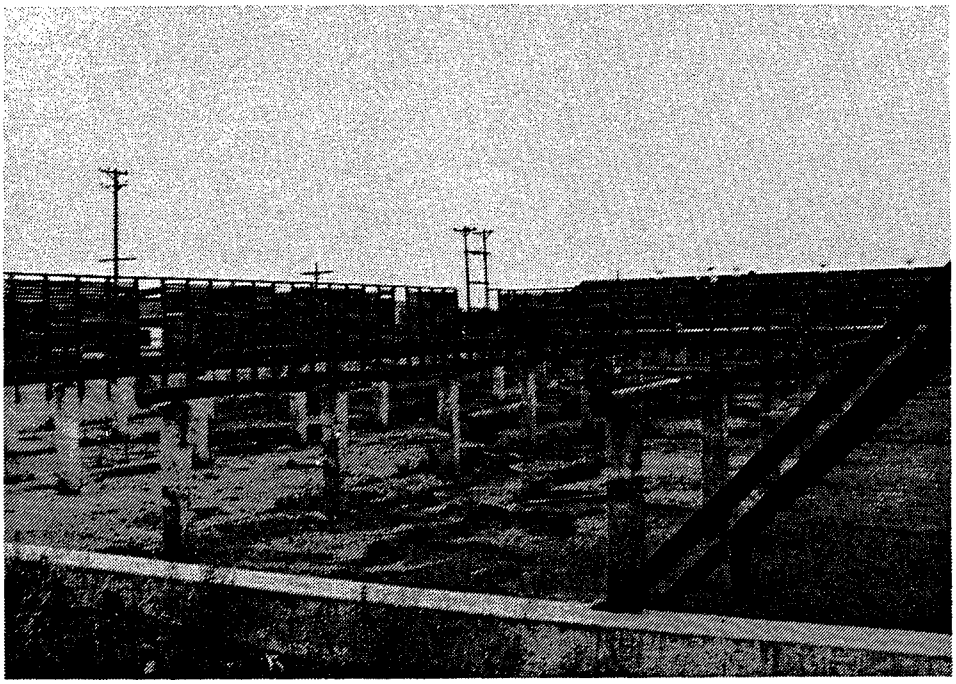
BUILDING NO. 326: Compensator
Date of Photograph: 27 August 1982



BUILDING NO. 326: General View.
Circulating Pump.
Date of Photograph: 27 August 1982



BUILDING NO. 326: Lighting Panel
Date of Photograph: 27 August 1982



BUILDING NO. 326: General View.
Spray Pond
Date of Photograph: 27 August 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 337
Administration and Change House

BUILDING NO. 337

ADMINISTRATION AND CHANGE HOUSE

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

27 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

22681

.60 Size of Building/Facility:

23'-1" x 25'-6"

70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. Building No. 337 was used as a locker room and change house. It is no longer in use and all utilities have been disconnected. It is 23'-1" x 25'-6" x 8' high. It

BUILDING NO. 337

ADMINISTRATION AND CHANGE HOUSE

has a concrete foundation and floor, 8" structural tile walls and composition shingles over wood sheathing roof. There is no fire protection. All utilities, water, electricity and steam have been disconnected. Sewer is still available. It could be heated by steam from the central heating plant.

3.00 PRESENT CONDITION. The building is in fair (F) condition. The estimated remaining useful life as of August 1982, with minmum maintenance and no building use change, is 8 years.

BUILDING No. 337

ADMINISTRATION AND CHANGE HOUSE

4.00 RECORD OF INSTALLED EQUIPMENT.

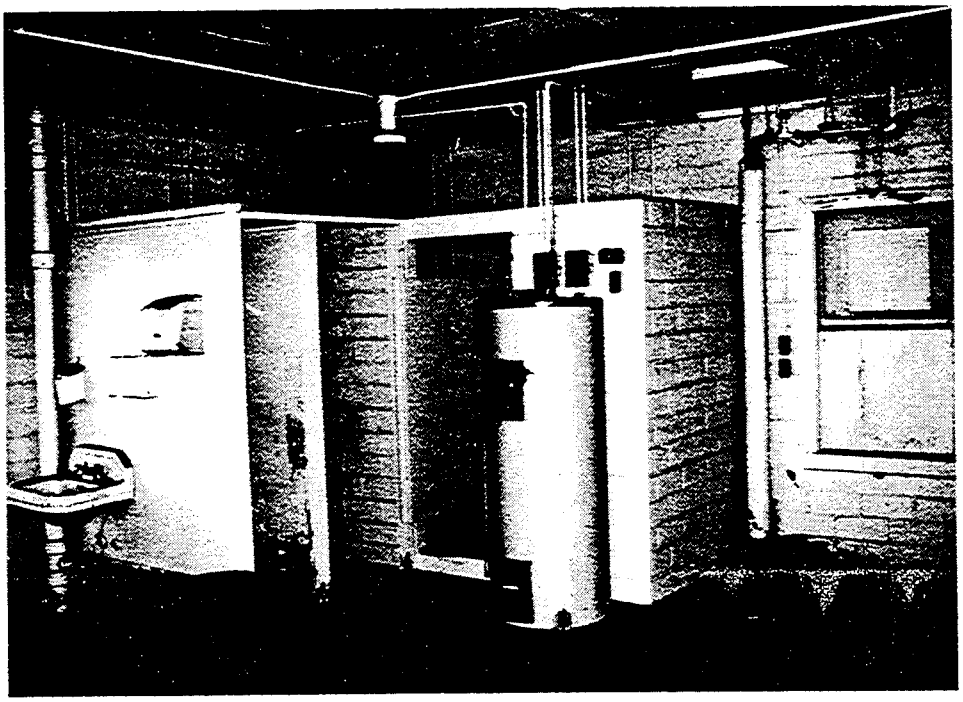
Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Toilet Bowl	N/A	N/A	(0-2)	(0-3)	
1	Lavatory	N/A	N/A	(0-2)	(0-3)	
1	Motor	1/8 h.p.	General Electric	(0-2)	(0-2)	
1	Hot Water Heater	40 gal	General Electric	(0-2)	(0-1)	S/N-1606941
1	Unit Heater Steam	N/A	Herman-Nelson	(0-2)	(0-2)	RMA-6055
1	Urinal	N/A	N/A	(0-2)	(0-3)	

.10 Previous Equipment List contained the following items, not found in this survey:

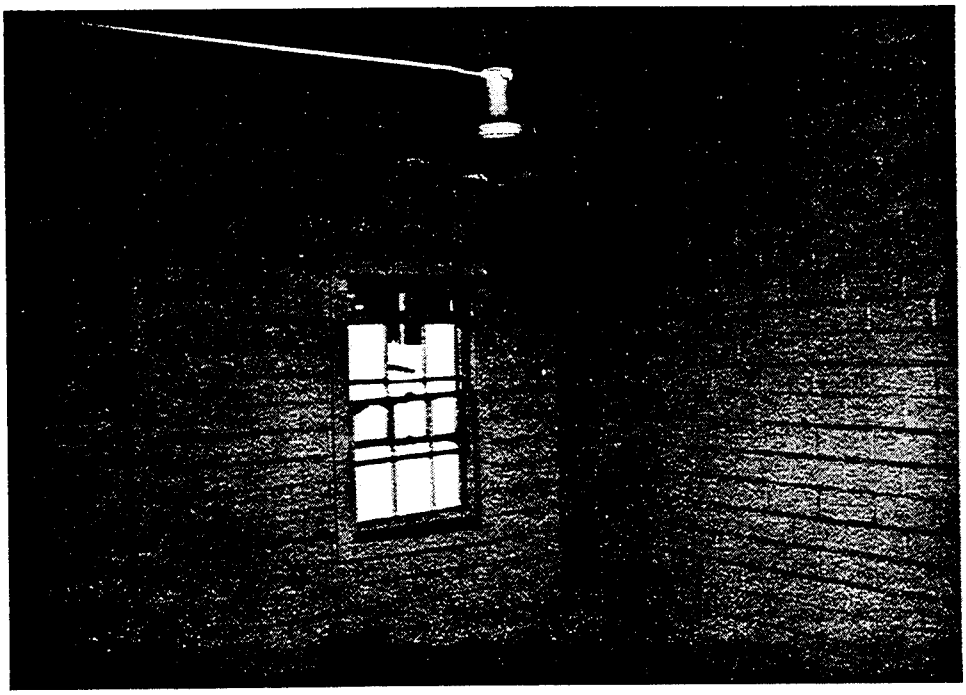
1	Lavatory	N/A	N/A	(0-2)
1	Toilet Bowl	N/A	N/A	(0-2)
1	Mirror	N/A	N/A	(0-2)
1	Fire Extinguisher	2-1/2 gal	N/A	(0-2)

BUILDING NO. 337: Exterior Looking East.
Note Damage to Ventilator
Date of Photograph: 27 August 1982

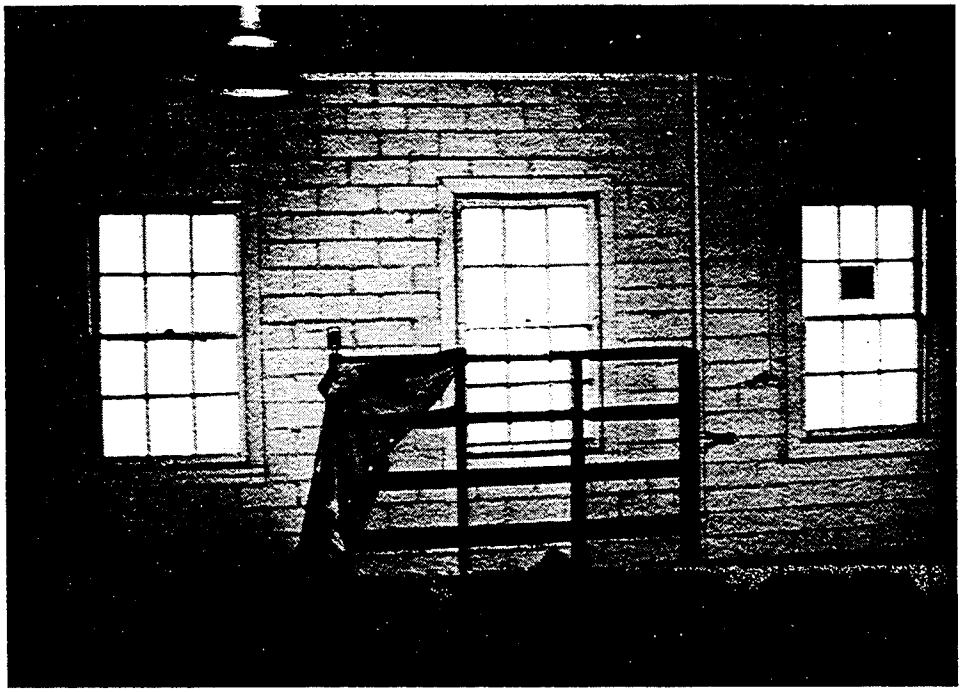
BUILDING NO. 337: Exterior.
(Looking West)
Date of Photograph: 27 August 1982



BUILDING NO. 337: Interior.
(Looking North)
Date of Photograph: 27 August 1982



BUILDING NO. 337: Interior Heater
Date of Photograph: 27 August 1982



BUILDING NO. 337: Interior.
(Looking South)
Date of Photograph: 27 August 1982

Page 66 was Intentionally Left Blank

BUILDING NO. 361

PRIMARY ELECTRICAL SUBSTATION

1.00 GENERAL

.10 Date(s) of Property Inventory and Building Condition Survey:

26 August 1982

.20 Survey Personnel:

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

Gary L. Buchheit, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Robert P. Brightenburg, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

813 20

.60 Size of Building/Facility:

25'-4" x 15'-4"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. Control House Building No. 361 is a one story structure with tile walls, concrete roof and floor. This building houses all the electrical equipment necessary to operate the

BUILDING NO. 361

PRIMARY ELECTRICAL SUBSTATION

110 KV substation. The substation serves the entire Rocky Mountain Arsenal complex. Building No. 361 includes batteries and charger for D.C. operation of the oil circuit breakers. These breakers protect the two 20,000 KVA transformers which furnish 13,800 volts for distribution throughout the Rocky Mountain Arsenal facility. All of the recording meters, oil circuit breakers and reclosures are contained in the switchboard which is located in Building No. 361. There is also a large steel structure outside which contains the incoming 110 KV from the Public Service Company source. The structure includes air break switches, lightning arrestors and high voltage fuses. There are six circuits at 13,800 volts, with oil circuit breakers for protection of these distribution lines, that serve the Rocky Mountain Arsenal complex.

3.00 PRESENT CONDITION. Building No. 361 and accompanying structures are generally in good (G) condition. The estimated useful life of this building from August 1982, with minimum maintenance and no building use change, is 25 years.

.10 Exterior: Building No. 361

Foundation: Concrete perimeter wall set on spread footing (G).

Walls: Tile (G).

Cornice: Concrete (G).

Doors: Two leaf metal clad, hinged (G).

Windows: Steel sash (G).

BUILDING NO. 361

PRIMARY ELECTRICAL SUBSTATION

Paint Finish: Doors, sash, trim (F).

Roofing: Concrete roof mopped with pitch (G).

Miscellaneous: 10" bifurcated power roof ventilator (G).

Ajustable metal louvers (G). General condition of structure is good (G).

Note: All above condition codes for the exterior features of Building No. 361 are the same as the previous conditon survey.

.20 Interior: Panel Room

Floor Finish: Concrete (G).

Wall: Tile (G).

Ceiling: Concrete (G).

Windows: Steel sash (G).

Doors: Metal clad two-leaf, hinged (G).

Hardware: Lock, hinges (G).

Glazing: Clear wire glass (G).

Paint Finish: Doors, sash, trim (F).

Electric Fixtures: Incandescent (G).

Heating: Electric unit heater.

Miscellaneous: 1 - 15 lb. CO_2 fire ext., RMA 19 (G).

1 - wood table, flat top (G).

1 - straight back wood chair (G).

1 - shop made wood cabinet (G).

1 - telephone set (Signal Corps EE-S-A) (G).

General condition of room is good (G).

BUILDING NO. 361

PRIMARY ELECTRICAL SUBSTATION

Note: All above condition codes for the interior features of Building No. 361 are the same as the previous conditon survey.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 1

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO. 361 SS

DESIGNATION AND LOCATION: 110 KY Sub-station and Control House

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	BATTERY, (cells) consists of 60 (9plates) glass case cells, type EM-9, 72 Hr. cap 232 amp. 8 hr.		Exide						Replaced
2	Cap. 160H RMH # 3115								
3	CHANGER, Tap, RMA #4024, type HB, 115KV, style 1156645, 1 to 33 position, Ser. #3104089		Westinghouse				1	1	0-2
4	CHANGER, Tap, RMA #4024, Type HB, 115KV., Style 1156645, 1 to 33 position, Ser. #3164089		Westinghouse				1	1	0-2
5	CHANGER, Tap, RMA #4034, Type HB, 115KV., Style 1156645, 1 to 33, position, Ser. # 3164096		Westinghouse				1	1	0-2
6	FAN, Ventilating, RMA # 5463, direct drive, Bifucated, 4 blade w/	Approx. 12" dia.	Propellaire						0-3
7	MOTOR, RMA # 1322, direct drive, Type KH, Mod 5KH43AB716A, 1725 RPM, 2.4 Amp, vertical, Ser.#GW.	1/3 H.P. 115V 1ph.	General Electric						0-3
8	HEATER, Unit, RMA #12361. Electric, Cat. #2A178G27, 25,590 BTU p/hr., 230 V., single phase, 60 cy.	7.5 KW	General Electric						0-3
9	METER, RMA #4020, Type HA, Style STS 1296-2, Reading 0 to 150 x 5 kilovolts. AC. Ser. #1670230.		Westinghouse						0-3
10	METER, RMA #4021, Power Factor readings 50 to 100 x 2 lag, 50 to 100 x 2 lead, Style 931816, Ser. #1695356.	115 V 3 ph.5A.	Westinghouse				1	1	0-3
11									

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 1A

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.: 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account):

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)							
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS			
1	METER, RMA #4031, Power Factor readings 50 to 100 x 2 lag, 50 to 100 x 2 lead, Style 931816, Ser. #1695343	115V. 3 ph.5A	Westinghouse				1	1	0-3			
2												
3	METER, Ampores, RMA #4022, Type HA Style 931767., 15 to 300 cy., AC, CT 1000 to 5, Ser. #1698901.	0 to 1000 x 2 Amps.	Westinghouse				1	1	0-3			
4	METER, Amperes, RMA #4032, Type HA Style 931767, 15 to 300 cy., AC, CT 1000 to 5, Ser. #1698791.	0 to 1000 x 2 Amps.	Westinghouse				1	1	0-3			
5	METER, Relay Voltage, RMA #4026, Type CV, w/external resistance of 45 ohms, Style STS1440-3, Ser. #9423476.	Max. Cont. 10V	Westinghouse				1	1	0-3			
6												
7	METER, Relay Voltage, RMA #4036 Type CV, w/external resistance of 45 ohms, Style STS 1440-3 Ser. #9423477.	Max. Cont.	Westinghouse				1	1	0-3			
8												
9	METER, Kilovolt, RMA #4030, Type HA, Style STS 1296-2, 15 to 150 cy., PT 13800 to 115, Ser. #1670329.	0 to 150 x 5 Kilovolts	Westinghouse						0-3			
10												
11	METER, Relay Overcurrent, RMA #4041, Type Co, 60 cycles, Style 1099694, Ser. #9422199.	4-15 Amps.	Westinghouse				1	1	0-3			

DA FORM 6C1

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 2

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO. 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account)

NO (1)	ITEM AND DESCRIPTION: ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal): DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Meter, RMA #4042, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422201.	4-15 Amps.	Westinghouse				1	1	0-3
2	METER, RMA #4043, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422212.	4-15 Amps.	Westinghouse				1	1	0-3
3	METER, RMA #4047, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422197.	4-15 Amps.	Westinghouse				1	1	0-3
4	METER, RMA #4048, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422200.	4-15 Amps.	Westinghouse				1	1	0-3
5	METER, RMA #4053, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422192.	4-15 Amps.	Westinghouse				1	1	0-3
6	METER, RMA #4054, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422214.	4-15 Amps.	Westinghouse				1	1	0-3
7	METER, RMA #4055, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. # 9422187.	4-15 Amps.	Westinghouse				1	1	0-3
8	METER, RMA #4044, Demand KVA, Type R12, Style STS 1299-1, w/ lead lag meter, KVA hr. & KW	14400/120V 300/5 Amp.	Westinghouse				1	1	0-3
9	hr. meters. Ser. #17701441.						1	1	
10	METER, RMA #4050, Demand KVA, Type R12, Style STS 1299-1, w/ lead lag, KVA hr. & KW hr.	14400/120V. 300/5 Amps.	Westinghouse				1	1	0-3
11	meters. Ser. #17701442.								

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 2A

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No.: 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account):

NO (1)	ITEM AND DESCRIPTION: ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal): DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	METER, RMA #4056, Demand KVA, Type R12, Style STS 1299-1, w/ lead lag, KVA hr. & KW hr.	14400/120V. 300/5 Amps.	Westinghouse				1	1	0-3
2	meters. Ser. #17701440.								
3	METER, RMA #4062, Demand KVA, Type R12, Style STS 1299-1, w/ lead lag, KVA hr. & KW hr.	14400/12V. 300/5	Westinghouse				1	1	0-3
4	meters. Ser. #17701443.								
5	METER, RMA #4068, Demand KVA, Type R12, Style STS 1299-1, w/ lead lag, KVA hr. & KW hr.	14400/120V. 300/5 Amps.	Westinghouse				1	1	0-3
6	meters. Ser. #17701444.								
7	METER, RMA #4045, Amperes, Type HA, Style 1094894, CT 300 to 5, 15 to 300 cy., 3 in 1,	0 to 300 x 10 Amps.	Westinghouse				1	1	0-3
8	Ser. #1670335-A, B, & C.								
9	METER, RMA #4051, Amperes, Type HA, Style 1094894, CT 300 to 5, 15 to 300 cv., 3 in 1,	0 to 300 x 10 Amps.	Westinghouse				1	1	0-3
10	Ser. #1670332-A, B, & C.								
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 3

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO. 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	METER, RMA #4057, Amperes, Type HA, Style 1094894. CT 300 to 5, 15 to 300 cv., 3 in 1,	0 to 300 x 10 Amps.	Westinghouse				1	1	0-3
2	Ser. #1670333-A, B, & C.								
3	METER, RMA #4060, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422196.	4-15 Amps.	Westinghouse				1	1	0-3
4	METER, RMA #4059, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422198.	4-15 Amps.	Westinghouse				1	1	0-3
5	METER, RMA #4061, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422193.	4-15 Amps.	Westinghouse				1	1	0-3
6	METER, RMA $4065, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422194.	4-15 Amps.	Westinghouse				1	1	0-3
7	METER, RMA #4066, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422195.	4-15 Amps.	Westinghouse				1	1	0-3
8	METER, RMA #4067, Relay Over-current, Type CO, 60 cycles, Style 1099694, Ser. #9422191	4-15 Amps.	Westinghouse				1	1	0-3
9	METER, RMA #4069, Amperes, Type HA, Style 1094894, CT 300 to 5, 15 to 300 cy., 3 in 1,	0 to 300 x 10 Amps.	Westinghouse				1	1	0-3
10	Ser. #1670334-A, B, & C.								
11									

DA FORM 661

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 3A

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	METER, RMA #4070, Kilovolts, Type HA, Style DNE5985-1, PT 13800 to 115, 15 to 150 cy,	0 to 15 x .5	Westinghouse				1	1	0-3
2	Ser. #1670359-A, B, & C.								
3	METER, RMA #4063, Amperes, Type HA, Style 1094894, CT 300 to 5, 15 to 300 cy, 3 in 1,	0 to 300 x 10 F.S. 5 Amp.	Westinghouse				1	1	0-3
4	Ser. #1670331-A, B, & C.								
5	METER, Watthour, RMA #3598, Polyphase, Type 0A, 60 cy., Style 276532, Ser. #7692212	500/100V. 300/5 Amps.	Westinghouse				1	1	0-3
6	METER, Watthour, RMA #3599, Polyphase, Type 0A, 60 cy, Style 276532, Serial #7692211.	500/100V. 300/5 Amps.	Westinghouse				1	1	0-3
7	METER, RMA #3518, Watt, Indicating, & continuous recording, Type GY-40, AC Polyphase,	100 W. 115 V.	Westinghouse				1	1	0-3
8	Ser. #2177978.								
9	PANELBOARD, RMA #7972 & #7974, Steel, w/controls, voltage regulator, rectifier and compensator.	2'x7 1/2'	Westinghouse				2	2	0-2
10	PANELBOARD, RMA #'s 7976, 7978, 7979, 7971, 7973, 7975, 7977, Steel, complete w/controls.	2'x7 1/2'	Westinghouse				7	7	0-2
11									

DA FORM 1 JAN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 4

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.: 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account):

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	RECLOSER, RMA #4040, Automatic, Type RC, Style 1101736-B, 60 cy., DC Motor, w/reset scale.	115/230V.	Westinghouse						0-3
2	Ser. #32322.								
3	RECLOSER, RMA #4046, Automatic, Type RC, Style 11701736-B, 60 cy, DC Motor, w/reset scale,	115/230V.	Westinghouse				1	1	0-3
4	Ser. #32305.								
5	RECLOSER, RMA #4052, Automatic, Type RC, Style 11701736-B, 60 cy, DC Motor, w/reset scale	115/230V.	Westinghouse				1	1	0-3
6	Ser. # 32313								
7	RECLOSER, RMA #4058, Automatic, Type RC, Style 11701736-B, 60 cy, DC Motor, w/reset scale,	115/230V.	Westinghouse				1	1	0-3
8	Ser. # 32314.								
9	RECLOSER, RMA #4064, Automatic, Type RC, Style 11701726-B, 60 cy, DC Motor, w/reset scale,	115/230V.	Westinghouse				1	1	0-3
10	Ser. # 32310.								
11									

DA FORM 661 REPLACES EDITION OF OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 4A

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 361SS

DESIGNATION AND LOCATION
110 KV Sub-Station and Control House 81320

STATION (If other than account)

NO (1)	ITEM AND DESCRIPTION: ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal): DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	RECORDER, RMA #4035, Instrument, Megwatts, Type GY-40, Style STS1297-1, P-PH-W5. CT 1000 to 5. PT 14400 to 120, Ser.#1670357	120 V.	Westinghouse				1	1	0-3
2									
3	RELAY, RMA #4027, Impedance, Type HZ, Style 1101764, 60 DC cycles. Ser. #9423471.	115 to 125 V.	Westinghouse				1	1	0-3
4	RELAY, RMA #4028, Impedance, Type HZ, Style 1101764, 60 DC cycles, Serial #9423474	115 to 125 V.	Westinghouse				1	1	0-3
5	RELAY, RMA #4029, Impedance, Type HZ, Style 1101764, 60 DC cycles, Serial # 9423470	115 to 125 V.	Westinghouse				1	1	0-3
6	RELAY, RMA #4037, Impedance, Type HZ, Style 1101764, 60 DC cycles, Serial #9423473.	115 to 125 V.	Westinghouse				1	1	0-3
7	RELAY, RMA #4038, Impedance, Type HZ, Style 1101764, 60 DC cycles, Serial #9423472.	115 to 125 V.	Westinghouse				1	1	0-3
8	RELAY, RMA #4039, Impedance, Type HZ, Style 1101764, 60 DC cycles, Serial #9423475.	115 to 125 V	Westinghouse				1	1	0-3
9	RELAY, Type TK, Serial #221451.		Westinghouse				1	1	0-3
10	RELAY, Type TK, Serial #6422153.		Westinghouse				1	1	0-3
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No.: 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account):

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	RELAY, RMA #3559, Power, Type CW, 60 cy, Style 1056072A, w/ resistors style 304790, Serial	10-60 W. 70 V. 5 Amp.	Westinghouse				1	1	0-3
2	#84597-AC.								
3	RELAY, RMA #3560, Power, Type CW, 60 cy, Style 1056072A, w/ resistors style 304790, Serial	10-60 W. 70 V. 5 Amp.	Westinghouse				1	1	0-3
4	#84598-AC.								
5	THERMOMETER, RMA #4023, Type HX, Style 1094985, Control circuit 20V. Insulation Rating 750 V.	0 to 150°x5°C.	Westinghouse				1	1	0-2
6	Ser. # 1593920.								
7	THERMOMETER, RMA #4033, Type HX, Style 1094985, Control circuit 20V. Insulation Rating 750 V.	0 to 150°x5°C.	Westinghouse				1	1	0-2
8	Ser. #1574803.								
9	TRANSFORMER, No. 1, forced oil flow type, fan cooled, imp. 11.2%, high voltage 110,000, low	20,000 KVA.	Westinghouse				1	1	0-2
10	voltage 13,800. Ser. #3164076								
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5A

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No.: 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account):

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	TRANSFORMER, No. 2, forced oil flow type, fan cooled, Imp. 11.2%, high voltage 110,000, low	20,000 KVA	Westinghouse				1	1	0-2
2	voltage 13,800. Ser. #3164075								
3	TRANSFORMER, No. 173, Imp. 3.9, high voltage 13,800, low voltage 115/230 V., Ser. #953598.	25 KVA	Kuhlman				1	1	0-2
4	BREAKER, Circuit, Oil, Main Trans-type GO-2, De-Ion Grid, remote control, Elec. operated,	1200 Amp. 23,000 V. 3 ph.	Westinghouse				2	2	0-3
5	Serial Nos. 1-89Y940 and 2-89Y940. RMA Nos. 2330-A and 2331-A.								
6	BREAKER, Circuit, Oil, Main Feeder, Type GO-1B De-Ion Grid, remote control, Elec. operated,	600 Amp. 23,000 3 ph.	V. Westinghouse				5	5	0-3
7	Serials 1-89Y941, 3-89Y941, 2-89Y941, 4-89Y941, 5-89Y941, RMA Nos. 1430-A, 1431-A, 1432-A,								
8	1433-A, 1434-A.								
9	MOUNTINGS, Fuse, type EM, outside, #5 tube size,.	115 KV. 200 Amp.	Schwietzer, & Conrad				6	6	0-2
10	FUSE, 115 KV., outdoor type, (for above mountings).	200 Amp.	Schwietzer & Conrad				6	6	0-2
11									

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RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 6

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

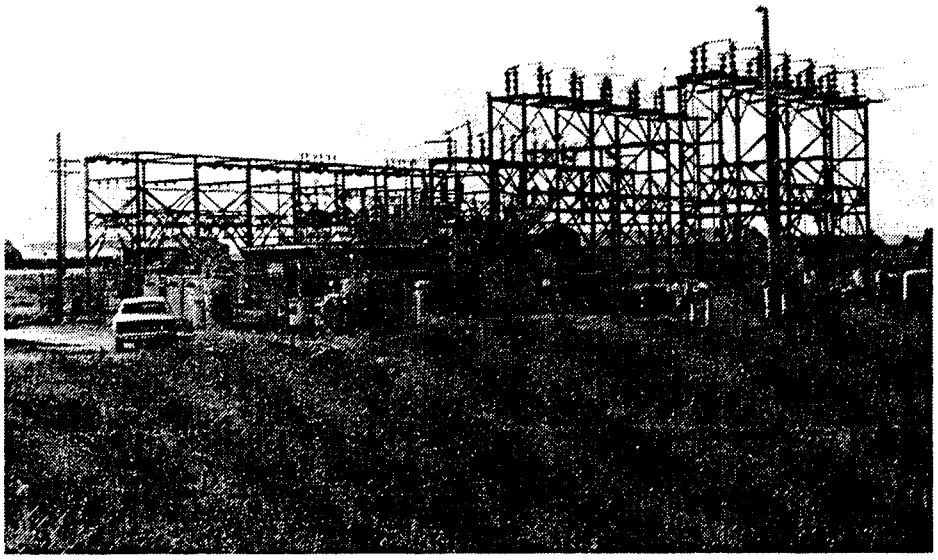
BUILDING NO. 361SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

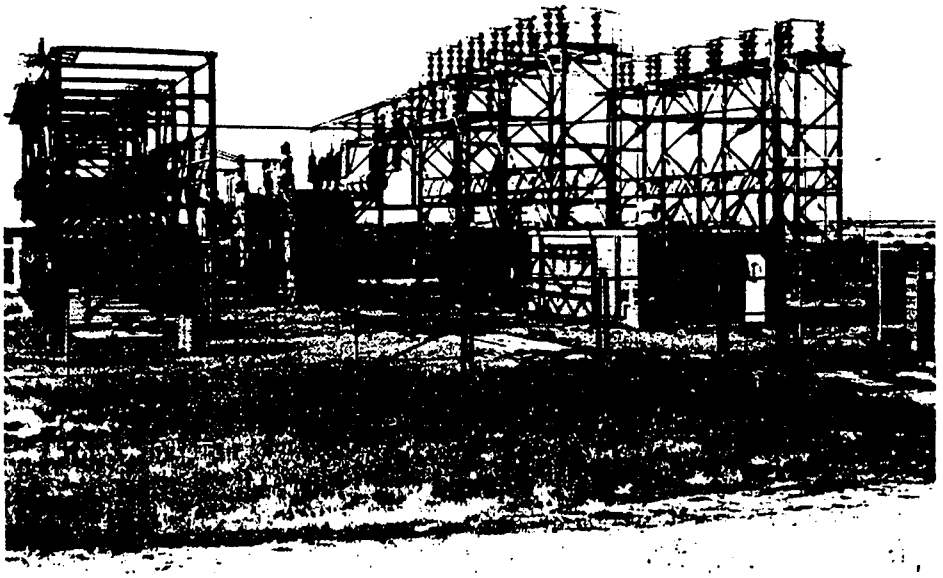
STATION (*If other than account*)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (*Encircle quantity to indicate removal*)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	BREAKER, Circuit, Air, with/ motor operating mechanism, Manual or motor operated. RMA #9328-A	115 KV. 3 ph. 600 Amp.	type KA.				2	2	0-2
2	& 9329-A.								
3	TANK, transformer oil storage, approximately 15'4" diameter by 8' high.	10,000 gal.					1	1	0-2
4	TRANSFORMER, potential, Pri. V. 8316, Sec. V. 69.3, type VP, Ser. #316390, #3176388, and #3176389,	3 ph.					3	3	0-2
5	RMA Nos. PT 12, 13, 14.								
6									
7									
8									
9									
10									
11									

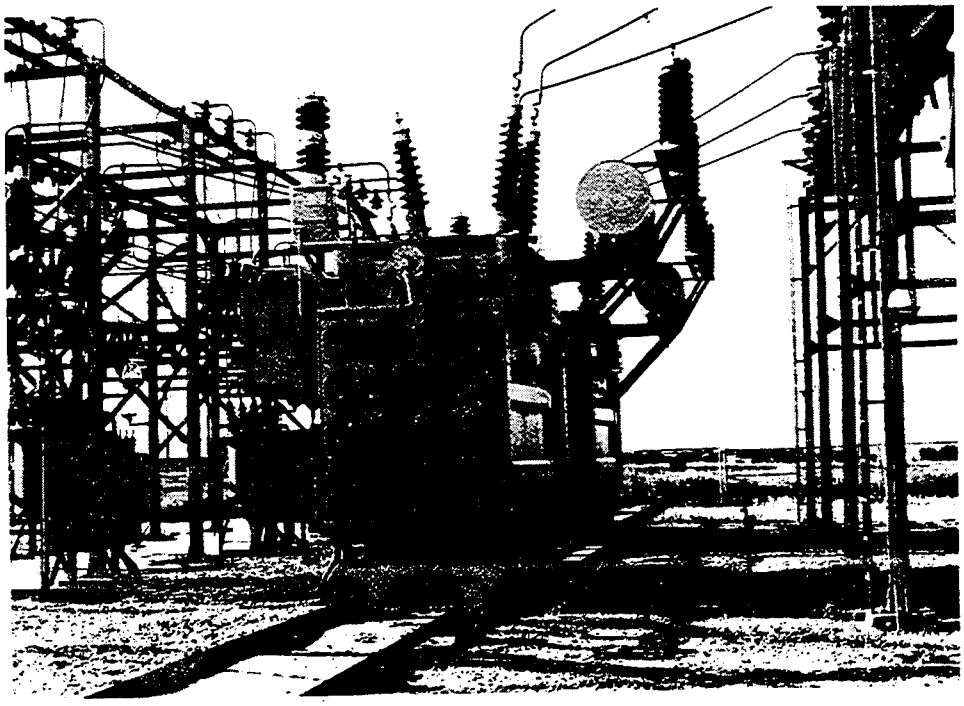
DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.



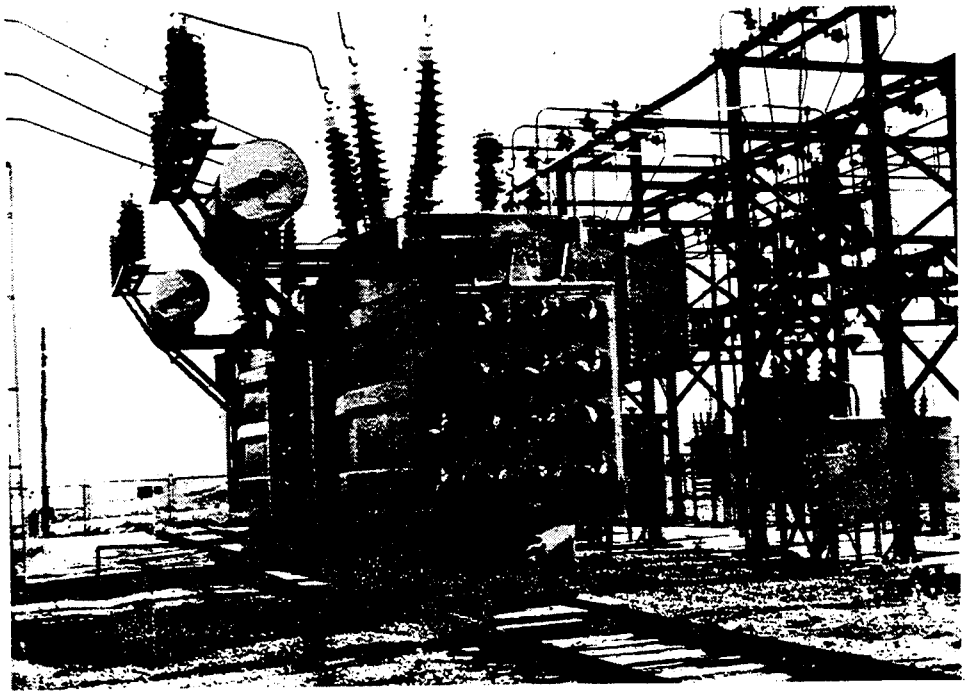
BUILDING NO. 361: Primary Substation (Looking East)
Date of Photograph: 26 August 1982



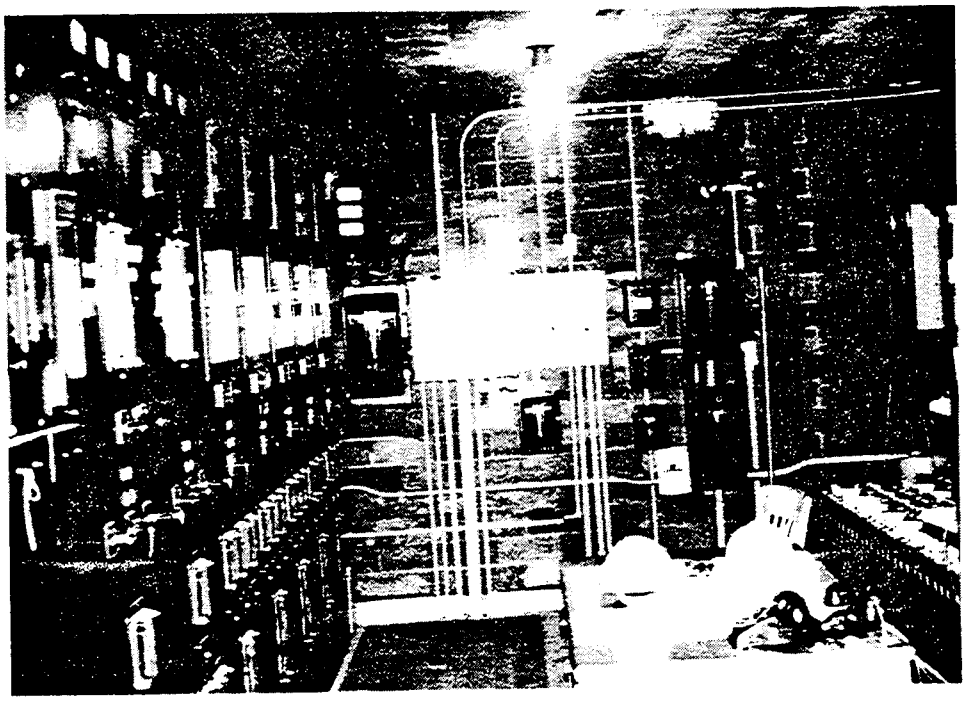
BUILDING NO. 361: General View (Looking South)
Date of Photograph: 26 August 1982



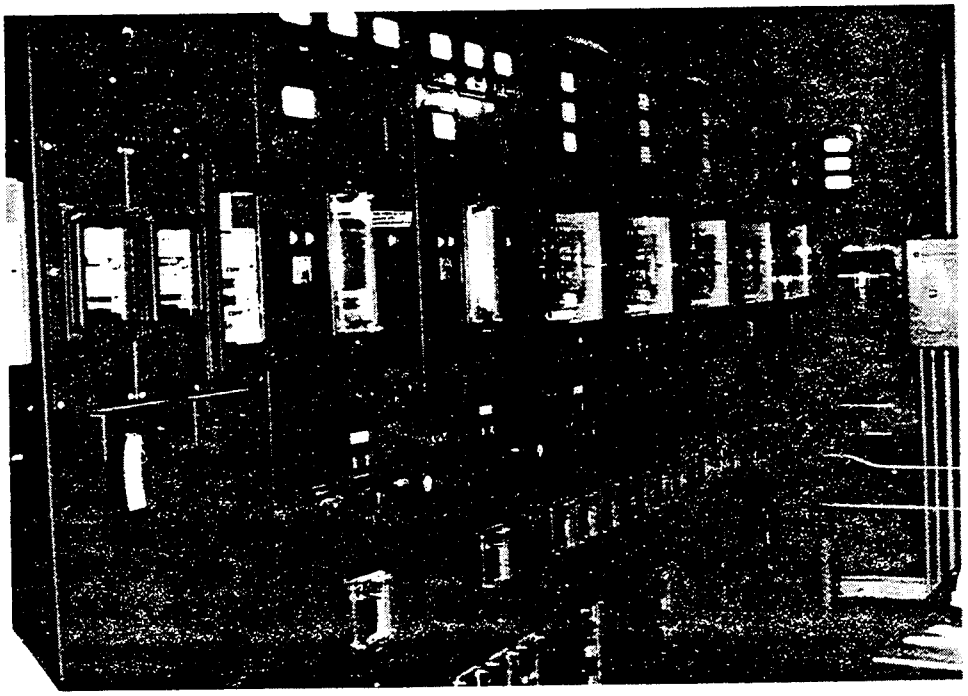
SUBSTATION NO. 361: General View of
20,000 KVA Transformers (Looking South)
Date of Photograph: 26 August 1982



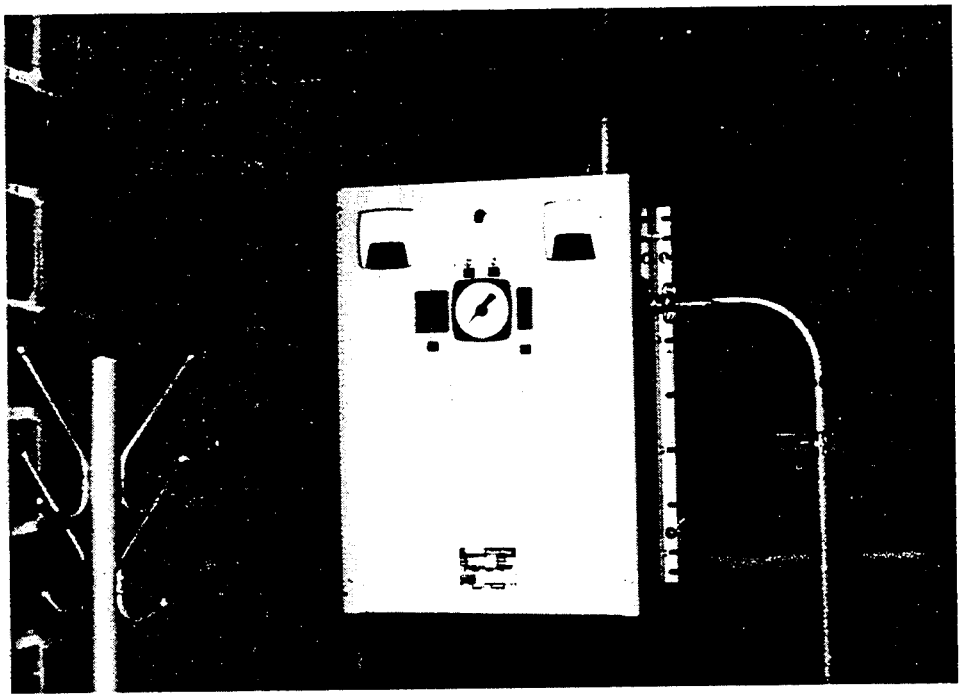
SUBSTATION NO. 361: General View of
20,000 KVA Transformers (Looking North)
Date of Photograph: 26 August 1982



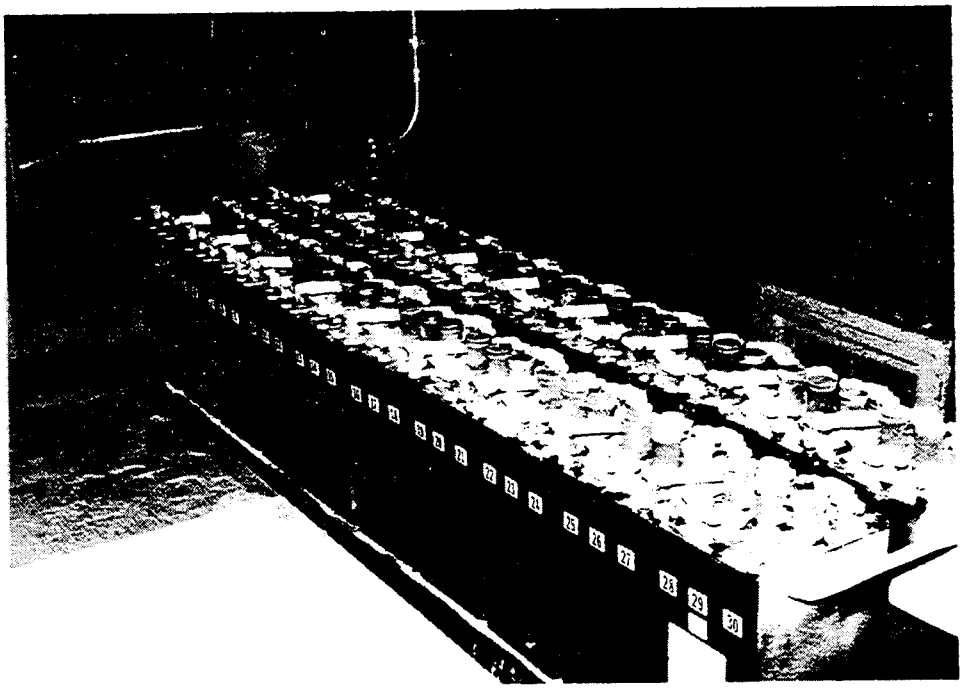
BUILDING NO. 361: General View of Interior
Date of Photograph: 26 August 1982



BUILDING NO. 361: Interior Panel Board
Date of Photograph: 26 August 1982



BUILDING NO. 361: Battery Charger
(Replacement)
Date of Photograph: 26 August 1982



BUILDING NO. 361: Sixty (60) Lead
Calcium Batteries (Replacement)
Date of Photograph: 26 August 1982

Property Inventory and Condition Survey
for the

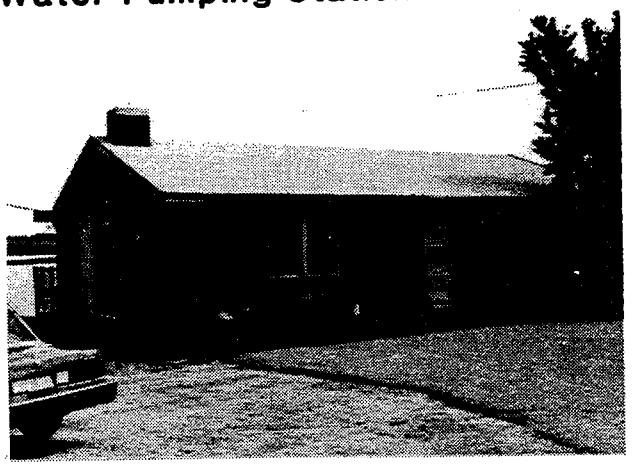
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 371
Water Pumping Station



BUILDING NO. 371

WATER PUMPING STATION

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

26 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Company

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84520

.60 Size of Building/Facility:

35'-0" x 50'-0"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Colorado

2.00 DESCRIPTION OF BUILDING/FACILITY: This is a one story building with full basement, used for pumping both potable and non-potable water. The building is 35' x 50' x 9' high. The basement has concrete floor

and walls and is 14' high. The main structure has a concrete floor, 8" tile walls and roll roofing on wood frame and sheathing for the roof. Three carbon dioxide extinguishers provide fire protection. Two electric unit heaters provide heat. Water, sewer and electricity are available. The main floor is divided into an office, a chlorination room and a locker and toilet room. Tile partitions separate the rooms. The chlorination room and locker room are no longer used, and the office is only used for switchgear for the pumps in the basement. In the basement are five large pumps. Two 75 h.p., 1400 gpm for potable water, and three 400 h.p., 7000 gpm pumps for non-potable water. A wet well on the east side of the basement serves as a suction supply for the non-potable water pumps.

3.00 PRESENT CONDITION. Building No. 371 is in good (G) condition. The estimated remaining useful life of the building as of August 1982, with minimum maintenance and no building use change, is 20 years.

.10 Exterior: Building No. 371

Foundation: Concrete (G).

Wall Finish: Tile (G).

Cornice and Trim: Wood (F).

Doors: Wood panel glazed, hinged (F).

Windows: Wood sash, double hung (F).

Flashing: Metal (G).

Paint Finish: Doors, trim, sash (P).

BUILDING NO. 371

WATER PUMPING STATION

Roofing: Rolled mineral surface (G).

Miscellaneous: General condition of structure is fair (F).

.20 Interior: Office and Store Room - Main Floor:

Floor Finish: Concrete (G).

Walls: Tile (G).

Ceiling: Fiberboard (G).

Windows: Wood sash, double hung (F).

Doors: Wood Panel, glazed, hinged (F). Wood built-up hinged (F).

Hardware: Locks, hinges (F).

Glazing: Common clear (G).

Paint Finish: Floor, sash, doors, trim (G).

Plumbing: None

Heating: Forced hot air (not in use).

Miscellaneous:

1 - 50# CO_2 fire extinguisher (0-2).

1 - Shop made wood telephone booth (0-2).

1 - "U" shaped laboratory work bench, flat top with thirteen cabinets (0-2).

1 - Shop made wood map case (0-2).

1 - Shop made wood tool cabinet (0-2).

2 - Bristol flow meters (0-2).

General condition of the room is good (G).

BUILDING NO. 371

WATER PUMPING STATION

Missing Equipment: The following items of equipment were listed in the Condition Survey Report of 1950, but were not found in August 1982. (1950 Condition Codes are included):

1 - Wall hung hand wind clock, Chelsea (G).

1 - Shop made map file and desk, five drawer (G).

1 - Fire Guard fire extinguisher, one quart (G).

3 - Oak, swivel, office chairs (G).

1 - Drafting table light (G).

1 - Oak back straight chair (G).

1 - Shop made wood, 3 shelf book case (G).

.21 Interior: Chlorine Room - Main Floor

Floor Finish: Concrete (G).

Walls: Brick and tile (G).

Ceiling: Fiberboard (P).

Windows: Wood sash, double hung (F).

Door: Wood panel, hinged (F).

Hardware: Locks, hinges (F).

Glazing: Common clear (F).

Paint Finish: Doors, sash, trim (P).

Electric Fixtures: 2 - RLM ceiling (F).

1 - Toggle (F).

2 - duplex receptacles (F).

Plumbing: None

BUILDING NO. 371

WATER PUMPING STATION

Heating: Forced hot air (not in use).

Miscellaneous:

1 - Yale chain hoist with rail, heavy duty, Model BB (0-2).

General condition of room is fair (F).

Missing Equipment: The following items of equipment were listed in the Condition Survey Report of 1950, but were not found in August 1982. (1950 Condition Codes are included):

1 - Metal tube frame lawn mower (G).

12 - Forged, welded, steel chlorine drums, one ton capacity (G).

1 - Sump pump, Penberthy, 1/4 h.p. (G).

.22 Interior: Toilet and Locker Room - Main Floor

Floor Finish: Concrete (G).

Ceiling: Fiberboard (P).

Walls: Brick and tile (G).

Windows: Wood sash (F).

Door: Wood panel (F).

Hardware: Locks and hinges (F).

Glazing: Common Clear (F).

Paint Finish: Walls, floor, trim, door sash (P).

Electrical fixtures: 1 - R.L.M. (G).

1 - Toggle switch (F).

Plumbing: None

Heating: Forced hot air (not in use)

BUILDING NO. 371

WATER PUMPING STATION

Miscellaneous: All fixtures have been removed. General condition of room is fair (F).

Missing Equipment: The following items of equipment were listed in the Condition Survey Report of 1950, but were not found in August 1982. (1950 Condition Codes are included):

8 - Shop made, wood clothes lockers (G).

.30 Interior: Pump Room - Basement

Floor Finish: Concrete (G).

Ceiling: Concrete (G).

Windows: None.

Doors: None.

Paint Finish: Floor (P).

Plumbing: None.

Heating: Coal fired (hand) hot air furnace and blower unit (R-3). Not in use.

Miscellaneous: (See 4.00).

BUILDING NO. 371

WATER PUMPING STATION

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Furnace		Dowagiac Furnace Co.	(0-2)	(R-3)	
1	Sump Pump	1/2 hp	General Electric	(0-2)	(0-1)	
2	Electric Motors	75 hp	Allis Chalmers	(0-2)	(0-2)	
2	Pumps	1400 gpm	Allis Chalmers	(0-2)	(0-2)	
3	Electric Motors	400 hp	Allis Chalmers	(0-2)	(0-2)	
3	Pumps	7000 gpm	Allis Chalmers	(0-2)	(0-2)	
3	Motor Controllers	400 hp	N/A	(0-2)	(0-2)	
2	Motor Controllers	75 hp	N/A	(0-2)	(0-2)	
1	Lighting Panel	20 circuits	N/A	(0-2)	(0-2)	
2	Unit Heaters Electric	N/A	N/A	(0-2)	(0-2)	

BUILDING NO. 371

WATER PUMPING STATION

4.00 RECORD OF INSTALLED EQUIPMENT (Continued).

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
3	Chlorinators		Wallace & Tiernan	(0-2)	(0-3)	RMA-5527 RMA-7163 RMA-7164
1	Blower-Ventilator	15"	Buffalo	(0-2)	(0-2)	RMA-5431
1	Motor	1/4 hp	General Electric	(0-2)	(0-2)	RMA-1140
1	Transformer	3 KVA	Westinghouse	(0-2)	(0-2)	S/N-3077268
1	Trolley	3 ton	Yale & Towne	(0-2)	(0-2)	
1	Hoist	5 ton	Yale & Towne	(0-2)	(0-3)	

.10 The following equipment listed in the previous survey was not found in the current survey:

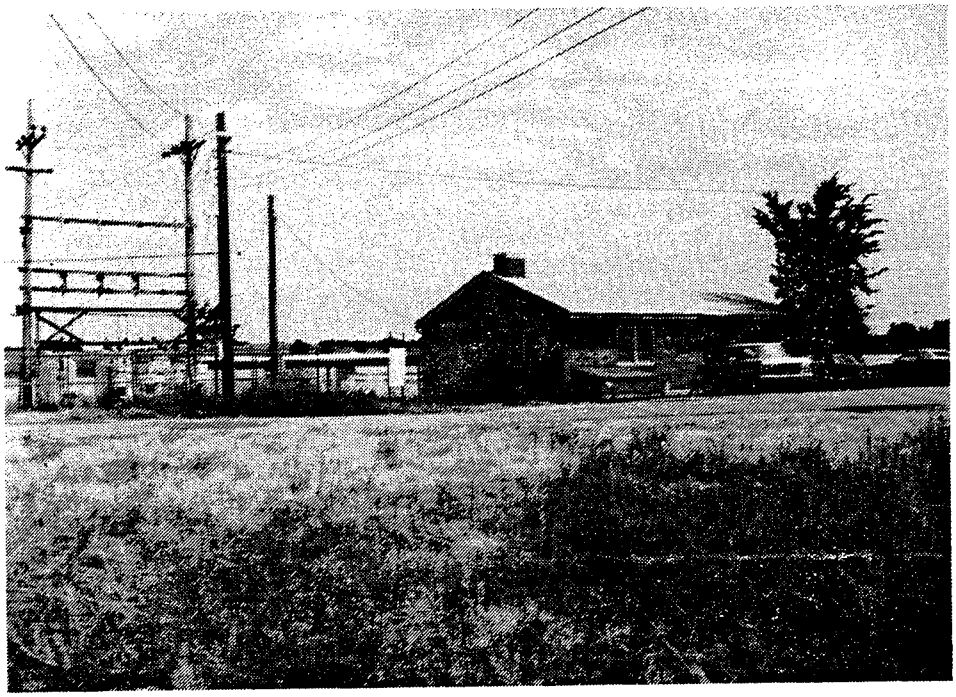
1	Blower	15"	Buffalo	(0-2)		RMA-5430
1	Motor	3/4 hp	General Electric	(0-2)		RMA-1138
1	Water Heater	52 gal	Hot Point	(0-2)		RMA-9037
1	Chloro-Feeder	N/A	Midget	(0-2)		RMA-4566

BUILDING NO. 371

WATER PUMPING STATION

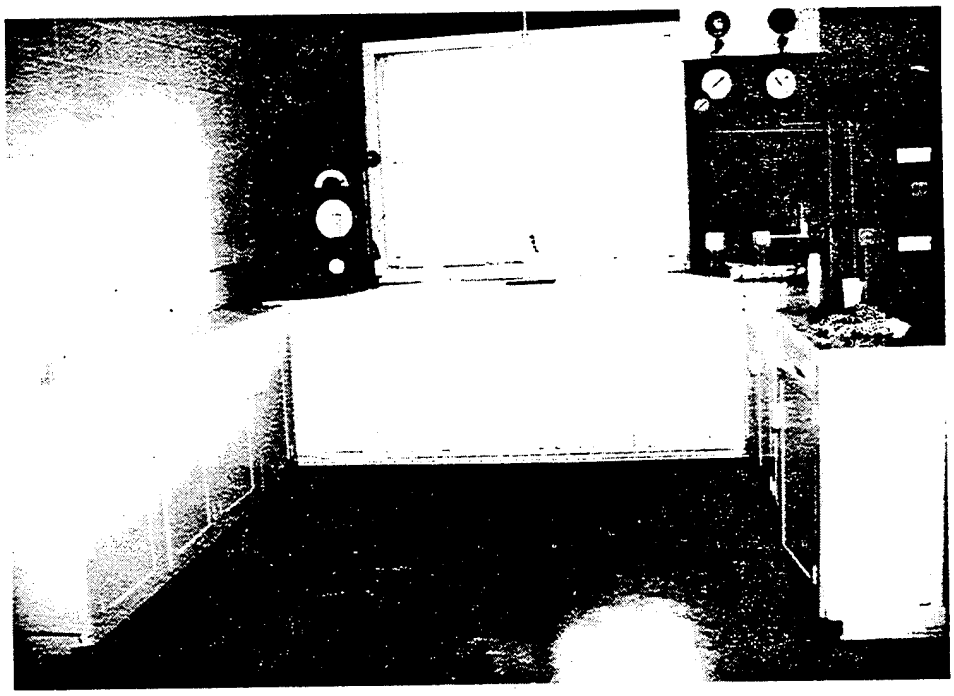
.10 The following equipment listed in the prevous survey was not found in the current survey (continued):

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Motor	1/6 hp	General Electric	(0-2)		
1	Motor	3/4 hp	General Electric	(0-2)		RMA-1137
1	Drinking Fountain	8" x 11"	Kohler	(0-2)		
1	Sink service	20" x 22"	N/A	(0-2)		
1	Lavatory	18" x 20"	N/A	(0-2)		
1	Bowl, toilet	N/A	Downing	(0-2)		
1	Mirror	18" x 14"	N/A	(0-2)		
1	Chlorinator	N/A	Phipps-Bird	(0-2)		S/N-51
1	Flowmeter-Potable Water	0 to 5 MGD	Bristol	(0-2)		RMA-7962
2	Flowmeters-Process Water	0 to 30 MGD	Bristol	(0-2)		RMA-7963 RMA-7965
1	Recorder, Water Pressure	0-150 psi	Bristol	(0-2)		RMA-7964
1	Flowmeter, Water	0 to 5 MGD	Bristol	(0-2)		RMA-3506



BUILDING NO. 371: General View (Looking East)
Date of Photograph: 26 August 1982

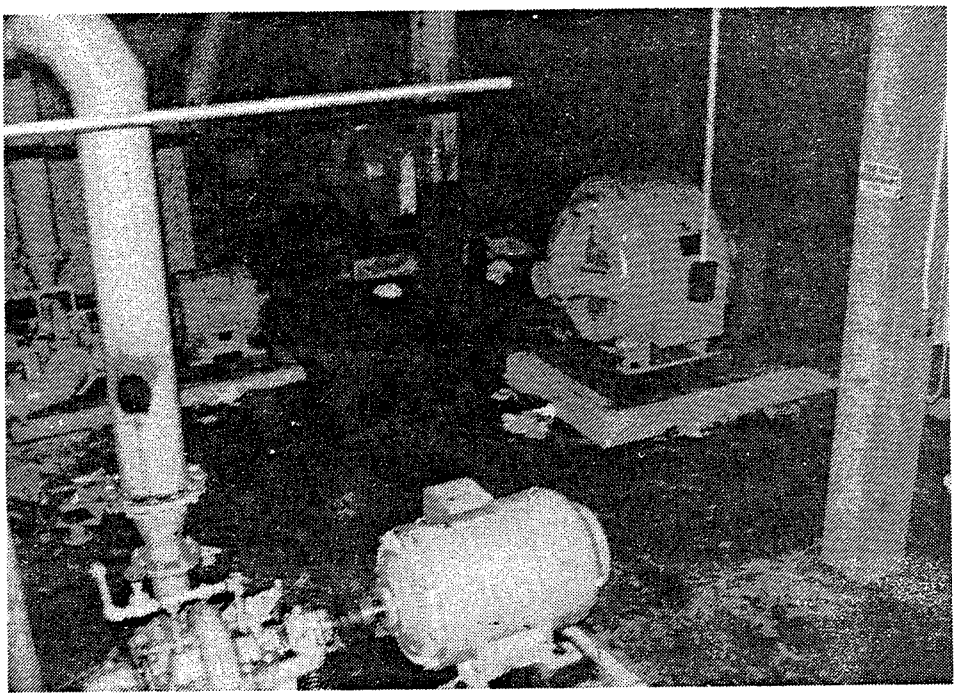
BUILDING NO. 371: West Elevation
Date of Photograph: 26 August 1982



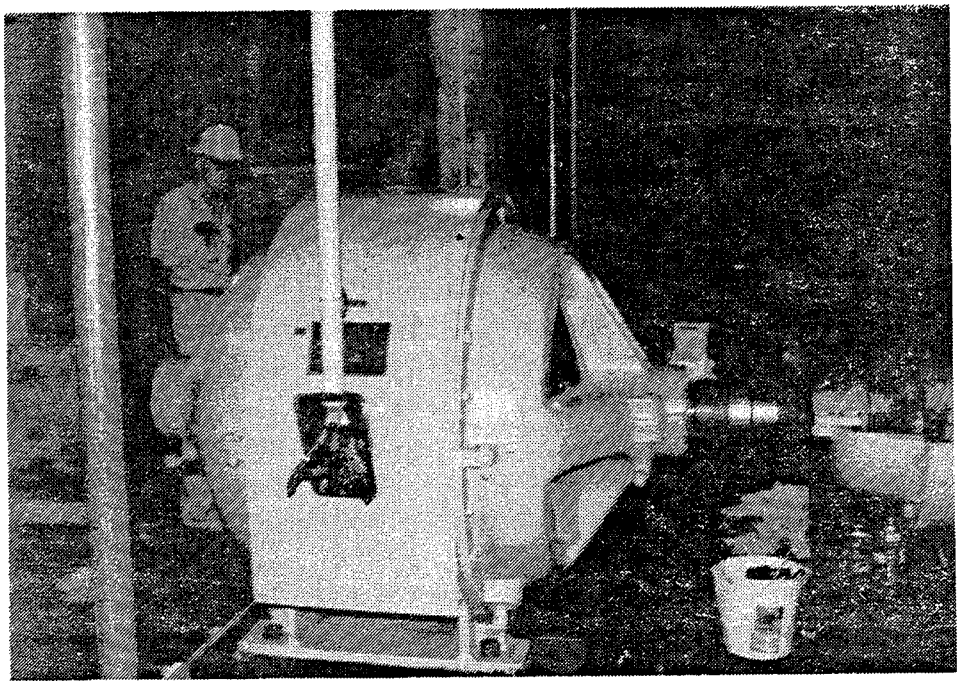
BUILDING NO. 371: Interior (Looking West)
Date of Photograph: 26 August 1982

BUILDING NO. 371: Interior (Looking North)
Date of Photograph: 26 August 1982

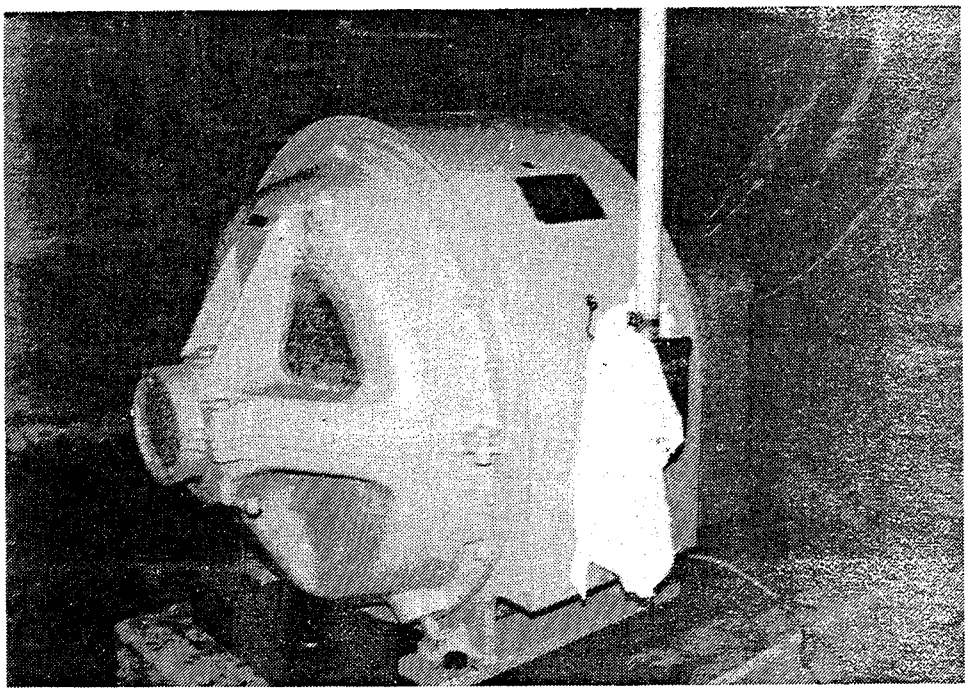
BUILDING NO. 371: Pump
Date of Photograph: 30 August 1982



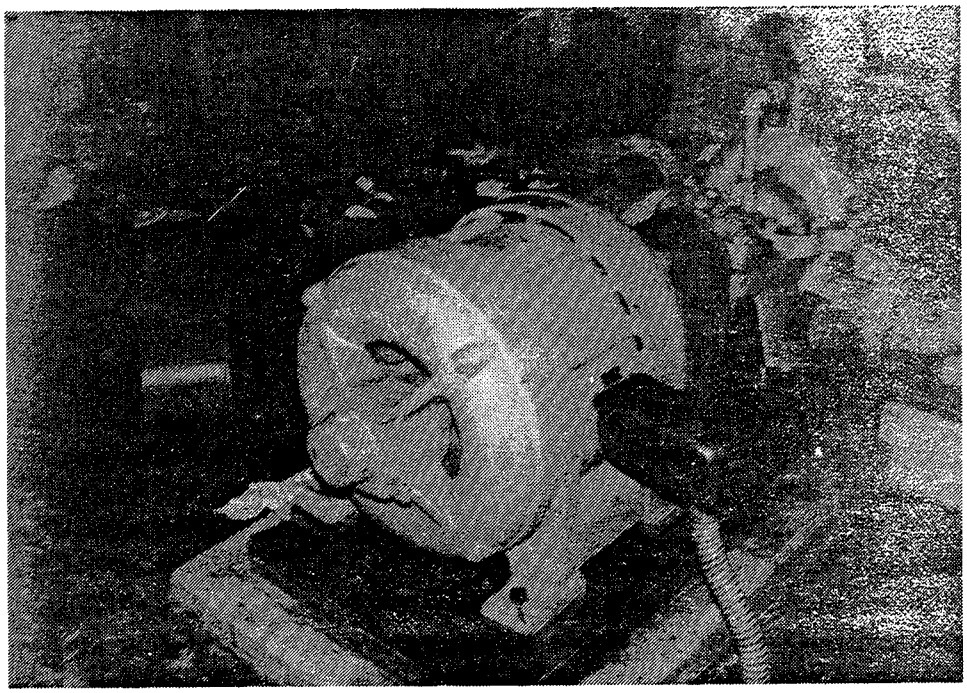
BUILDING NO. 371: Basement (Looking from Stairs)
Date of Photograph: 7 September 1982



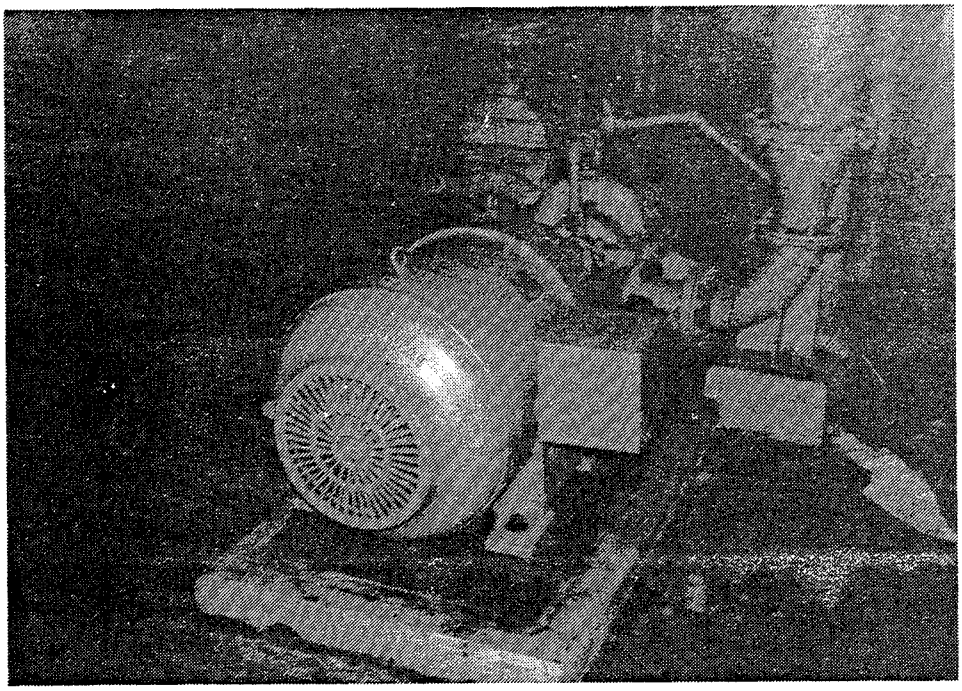
BUILDING NO. 371: Basement. Motor
Date of Photograph: 30 August 1982



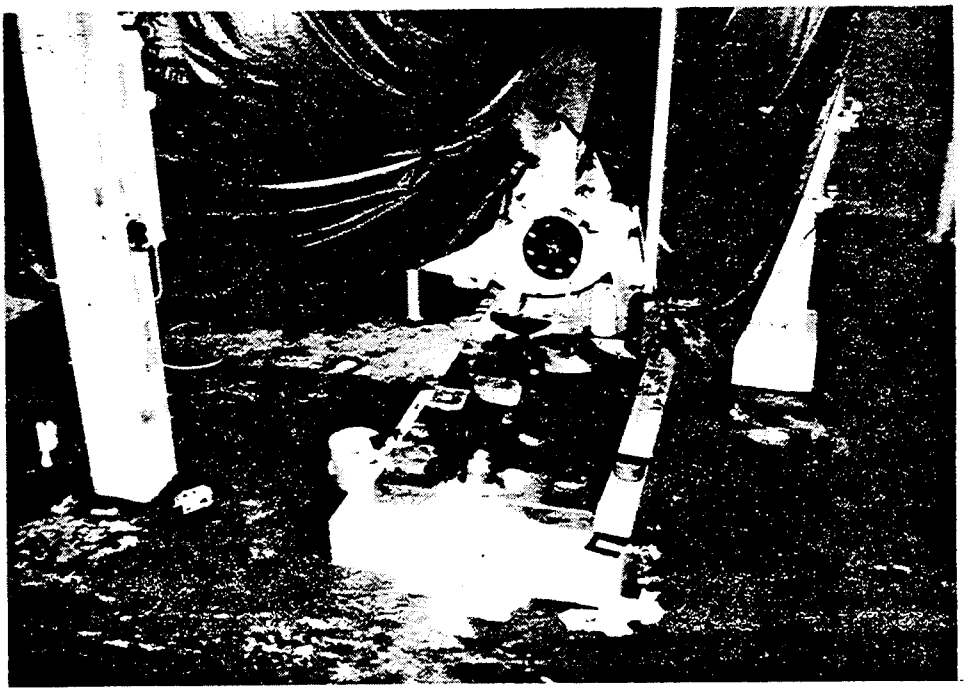
BUILDING NO. 371: Basement. Motor
Date of Photograph: 7 September 1982



BUILDING NO. 371: Basement
Motor
Date of Photograph: 7 September 1982

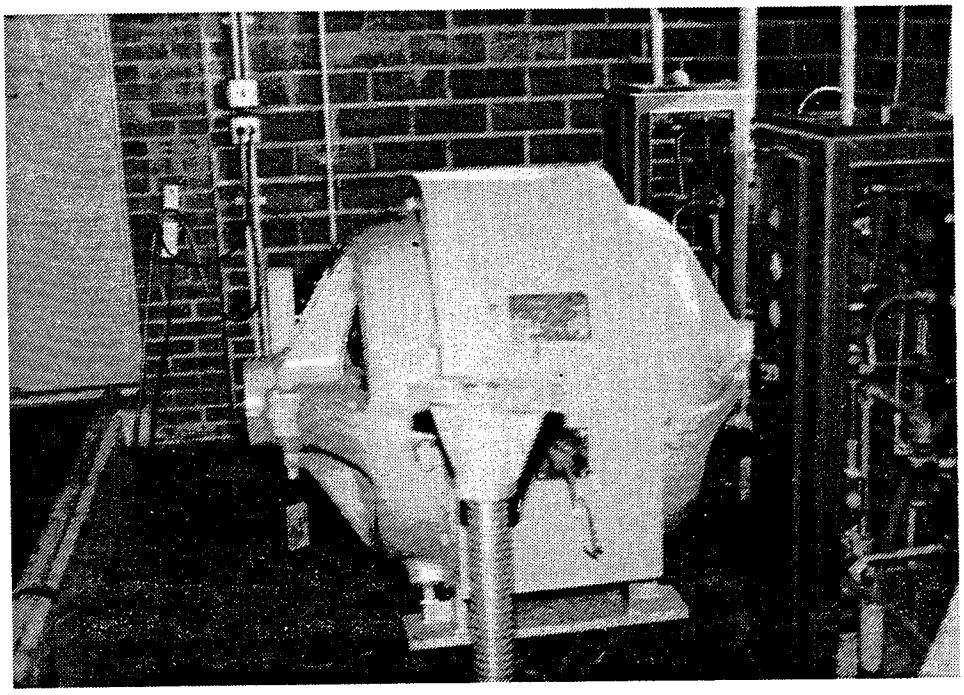


BUILDING NO. 371: Basement
Motor
Date of Photograph: 7 September 1982

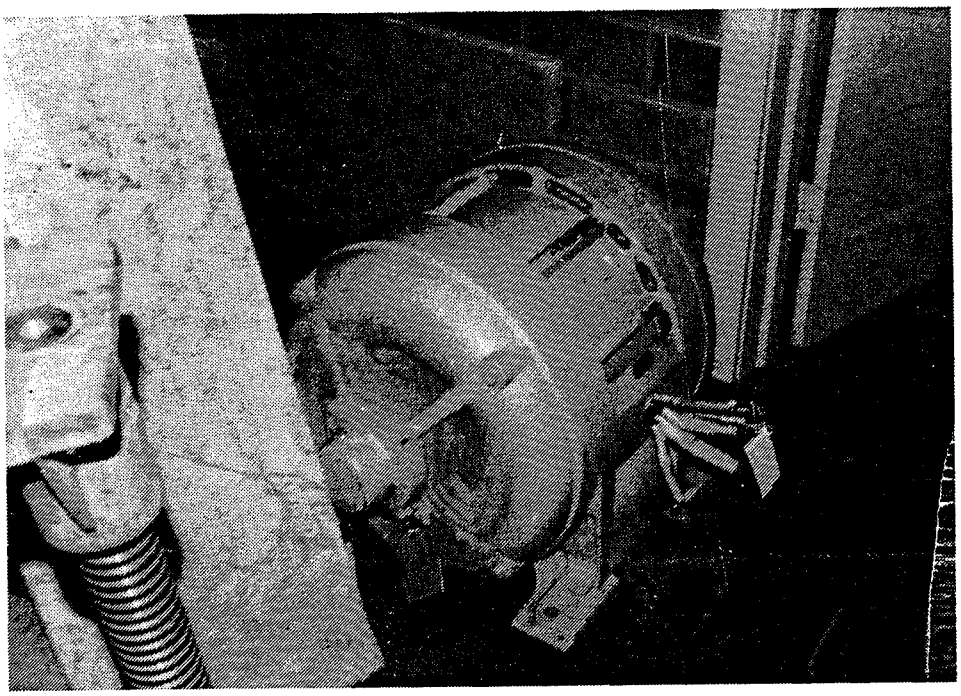


BUILDING NO. 371: Basement Pump
Room (Motors Removed for Repair)
Date of Photograph: 26 August 1982

BUILDING NO. 371: Chlorination
Room (Looking South)
Date of Photograph: 26 August 1982



BUILDING NO. 371: Motor (Not
Installed Stored in Chlorination Room
Date of Photograph: 7 September 1982



BUILDING NO. 371: Motor (Not Installed) Stored in Chlorination Room
Date of Photograph: 7 September 1982

Property Inventory and Condition Survey
for the

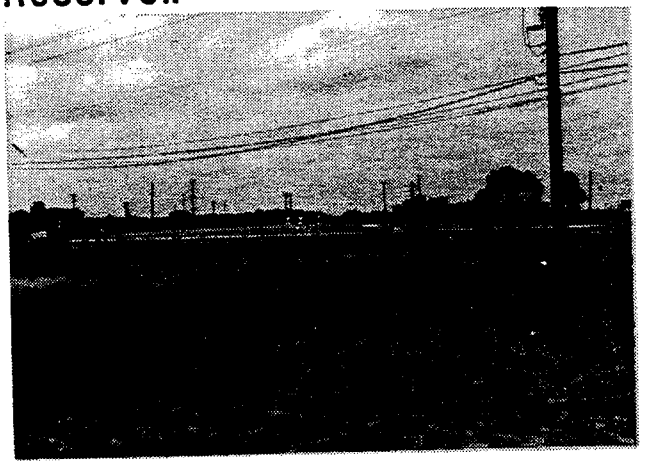
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

FACILITY NO. 372
Reservoir



FACILITY NO. 372

RESERVOIR

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

26 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84140

.60 Size of Building/Facility:

98'-0" x 198'-0"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

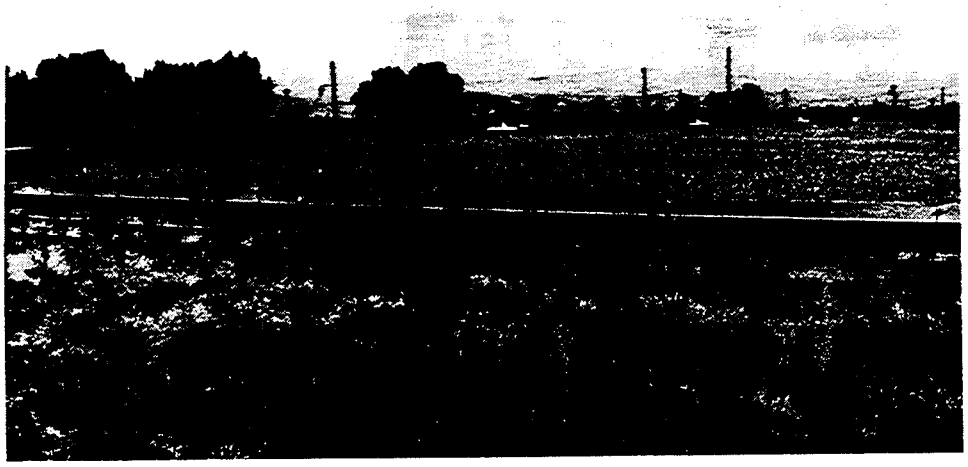
Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. Facility No. 372 is a raw water reservoir with earth sloping sides and bottom lined with 1-1/2" of

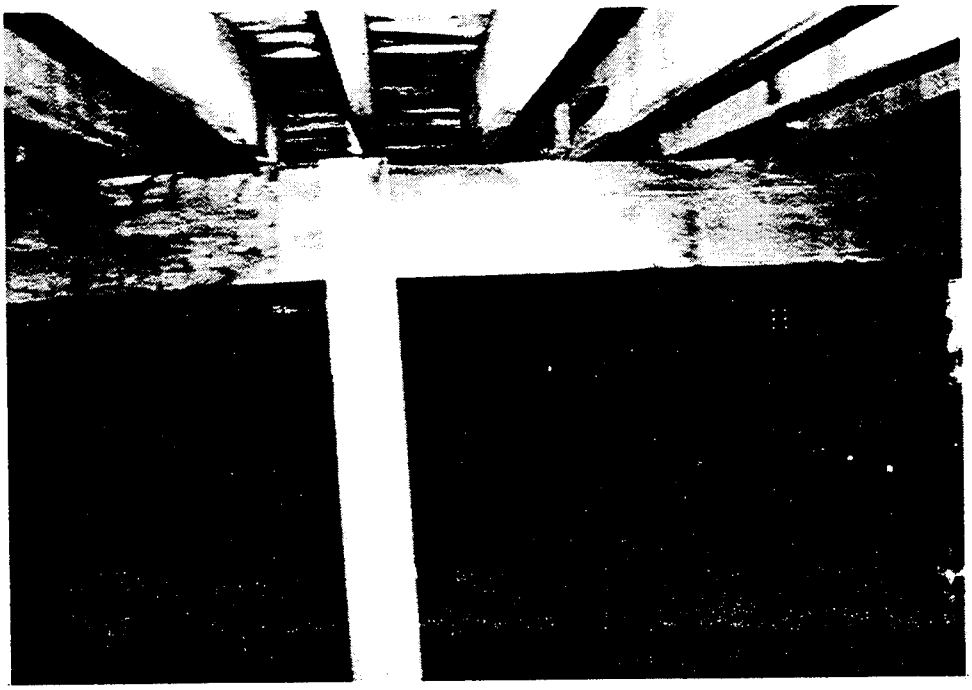
FACILITY NO. 372

RESERVOIR

concrete. The roof is wood frame supported by wood columns and having a 1" wood sheathing and 2 ply gravel surface roof. The building measures 70' x 170' at the bottom and 98' x 198' at the top and is 15' high. There is no fire protection, heating or utilities. The reservoir is in good (G) condition. The estimated remaining useful life as of August 1982, with minimum maintenance and no building use change, is 20 years.



BUILDING NO. 372: (Reservoir) Exterior.
(Looking West)
Date of Photograph: 26 August 1982



BUILDING NO. 372: (Reservoir) Interior.
(Looking East)
Date of Photograph: 26 August 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

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Commerce City, CO

prepared by
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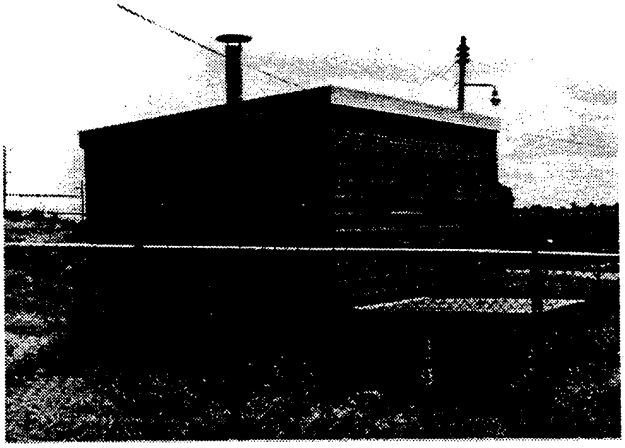
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 372A
Chlorinator Building



BUILDING NO. 372A

CHLORINATOR BUILDING

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

26 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84150

.60 Size of Building/Facility:

15' x 17'-8"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY. Building No. 372A is used for chlorination of water pumped from reservoir (#372). It has a concrete

foundation and floor, cinder block walls, and a tar and gravel roof over a wood frame and sheathing. The building is 15' x 17' x 9' high. There are no fire protection facilities. Electricity and water are provided. Heating is by electricity.

3.00 PRESENT CONDITION. Building No. 372A is in fair (F) condition. The estimated remaining useful life of this building as of September 1982, with minimum maintenance and no building use change, is 8 years.

.10 Exterior: Building 372A

Foundation: Concrete good (G).

Walls: Cinder block (G).

Door: Wood (P).

Paint: (P).

Roof: Tar and gravel (F).

Miscellaneous: General condition of exterior is good (G).

.20 Interior:

Floor: Concrete (G).

Walls: Cinder block (G).

Ceiling: Open

Hardware: (P).

Electrical Fixtures: (F).

Plumbing: None

Heating: Electric (F).

Miscellaneous: General condition of interior fair (F).

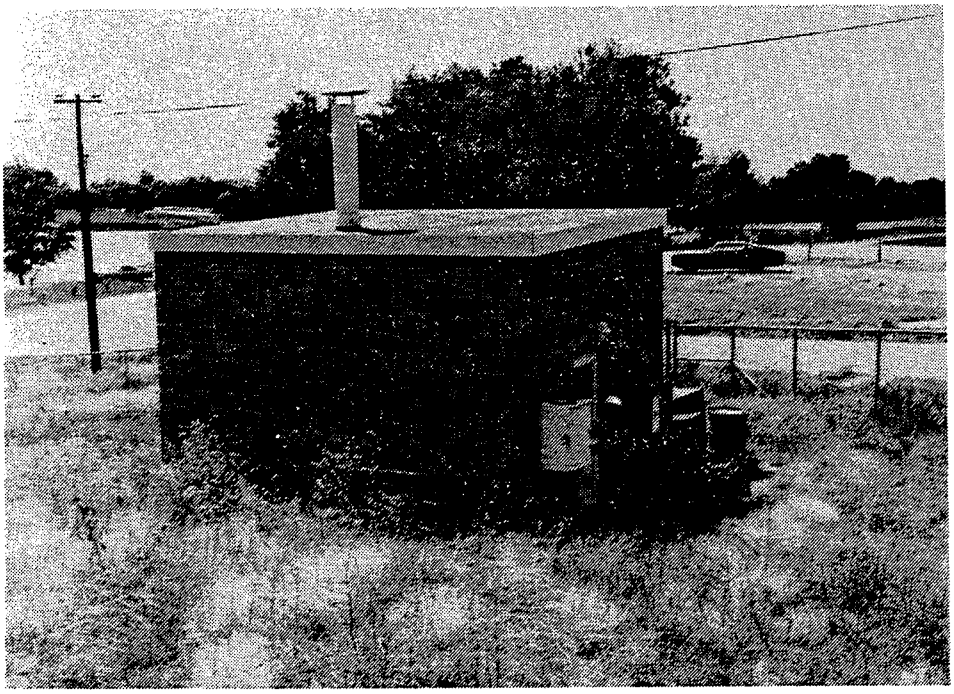
BUILDING NO. T-372A

CHLORINATOR BUILDING

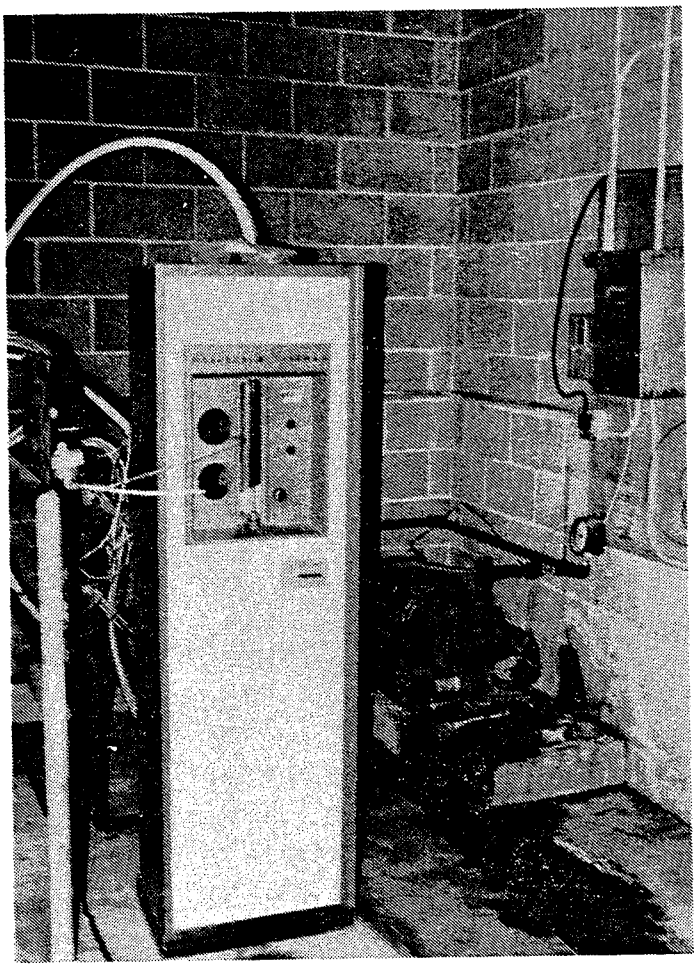
4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Chlorinator	V-8004	Wallace & Tierman	N/A	(0-2)	S/N-PP34512
1	Pump	620BP	Colt	N/A	(0-2)	
1	Motor & Blower	1/4 hp	General Electric	N/A	(0-2)	
1	Motor	1/4 hp	FFD	N/A	(0-2)	
1	Thermostat	N/A	N/A	N/A	(0-2)	
1	Transformer	N/A	Jeffries	N/A	(0-2)	
2	Plastic tanks, open top	40 gal	N/A	N/A	(0-2)	

.10 PREVIOUS EQUIPMENT LIST: No equipment list from the previous condition survey was available.



BUILDING NO. 372A: Exterior
(Looking West)
Date of Photograph: 26 August 1982



BUILDING NO. 372A: Interior.
Chlorinator and Pump.
Date of Photograph: 26 August 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
at

US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 375
Well House

BUILDING NO. 375

WELL HOUSE

Both Rocky Mountain Arsenal and Shell Oil Company personnel have informed us that this building is no longer in existence. The last inventory notation on the S.F.661 is dated March 29, 1949. The 1950 Condition Survey found all equipment in good (G) condition.

Property Inventory and Condition Survey
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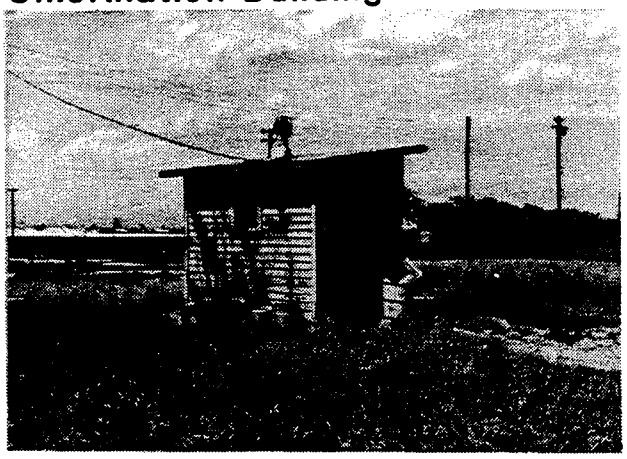
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. T-378
Chlorination Building



BUILDING NO. T-378

CHLORINATION BUILDING

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

26 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84150

.60 Size of Building/Facility:

8'-3" x 10'-6"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Colorado.

2.00 DESCRIPTION OF BUILDING/FACILITY: Building No. T-378 houses the pumps, meters, controls, etc., for preparation of hypocholrite solution, and the introduction of the solution into a 33" water main from

BUILDING NO. T-378

CHLORINATION BUILDING

Denver serving the Rocky Mountain Arsenal. The building is located within the Stapleton Airport property. The building measures 8'-3" x 10'-6" x 8' high, with concrete foundation and floor, wood frame construction, wood walls and roll roofing over wood sheathing. There is no fire protection and the only utility is electricity. It is heated by an electric strip heater. A concrete pit, just beyond the building has the same building number. Access to the pit is by a hatch in the roof. It is in this pit that the chlorine solution is injected into the main.

3.00 PRESENT CONDITION. The building is in fair (F) condition, but the equipment is badly corroded. The estimated remaining useful life of this building as of August 1982, with minimum maintenance and no building use change, is 10 years.

.10 Exterior: Building No. T-378

Foundation: Concrete floor (G).

Walls: Wood (G).

Door: Wood Panel (F).

Flashing: Wood (P).

Paint: (P).

Roof: Roll (F).

Miscellaneous: General condition of exterior is fair (F).

.20 Interior:

Floor: Concrete (G).

BUILDING NO. T-378

CHLORINATION BUILDING

Walls: Cel-O-Tex (P).

Ceiling: Cel-O-Tex (P).

Hardware: Locks, hinges, etc. (P).

Electrical Fixtures: (P).

Plumbing: None

Heating: Electrical finned tube (P).

Miscellaneous: General condition of interior is poor (P).

Missing Equipment: The following items of equipment were listed in Condition Survey Report of 1950, but were not found in August 1982. (1950 Condition Codes are included):

1 - Heater Electric (G).

BUILDING NO. T-378

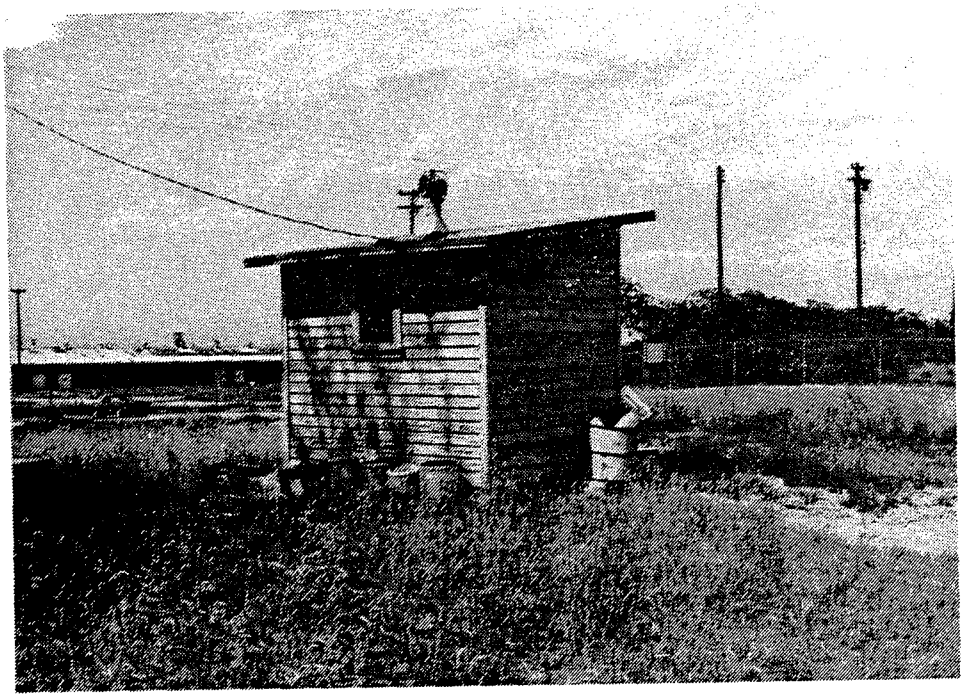
CHLORINATION BUILDING

4.00 RECORD OF INSTALLED EQUIPMENT.

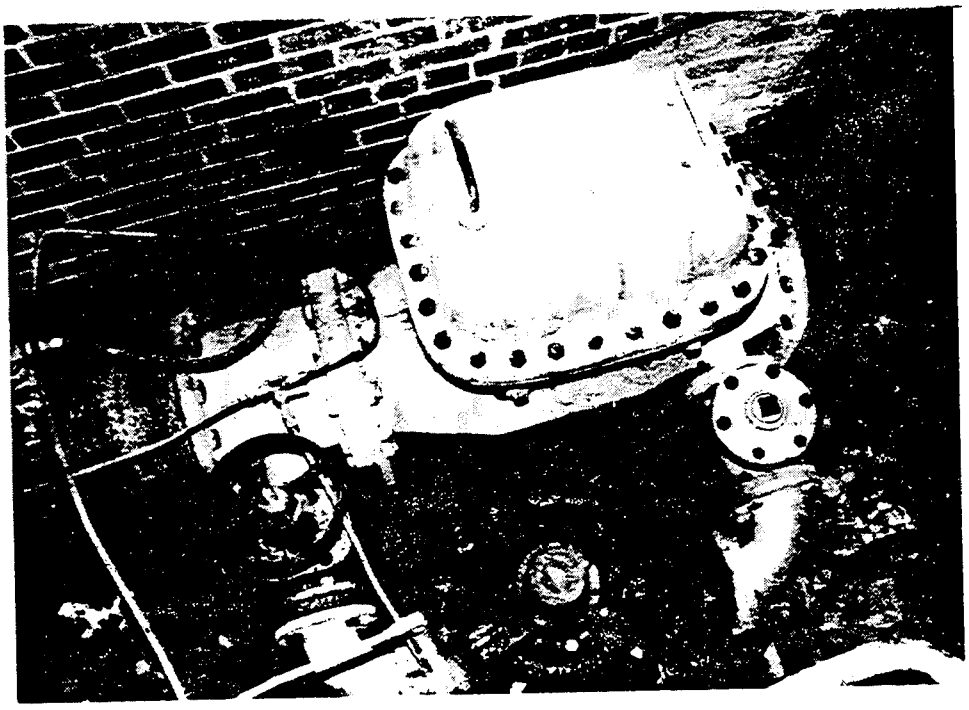
Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Heater	1000 watts	Chromalux	(0-2)	(0-3)	
1	Feeder	N/A	Chemical Feeders Co.	(0-2)	(0-3)	S/N-RCE-9015ST
1	Meter	3"	Hersey	(0-2)	(0-3)	S/N-2005565
1	Control Meter Model No. RCE-9011-14	N/A	Proportioneers, Inc.	(0-2)	(0-3)	RMA-3596

.10 The following equipment was listed in the previous survey, but was not found in the current survey.

1	Feeder	N/A	Chemical Feeders Co.	N/A		S/N-RCE-9016ST



BUILDING NO. 378: Exterior
Date of Photograph: 26 August 1982



BUILDING NO. 378: Hersey Detector
Check Trio Meter
Date of Photograph: 26 August 1982

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the
Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
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St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 381
Chlorination House

BUILDING NO. 381

CHLORINATION HOUSE

This building was demolished in June 1980 for construction of the Stapleton Airport runway extension on property previously owned by the Rocky Mountain Arsenal. The 1950 Condition Survey listed all the items of equipment as good (G). No other information was given.

Property Inventory and Condition Survey
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Group IV Utility Systems Property
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Shell Oil Company Leasehold Area

at

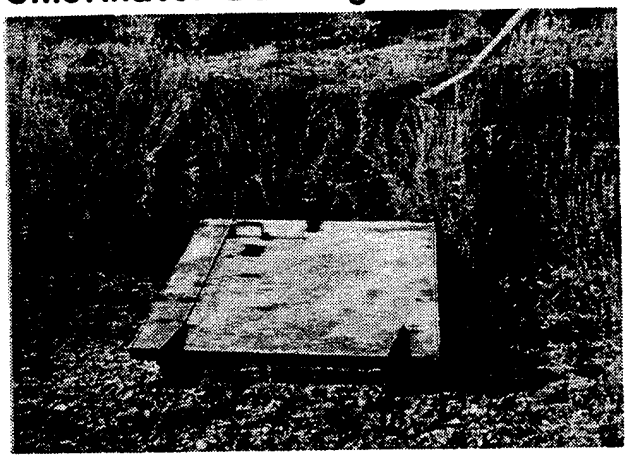
US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 382
Chlorinator Building



BUILDING NO. 382

CHLORINATOR BUILDING

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

27 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84150

.60 Size of Building/Facility:

7'-4" x 9'-4"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Colorado

2.00 DESCRIPTION OF BUILDING/FACILITY. The structure is a concrete pit with a metal lined cover. The pit is 7'-4" x 9'-4" x 6'-6" high.

BUILDING NO. 382

CHLORINATOR BUILDING

There is no foundation. The building has a gravel floor and concrete roof and brick walls. This is a standby chlorinator station and the piping is badly corroded on the exterior. Externally the meters appear in good condition (little corrosion), however, there is no way of determining if there is any internal corrosion. This facility is not currently operational; chlorinator pumps have been removed.

There is no fire protection. The only utility is electricity. An electric strip heater (thermostatically controlled) provides heat.

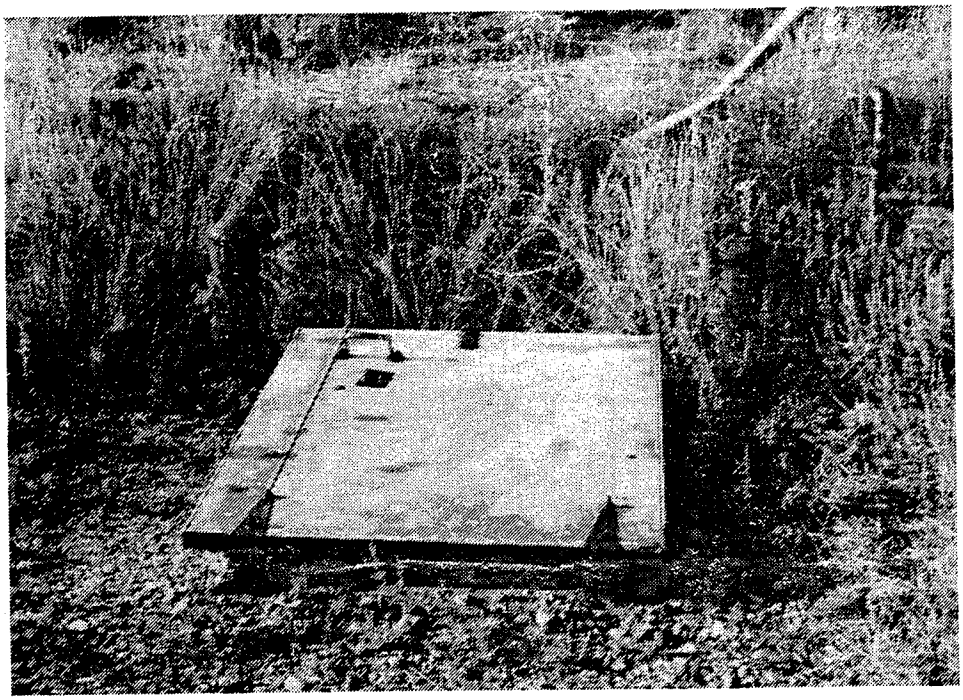
3.00 PRESENT CONDITION. The general condition of the structure is good (G). The estimated remaining useful life of this structure as of August 1982, with minimum maintenance and no building use change, is 15 years.

BUILDING NO. 382

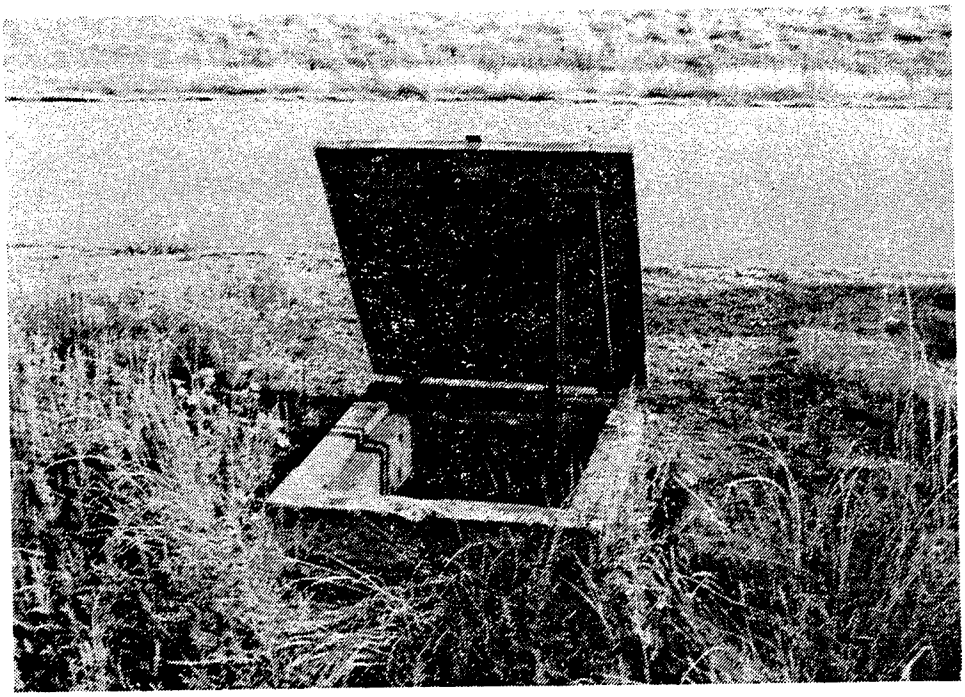
CHLORINATOR BUILDING

4.00 RECORD OF INSTALLED EQUIPMENT.

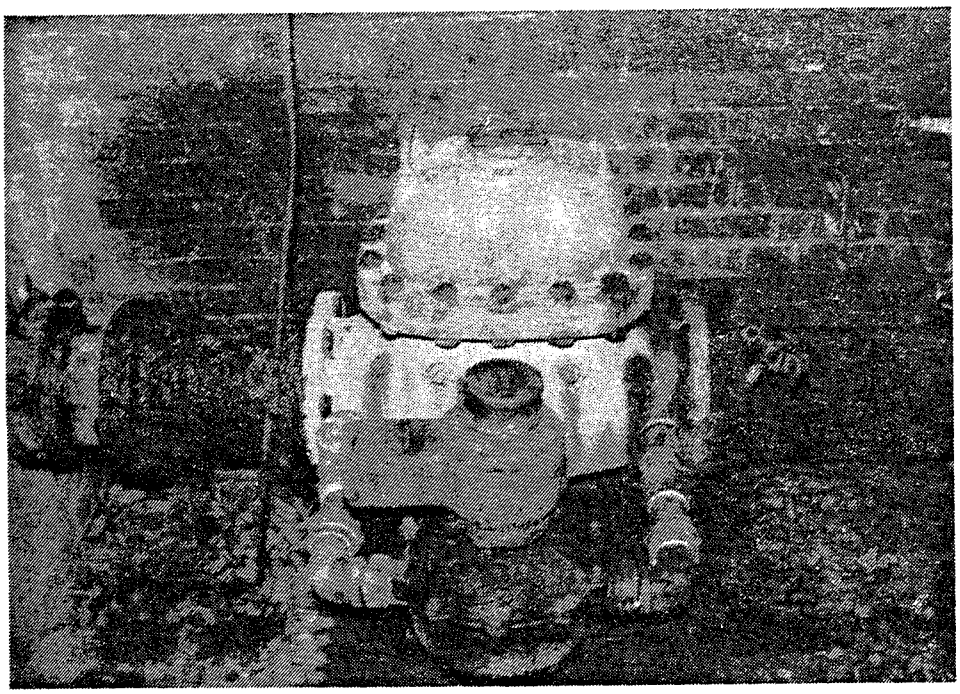
Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Meter	N/A	Hersey	G	0-3	S/N DC2005563
1	Treet-O-Meter	N/A	Hersey	G	0-3	S/N 5418444
1	Heater Electric	N/A	N/A	G	0-4	Badly Corroded
1	Thermostat	N/A	White-Davis	G	0-4	Badly Corroded
.10 Equipment listed in previous survey not found in current survey:						
1	Chlorination Pump	N/A	N/A	N/A		RMA 3858 (Incomplete)
1	Chlorination Pump	N/A	N/A	G	-	RMA 5595



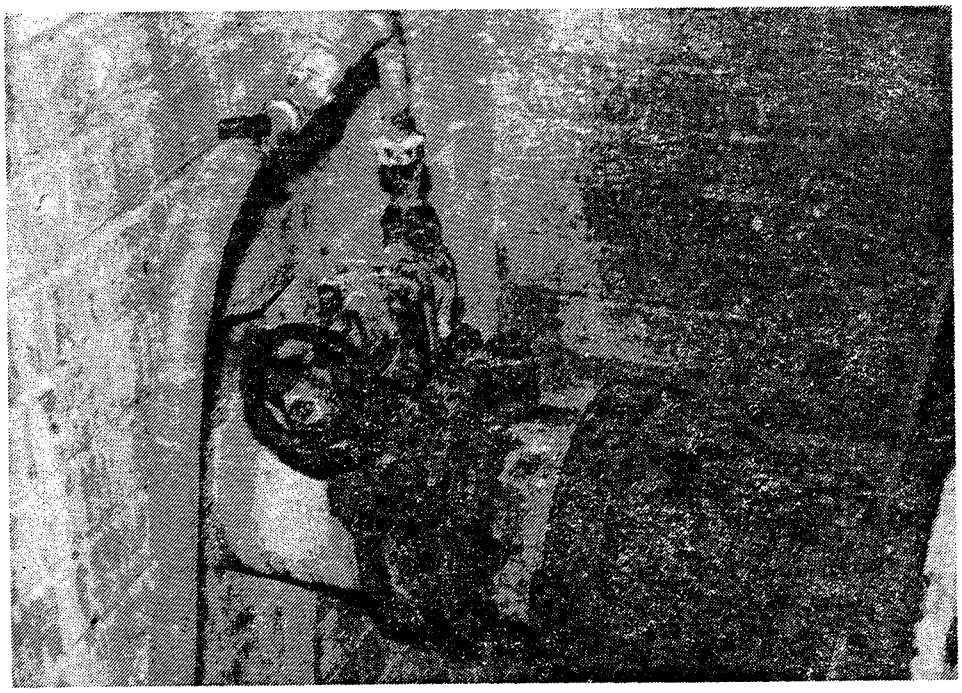
BUILDING NO. 382: Exterior
(Looking South)
Date of Photograph: 7 September 1982



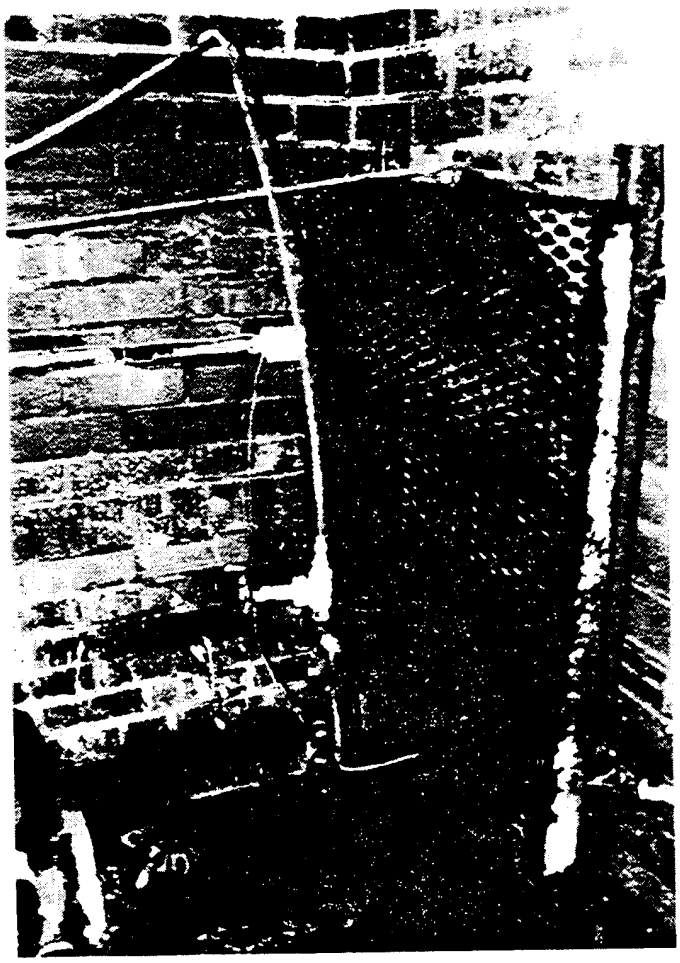
BUILDING NO. 382: Exterior
(Looking North)
Date of Photograph: 7 September 1982



BUILDING NO. 382: Interior
Adjusto Feeder
Date of Photograph: 7 September 1982



BUILDING NO. 382: Interior
Chlorine Injection Valves
Date of Photograph: 7 September 1982



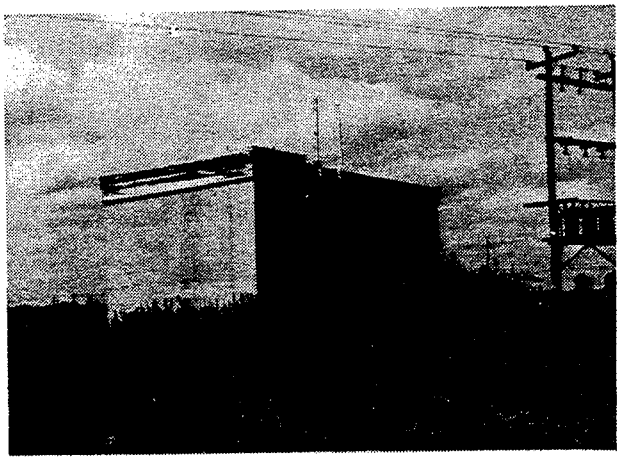
BUILDING NO. 382: Interior. Electrical Resistance Heater.
Date of Photograph: 27 August 1982

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the
Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 385
Water Pump Station - NP



BUILDING NO. 385

WATER PUMP STATION - NP

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

30 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84520

.60 Size of Building/Facility:

9'-4" x 15'-8"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Colorado.

2.00 DESCRIPTION OF BUILDING/FACILITY: Building No. 385 houses the pump and motor for Well No. 1. The building measures 9'-4" x 15'-8" x 10' high. It has concrete foundation, floor and walls. The roof is

mineralized roofing mopped over wood frame and sheathing. Access is by a hatch in the roof. No fire protection or heating are provided and the only utility is electricity.

3.00 PRESENT CONDITION. Building No. 385 is in good (G) condition. The estimitated remaining useful life of this building from August 1982, with minimum maintenance and no building use change, is 20 years.

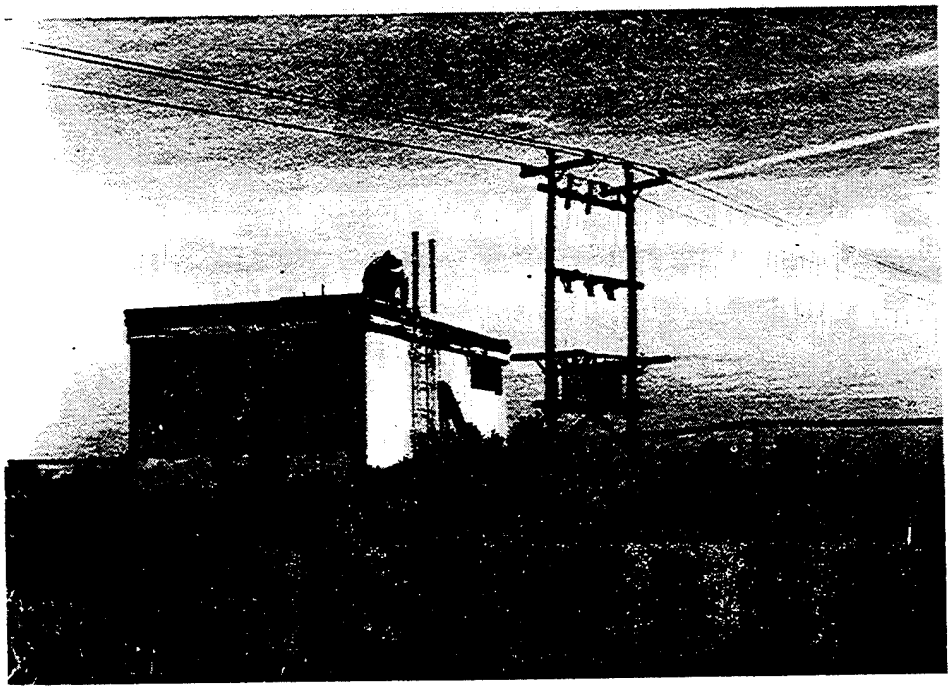
BUILDING NO. 385

WATER PUMP STATION - NP

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Vertical turbine Pump	900gpm	A. O. Smith	G	(0-2)	S/N-735602
1	Electric motor	40 hp	N/A	G	(0-2)	S/N-63534
1	Controller	N/A	Layne	N/A *	(0-2)	S/N-521796
1	Transformer	0.75kva	N/A	N/A *	(0-2)	

*N/A under Previous Condition Code indicates Condition Coding was not included in original Condition Survey and Inventory Reports. (Typical for all Buildings.)



BUILDING NO. 385 (WELL NO. 1): General
View of Pump House. (Looking Northwest)
Date of Photograph: 30 August 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

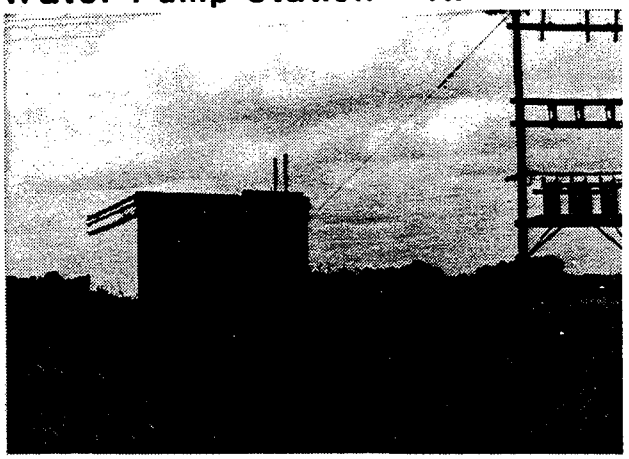
US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 386
Water Pump Station – NP



BUILDING NO. 386

WATER PUMP STATION - NP

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

30 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84520

.60 Size of Building/Facility:

9'-4" x 15'-8"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Colorado.

2.00 DESCRIPTION OF BUILDING/FACILITY: Building No. 386 houses the pump and motor for Well No. 2. It is 9'-4" x 15'-8" x 10' high. It has

concrete foundation, floor and walls. The roof is mineral surface roll roofing over wood frame and sheathing. Access is by a hatch in the roof. No fire protection nor heat are provided, and the only utility is electricity.

3.00 PRESENT CONDITION. Building No. 386 is in good (G) condition. The estimated remaining useful life of this building from August 1982, with minimum maintenance and no building use change, is 20 years.

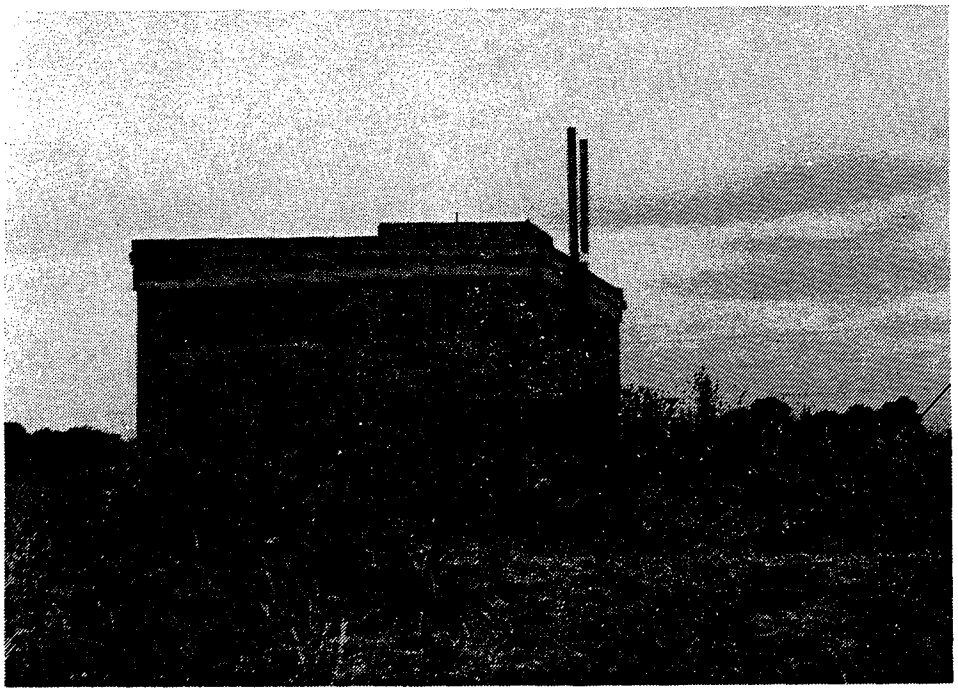
BUILDING NO. 386

WATER PUMP STATION - NP

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Vertical Turbine Pump	900gpm	A. O. Smith	G	(0-2)	S/N 735601
1	Electric Motor	40 hp	N/A	G	(0-2)	S/N 63660
1	Controller	40 hp	Layne	N/A*	(0-2)	S/N 50484
1	Transformer	0.75kva	N/A	N/A*	(0-2)	

*N/A under Previous Condition Code indicates Condition Coding was not included in original Condition Survey and Inventory Reports.



BUILDING NO. 386 (WELL NO. 2): General
View of Pump House. (Looking Southwest)
Date of Photograph: 30 August 1982

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
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Group II Chemical Plant Property
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Shell Oil Company Leasehold Area
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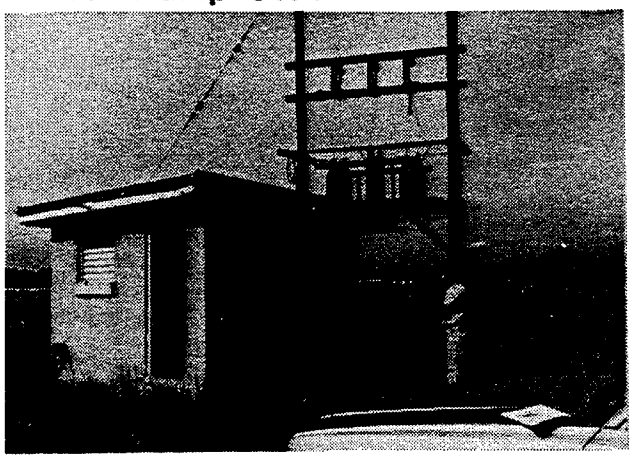
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 387
Water Pump Station - NP



BUILDING NO. 387

WATER PUMP STATION - NP

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

30 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84520

.60 Size of Building/Facility:

9'-4" x 15'-4"

.70 Year Built:

1942

.80 Original Plans Prepared by:

Whitman, Requardt and Smith

H. A. Kuljian and Company, Engineers

Denver, Co.

2.00 DESCRIPTION OF BUILDING/FACILITY: Building No. 387 houses the pump and motor for Well No. 3. It is 9'-4" x 15'-4" x 7' high. It has

concrete foundation, floor and cement block walls. The roof is mineral surface roll roofing over wood frame and sheathing. Access is by a door in one wall. No fire protection nor heat are provided, and the only utility is electricity.

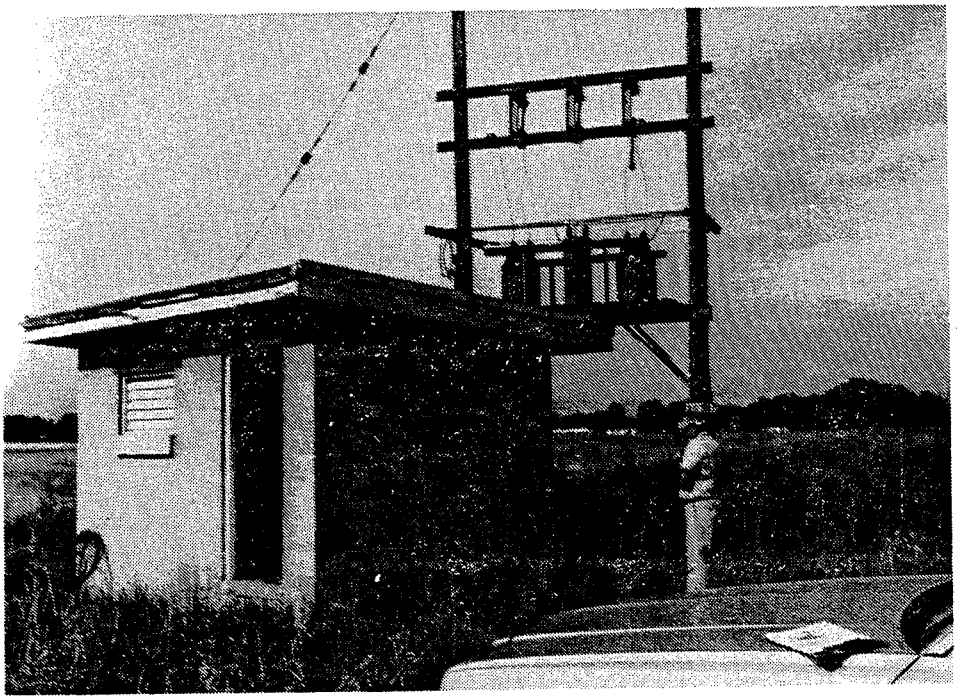
3.00 PRESENT CONDITION. Building No. 387 is in good (G) condition. The estimated remaining useful life of this building from August 1982, with minimum maintenance and no building use change, is 20 years.

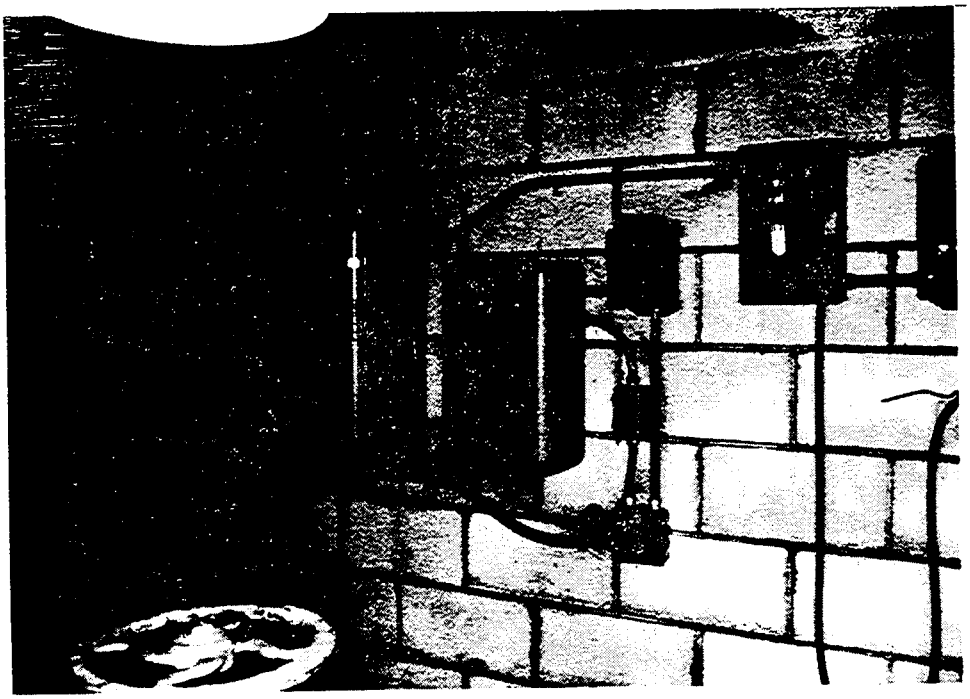
BUILDING NO. 387

WATER PUMP STATION - NP

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Vertical Turbine Pump	900gpm	Layne-Western	N/A	(0-2)	S/N 29820
1	Electric Motor	50 hp	General Electric	N/A	(0-2)	S/N-YLU1108011
1	Motor Controller	50 hp	N/A	N/A	(0-2)	
1	Transformer	0.75kva	N/A	N/A	(0-2)	
1	Transformer	0.75kva	N/A	N/A	(0-2)	





BUILDING NO. 387: Interior Controls
Date of Photograph: 30 August 1982

BUILDING NO. 387: Interior Pumps
Date of Photograph: 30 August 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
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Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area
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US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
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St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 462B
Fuel Oil Storage Tank

FACILITY NO. 462B

FUEL OIL STORAGE TANK

This tank has been renumbered as 321E and moved to a location north of Building No. 325.

Property Inventory and Condition Survey
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Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

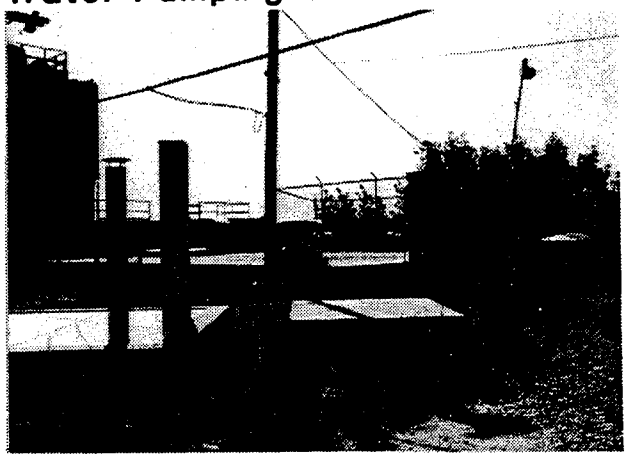
US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

BUILDING NO. 548
Water Pumping Station - NP



BUILDING NO. 548

WATER PUMPING STATION -NP

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Company

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84520

.60 Size of Building/Facility:

Building: 52'-0" x 35'-6"

Wet Well: 40'-0" x 9'-0"

.70 Year Built:

1956

.80 Original Plans Prepared by:

Ken R. White, Architect-Engineer

Denver, Colorado

2.00 DESCRIPTION OF BUILDING/FACILITY: Building No. 548 contains two sets of pumps. One set pumps warm process water to a cooling tower, the

other set pumps cooled water from the cooling tower to an elevated storage tank and/or back to the process. The building is mostly under ground with a 24' long by 3'-6" wide housed stair well leading from ground level to the pump room floor. The building is 52' x 35'-6" x 18' high. The foundation, floor, walls and roof are concrete. The roof is waterproofed by 2" concrete topping over 3-ply membrane over the roof slab. Two extinguishers provide fire protection. Steam unit heaters provide heat. Water, electricity and steam are supplied. A concrete wet well 40' x 9' x 8' deep provides a suction supply to the cooling tower pumps. An electrically operated roof ventilator and a gravity ventilator supply fresh air to the station.

3.00 PRESENT CONDITION. Building No. 548 is in good (G) condition. The estimated remaining useful life of this building as of August 1982, with minimum maintenance and no building use change, is 20 years.

.10 Exterior: Building No. 548

Footings: Reinforced Concrete (G).

Roof: Slab 2" concrete topping over a 3-ply membrane (G). This building has a flat top roof with a painted 2" pipe hand rail along the west side (enclosed).

Door: One (1) painted metal door with 2 glass lights and brass, keyed locking hardware (G).

.20 Interior: Building No. 548

See Record of Installed Equpment.

BUILDING NO. 548

WATER PUMPING BUILDING - NP

4.00 RECORD OF INSTALLED EQUIPMENT

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Ventilator, Roof	5760 CFM	ILG Electric Co.	G	(0-2)	Cat. No. 161-024
1	Motor, Electric	3/4 HP	ILG Electric Co.	G	(0-2)	S/N 340464
1	Unit Heater	70,000 BTU 12H11	American Blower Co.	G	(0-2)	S/N 112H11
1	Motor, Electric	1/3 HP	General Electric	G	(0-2)	S/N 5KSP11FC356
1	Unit Heater	70,000 BTU	N/A	N/A	(0-2)	N/A
1	Motor, Electric	1/3 HP	General Electric	N/A	(0-2)	N/A
1	Pump, Sump	1 m	Penberthy	G	(0-2)	MB10-44622
1	Motor	1/3 HP	N/A	G	(0-2)	MM392280K
1	Pump, Sump	1 m	Penberthy	N/A	(0-2)	N/A
1	Motor	1/3 HP	N/A	N/A	(0-2)	MM392281K
1	Pump	3500 GPM 186 Ft. hd.	Fairbanks Morse	G	(0-2)	K81635
1	Motor	200 HP	Fairbanks Morse	G	(0-2)	B3700
1	Pump	3500 GPM 186 Ft. hd.	Fairbanks Morse	G	(0-2)	K81634
1	Motor	200 HP	Fairbanks Morse	G	(0-2)	B3698
1	Pump	3500 GPM 186 Ft. hd.	Fairbanks Morse	G	(0-2)	(K81633)

BUILDING NO. 548

WATER PUMPING BUILDING - NP

(continued)

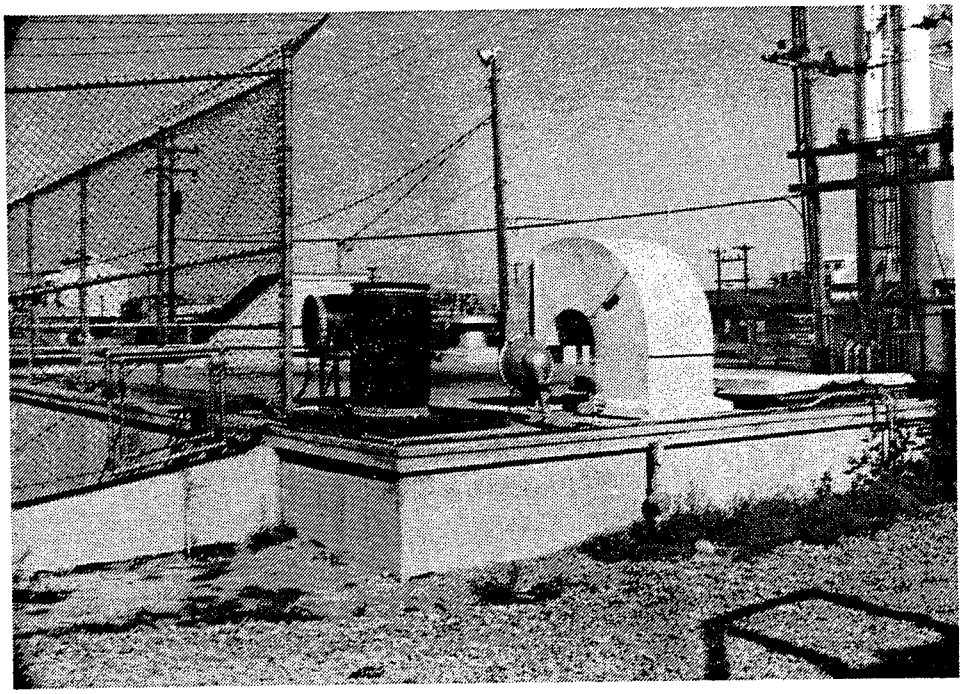
Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Motor	200 HP	Fairbanks Morse	G	(0-2)	B3699
1	Pump	3500 GPM 52 Ft. hd.	Fairbanks Morse	G	(0-2)	F331189
1	Motor	60 HP	Fairbanks Morse	G	(0-2)	K80224
1	Pump	3500 GPM 52 Ft. hd.	Fairbanks Morse	G	(0-2)	(F331188)
1	Motor	60 HP	Fairbanks Morse	G	(0-2)	K80223
1	Pump	3500 GPM 52 Ft. hd.	Fairbanks Morse	G	(0-2)	(F331187)
1	Motor	60 HP	Fairbanks Morse	G	(0-2)	K80222
1	Panel, Motor Control	50 HP	Continental Electric Co.	G	(0-2)	Bldg. 549 - Cooli Tower, Fan #1
1	Panel, Motor Control	50 HP	Continental Electric Co	G	(0-2)	Bldg. 549 - Fan #2
1	Panel, Motor Control	200 HP	Continental Electric Co.	G	(0-2)	Pump No. 1
1	Panel, Motor Control	200 HP	Continental Electric Co.	G	(0-2)	Pump No. 2
1	Panel, Motor Control	200 HP	Continental Electric Co.	G	(0-2)	Pump No. 3

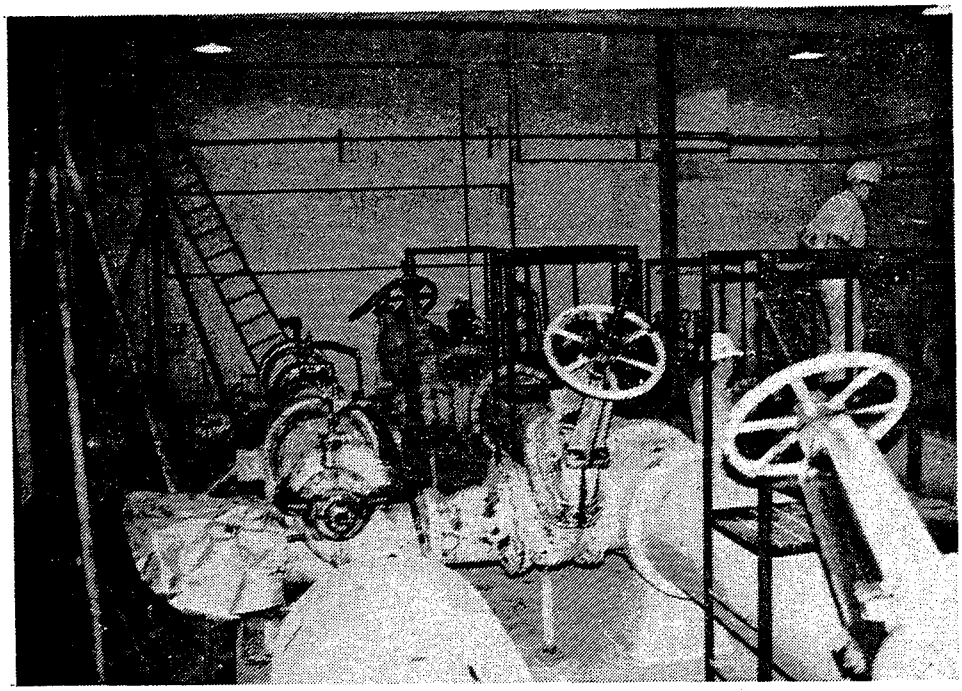
BUILDING NO. 548

WATER PUMPING BUILDING - NP

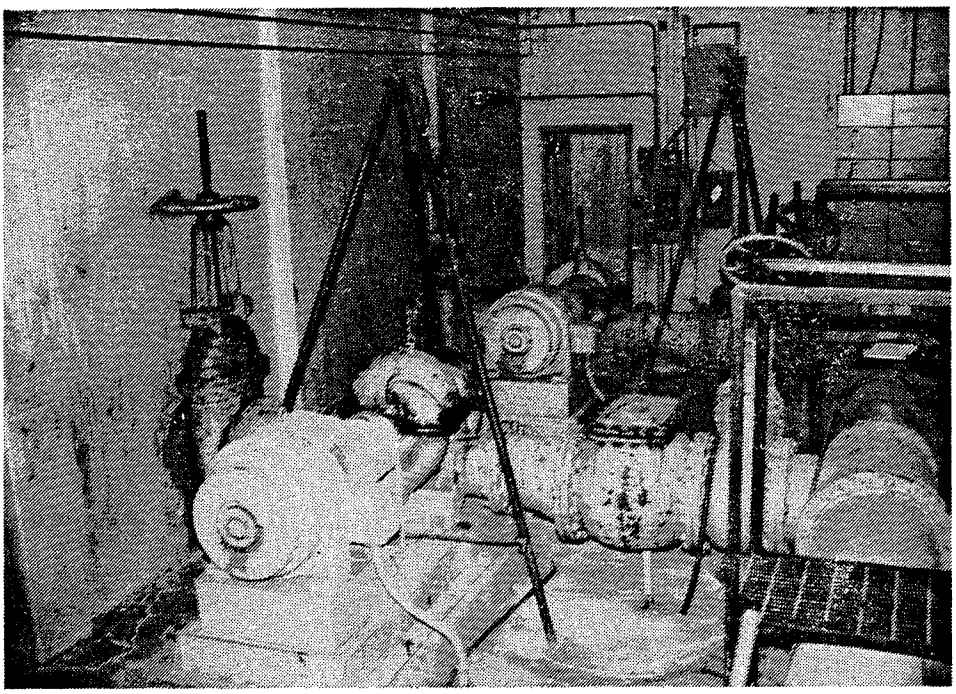
(continued)

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Panel, Motor Control	60 HP	Continental Electric Co.	G	(0-2)	Pump No. 4
1	Panel, Motor Control	60 HP	Continental Electric Co.	G	(0-2)	Pump No. 5
1	Panel, Motor Control	60 HP	Continental Electric Co.	G	(0-2)	Pump No. 6
1	Distribution Panel (Telemetering & Control)	36" x 55"	Heavy-Duty Electric Co.	G	(0-2)	
	(this panel remotely controls):					
	Transformer	15 KVA	Heavy-Duty Electric Co.	G	G	(D45979)
	(this panel remotely controls the following telemetering transmitters):					
	Water level elevated storage (Fac. 551)					
	Water intake level (Bldg. 548)					
	Water level underground reservoir (Bldg 549)					
	Main discharge flow (Bldg. 548)					
	Water outlet temperature (Bldg. 548)					
	Water inlet temperature (Bldg. 548)					
13	Switchboard Panels	N/A	Builders Providence	G	(0-2)	
	(these panels include the following):					
	1-Inlet Temp. Bldg.					
	1-Outlet Temp. Bldg.					
	3-Remote Motor Control					Controls motors 4, and 6, 60 H.P.
	3-Remote Motor Control					Controls motors 1, and 3, 200 H.P.
	2-Recording Receivers					
	1-Intake level					
	2-Recorder Receiver					
1	Ventilator, Gravity	N/A	N/A	N/A	(0-2)	

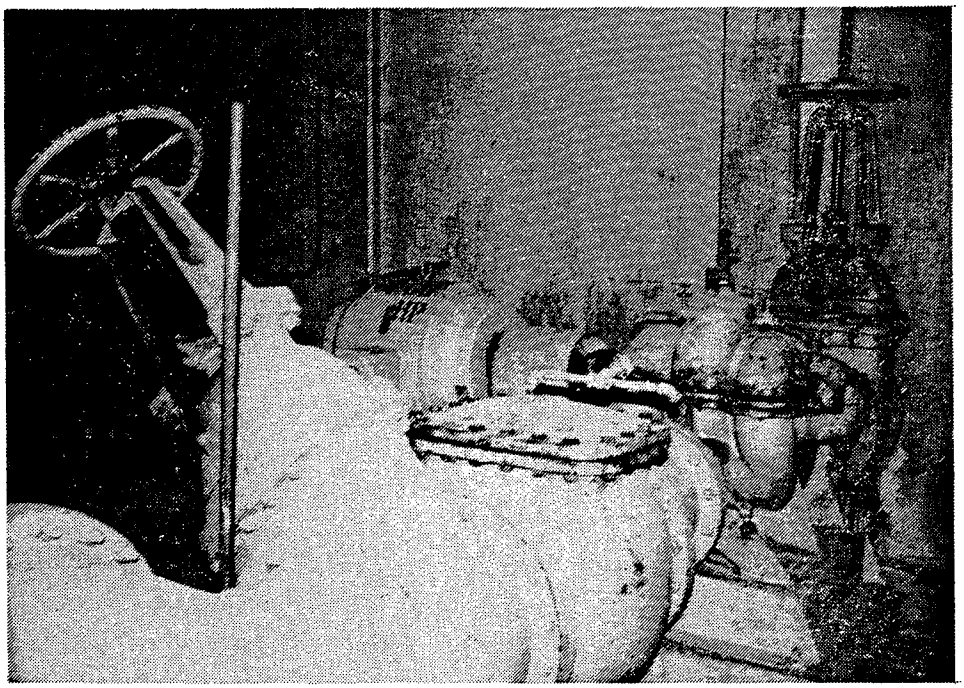




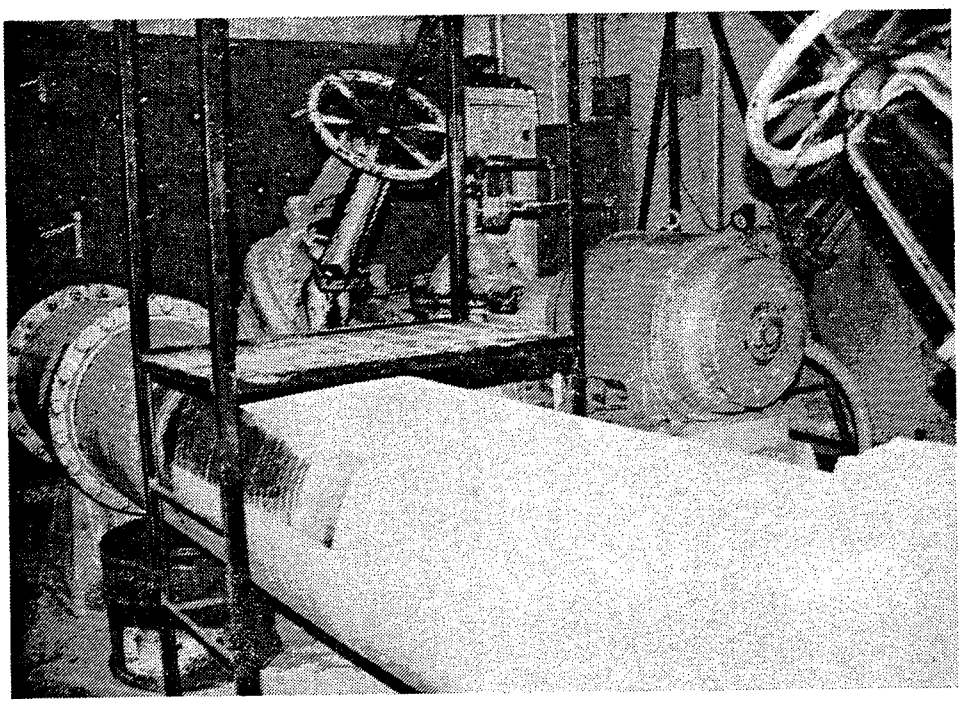
BUILDING NO. 548: Pump Room. General View (Looking East)
Date of Photograph: 31 August 1982



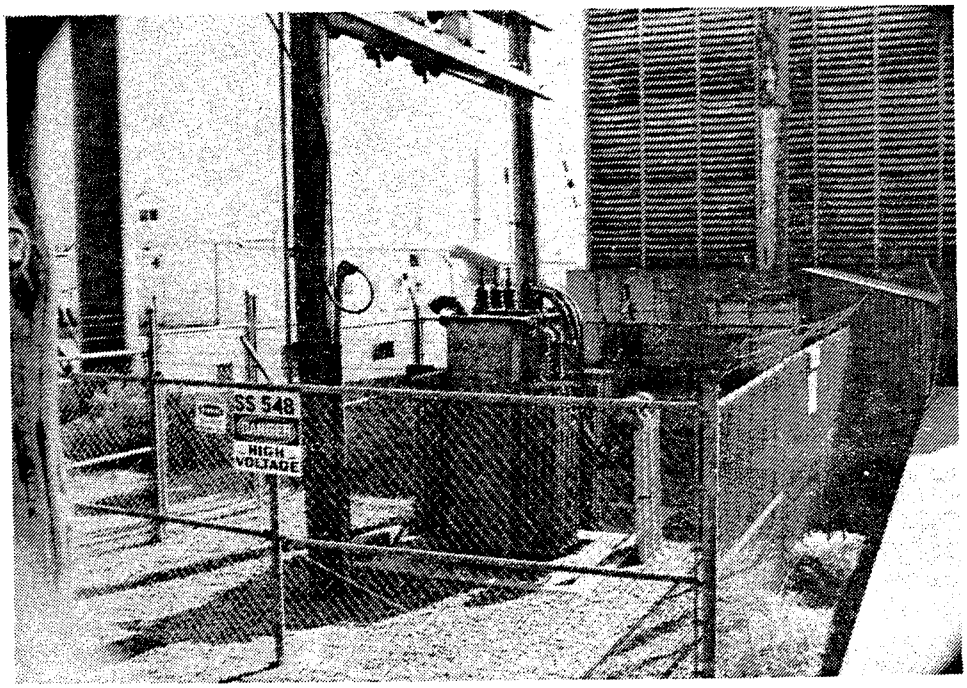
BUILDING NO. 548: Pump Room. General View. (Looking West)
Date of Photograph: 31 August 1982



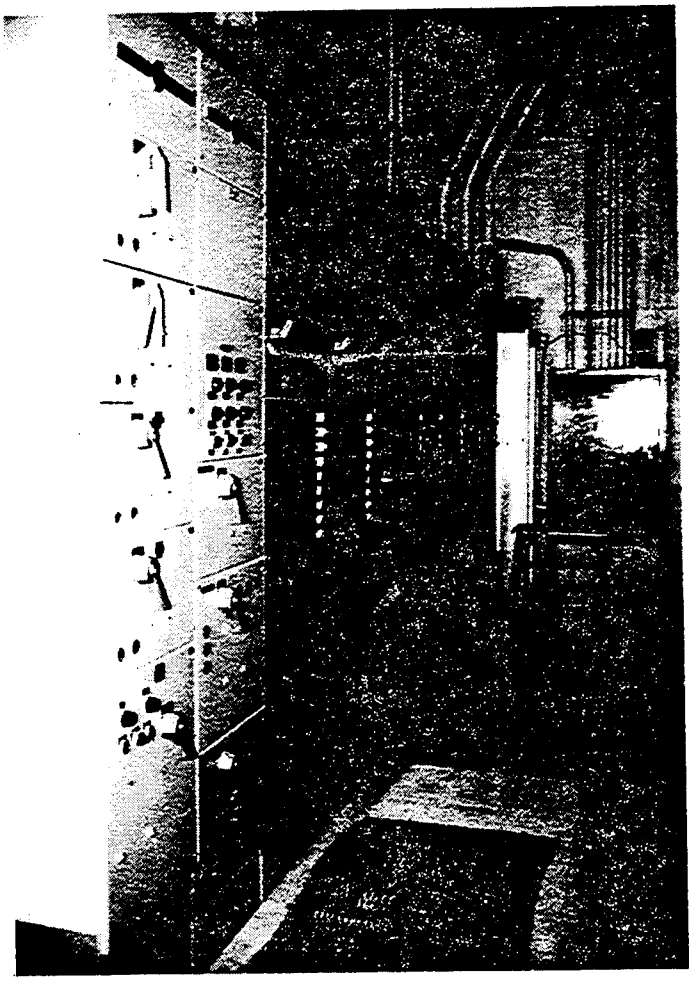
BUILDING NO. 548: Pump Room. Suction Pumps and Header.
Date of Photograph: 31 August 1982



BUILDING NO. 548: Pump Room. Discharge Pumps and Headers.
Date of Photograph: 31 August 1982



BUILDING NO. 548: Transformer, Electrical Substation
Date of Photograph: 31 August 1982



BUILDING NO. 548: Pump Room.
Control Panel
Date of Photograph: 31 August 1982

WET WELL

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
1	Motor	25 HP	U. S. Motor	N/A	(0-2)	S/N 3708757-480V
1	Motor	25 HP	U. S. Motor	N/A	(0-2)	S/N 756-480V
1	Motor	40 HP	G. E. Motor	N/A	(0-2)	S/N CDJ320193-480V

METER VAULT (MANHOLE)

1	Orifice plate and telemetering transmitter	16"	N/A	G	(F)	replaced 16" Venturi

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

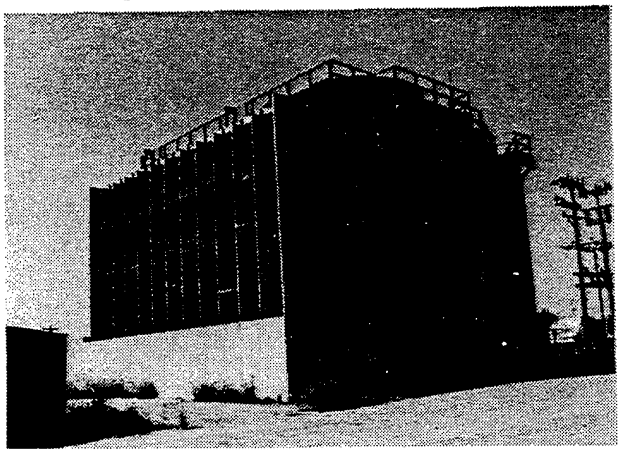
US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

FACILITY NO. 549
Cooling Tower



FACILITY NO. 549

COOLING TOWER

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

89060

.60 Size of Building/Facility:

Facility: 50'-8" x 53'-0"

Reservoir: 84'-0" x 53'-0"

.70 Year Built:

1956

.80 Original Plans Prepared by:

Marley Company

Kansas City, Missouri

and

Ken R. White, Architect-Engineer

Denver, Colorado

BUILDING NO. 549

COOLING TOWER

2.00 DESCRIPTION OF BUILDING/FACILITY. Faciltiy No. 549 is used to cool water that has been heated by the various manufacturing processes. The reservoir, under the tower, is 84' x 53' x 18' deep (500,000 gallon capacity). It has concrete foundation, floor, walls, the columns supporting the cooling tower, and a partial roof. The tower itself is 50'-8" x 49' x 34' to top of fan. The reservoir forms the foundation for the tower which has no floor or roof. The two cell tower is supported by redwood columns (G). Corrugated asbestos siding forms walls on north and south sides (G). Redwood louvers form the east and west walls (G). The stairways and walkways are also redwood (G). Extinguishers provide fire protection. The only utility is electricity.

3.00 PRESENT CONDITION. Facility No. 549 is in good (G) condition. The estimated remaining useful life of the tower as of August 1982, with minimum maintenance and no building use change, is 15 years.

.10 Exterior: Underground Reservoir

Footings: Reinforced Concrete (G).

Walls & Floor: Reinforced Concrete (G).

Partial Roof: Reinforced Concrete (G).

Columns Supporting Cooling Tower: Reinforced Concrete (G).

Piping: 36" Wrapped steel pipe (G).

16" Cast iron water pipe (G).

3/4" Copper pipe (G).

Gate Valves & Boxes: 16" AWWA (G).

12" AWWA (G).

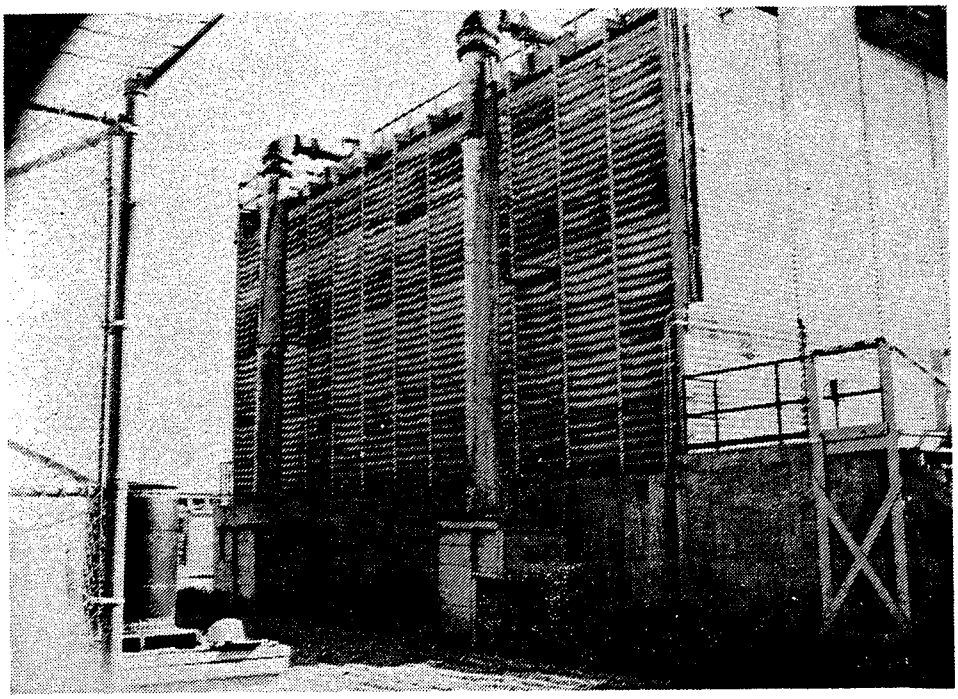
8" AWWA (G)

FACILITY NO. 549

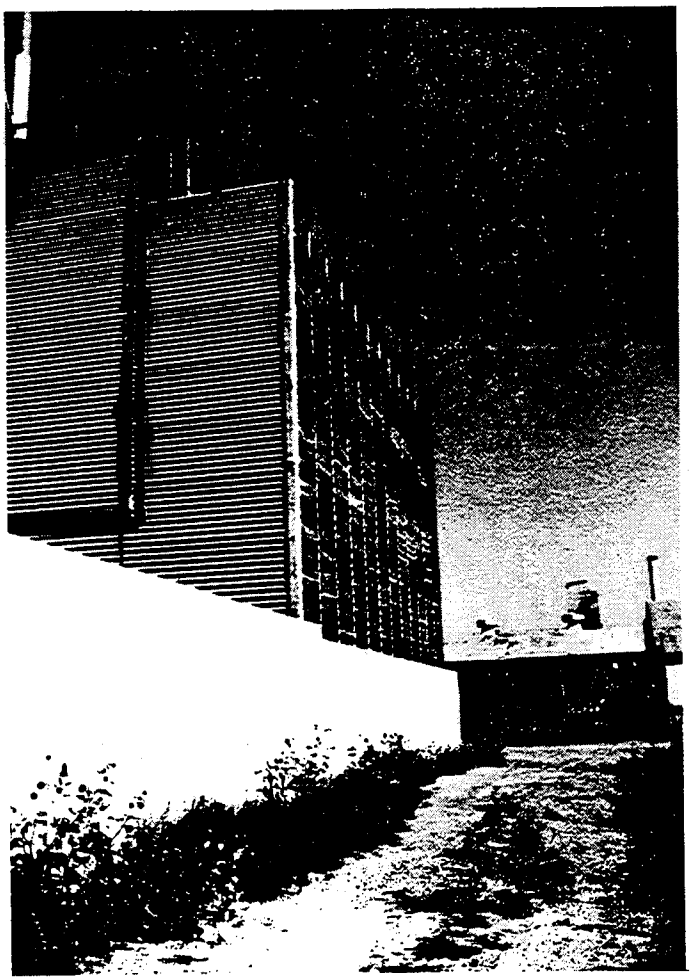
COOLING TOWER

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
2	Fan Blades	20' dia.	Marley Co.	G	(0-2)	
2	Hypoid Gear Reducers	ratio 10.83:1	Marley Co.	G	(0-2)	S/N-11223 S/N-11224
2	Electric Motors	50 hp	Wagner Electric	G	(0-2)	S/N-M7K17069 S/N-M7K17070



BUILDING NO. 549: Cooling Tower
(West Side)
Date of Photograph: 31 August 1982



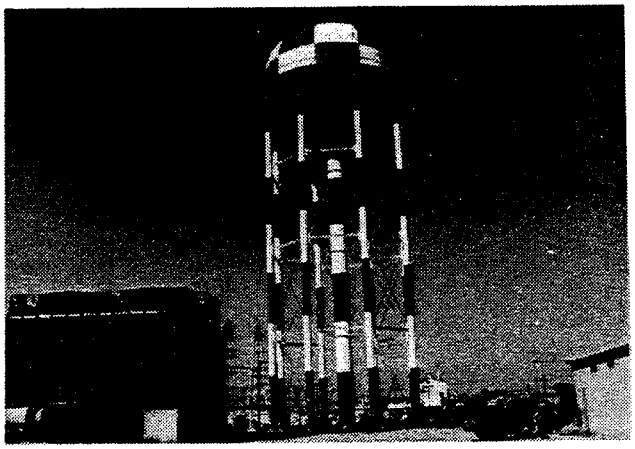
BUILDING NO. 549: Cooling Tower.
(East Side)
Date of Photograph: 31 August 1982

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the
Shell Oil Company Leasehold Area
at
US Army Rocky Mountain Arsenal
Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

FACILITY NO. 551
Elevated Water Tank - NP



FACILITY NO. 551

ELEVATED WATER TANK - NP

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84440

.60 Size of Building/Facility:

5000,000 gallons (150' high)

.70 Year Built:

1957

.80 Original Plans Prepared by:

Ken R. White, Architect-Engineer

Denver, Colorado

and

Pittsburgh - Des Moines Steel Company

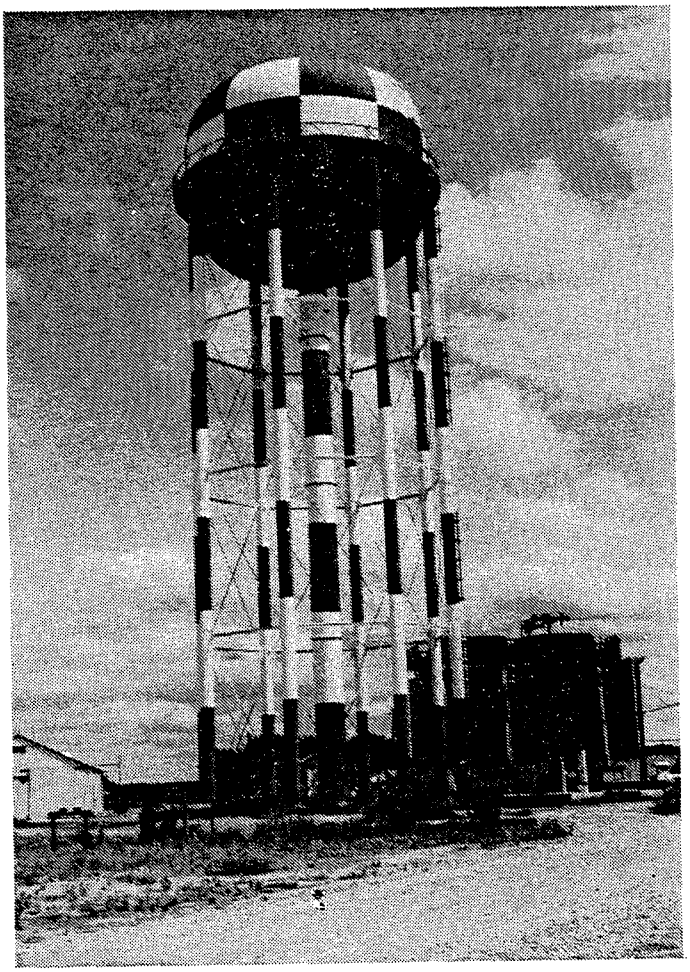
FACILITY NO. 551

ELEVATED WATER TANK - NP

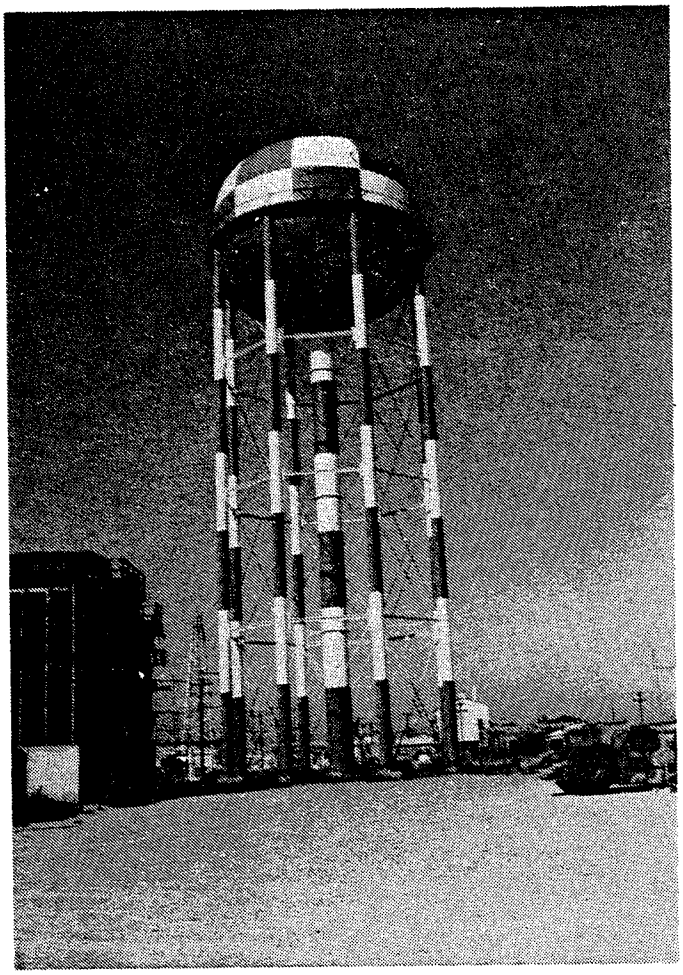
2.00 DESCRIPTION OF BUILDING/FACILITY. Cooled water from the cooling tower (#549) is stored in this tank. It is 150' high (Above the ground) and is of all steel construction, capacity 500,000 gallons. The supporting piers and footings are reinforced concrete. There are no fire protection facilities. The tank is supplied with steam heating coils. It was repainted in August 1976.

3.00 PRESENT CONDITION. Facility No. 551 is in good (G) condition. The estimated remaining useful life of the tank from August 1982, with minimum maintenance and no change in use, is 20 years.

4.00 RECORD OF INSTALLED EQUIPMENT. There is no installed equipment.



BUILDING NO. 551: Elevated Water Tower
Date of Photograph: 31 August 1982



BUILDING NO. 551: Elevated Water
Storage (Looking West)
Date of Photograph: 10 September 1982

Property Inventory and Condition Survey
for the

Group IV Utility Systems Property
and
Group II Chemical Plant Property
within the

Shell Oil Company Leasehold Area

at

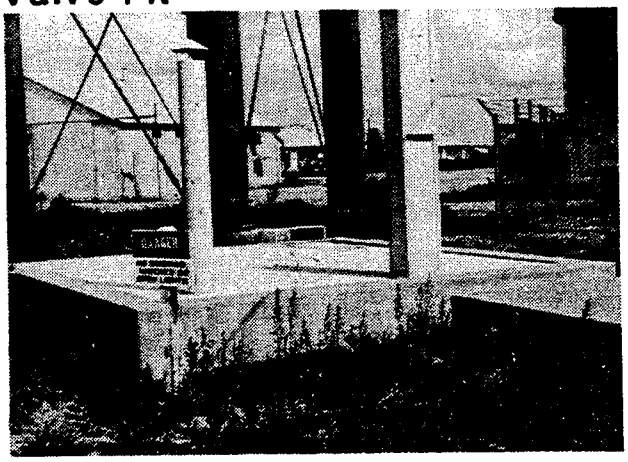
US Army Rocky Mountain Arsenal

Commerce City, CO

prepared by
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

FACILITY NO. 552
Valve Pit



FACILITY NO. 552

VALVE PIT

1.00 GENERAL

.10 Date of Property Inventory and Building Condition Survey:

31 August 1982

.20 Survey Personnel:

Albert W. Wilmarth, Harland Bartholomew & Associates, Inc.

Kenneth C. Owings, Harland Bartholomew & Associates, Inc.

.30 Technical Assistance:

Roger Reed, Shell Oil Co.

.40 Photography:

Gary R. Smith, Harland Bartholomew & Associates, Inc.

.50 Category Code (AR415-28):

84390

.60 Size of Building/Facility:

17'-0" x 14'-0"

.70 Year Built:

1956

.80 Original Plans Prepared By:

Ken R. White, Architect-Engineer

Denver, Colorado

2.00 DESCRIPTION OF BUILDING/FACILITY. Facility No. 552 contains valves and appurtenances used in handling water flows to the various process water facilities - #548, 549 and 551. The facility is 17' x 14' x 7' high. Reinforced concrete floor and walls support a steel plate "roof" attached to steel I-beams. No fire protection facilities are

provided. The steam heating system for the elevated tank (#551) is also located in this pit. The only other utility is electricity. Condensation from the steam heating system has resulted in considerable corrosion on valves, pipe and ceiling. As a result the general condition of the structure is deteriorating.

3.00 PRESENT CONDITION. Facility 552 is in fair (F) condition. The estimated remaining useful life of this facility from August 1982, with minimum maintenance and no change in use, is 10 years.

.10 Exterior: Facility 552

Foundation: Reinforced concrete (G).

Roofing: Steel plate (G).

Support: Steel I-beams (G).

.20 Interior: Facility 552

Floor: Reinforced Concrete (G).

Walls: Reinforced Concrete (G).

METER VAULT (MANHOLE)

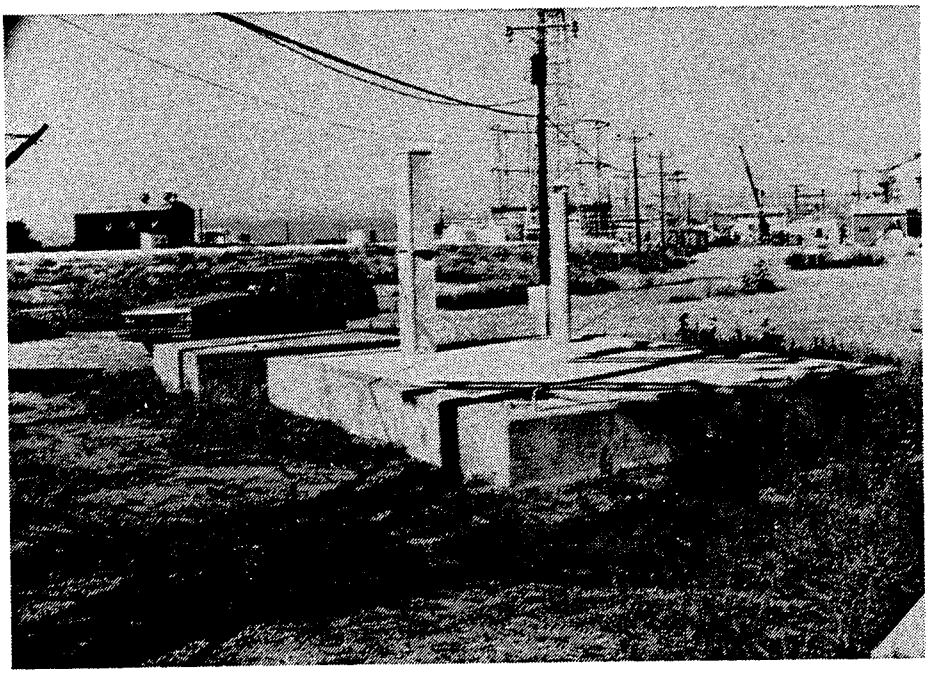
Reinforced Concrete walls and floor (G).

FACILITY NO. 552

VALVE PIT

4.00 RECORD OF INSTALLED EQUIPMENT.

Quantity	Article, Type and Model	Size	Manufacturer	Previous Condition Code	Current Condition Code	Remarks
3	Gate Valves	16"	N/A	G	(0-2)	
1	Check Valve	16"	N/A	G	(0-2)	
2	Gate Valves	8"	N/A	G	(0-2)	
1	Gate Valve	3"	N/A	G	(0-2)	
1	Altitude Valve	8"	N/A	G	(0-2)	
1	Steam Pressure Reducing Valve	2"	CLA/VAL Company	G	(0-2)	



BUILDING NO. 552: Valve Pit.
Exterior.

Property Inventory and Condition Survey
for the
Group IV Utility Systems Property
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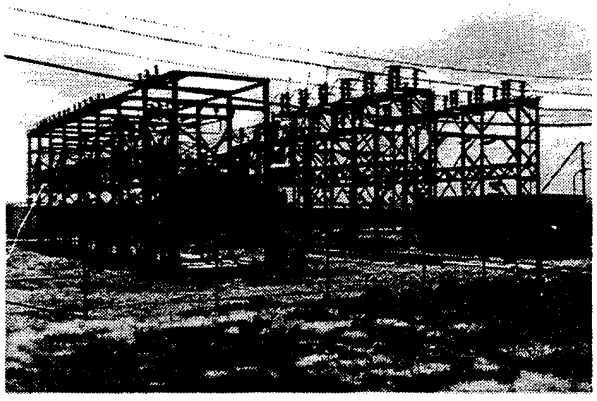
Harland Bartholomew & Associates, Inc.
St. Louis, MO
and
Gilbert/Commonwealth
Commonwealth Associates, Inc.

27 September 1982

UTILITY DISTRIBTION SYSTEMS



UTILITY DISTRIBUTION SYSTEMS

SHELL OIL COMPANY LEASEHOLD AREA

GENERAL

The following report presents a condition survey and inventory for all utilities located within the Shell Leasehold area. Generally, the Shell Leasehold is defined for purposes of this report as the area of Rocky Mountain Arsenal bounded by December 7th Avenue on the North, "E" street on the East, and the reservation boundaries on the South and West.

This report describes the condition and extent of the utility systems as inventoried from 23 August 1982 through 15 September 1982. The condition of underground utilities which could not be physically evaluated were obtained from utility personnel of Rocky Mountain Arsenal and Shell Oil Company.

Utilities which were interpreted to be part of the Shell Leasehold agreement include electrical distribution, steam distribution, potable water distribution, process water supply and process water return systems, and compressed air distribution system. Other utilities located within the Shell Leasehold area that were inventoried include contaminated waste sewer, gas distribution, sanitary sewer and storm drainage systems. The contaminated waste sewer is considered to be appurtenant to Group I Property. The gas distribution system, sanitary sewer and storm drainage systems are considered to be appurtenant to Groups I, II, and IV Properties. Only the utilities and their appurtenances located within the South Plants area were inventoried, except as noted in the individual utility systems reports.

ELECTRICAL DISTRIBUTION SYSTEM

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

A property inventory and condition survey of the electrical distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by Kenneth C. Owings and Gary L. Buchheit of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Robert P. Brightenburg, Shell Oil Co.

Robert I. Haught, Rocky Mountain Arsenal

James L. Canzona, Shell Oil Co.

Thomas James, Rocky Mountain Arsenal

Power is supplied to the Rocky Mountain Arsenal by The Public Service Company of Colorado and is delivered to the Arsenal Primary Substation No. 361 at 110 KV. This substation is located at the west end of the South Plants Area. The primary substation contains two 20,000 KVA transformers rated for 110 KV/13.8 KV three phase. The transformers are equipped with a forced oil air blast cooling system. The substation has all support features including, steel structure, oil circuit breakers, busses, meters and control house. The 13.8 KV system consists of approximately 30 miles of overhead line which supplies overhead and pad mounted transformers to buildings and motors with the proper voltages. (See Table 1 for quantities and size.) There are approximately 362 wood poles in the Shell Leasehold Area. Approximately 300 of the poles are in fair (F) condition. The remainder of the poles are considered to be in poor (P) condition. Secondary service is supplied to the buildings with insulated conductors, installed either overhead or underground. (See Table 2 for quantities and size.) Street lighting is provided by pole mounted and building mounted fixtures. (See Table 3.) The Shell Chemical Company has installed an overhead contaminated waste system requiring lift stations. These lift stations have emergency power supplied by generators. These generators also

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

(Continued)

supply emergency lighting to designated areas. The transformers in the Shell Leasehold Area generally are in good condition. Several of the original units have been replaced and others have been added to serve new buildings. Table 4 and 5 (DA Form 661) includes an inventory of operating transformers in the Shell Leasehold area. Table 6 includes a record of transformers currently stored in the vicinity of Building No. 361 (Primary Substation). The electrical distribution systems generally are in good (G) condition except for deterioration of the insulation on approximately 30% of the original secondary drops to buildings. The area covered by this survey is generally bounded by December 7th Avenue on the north, Substation No. 361 on the west and Buildings 728 and 729 on the east.

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

(Continued)

TABLE 1

PRIMARY DISTRIBUTION SYSTEM

Size	Length (feet)
No. 8	18,800
No. 6	33,900
No. 4	21,900
No. 2	26,700
1/0	60,750

Note: All conductors and insulators are in good (G) condition.

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

(Continued)

TABLE 2

SECONDARY DISTRIBUTION SYSTEM

Insulated cable:

Size	Length (feet)
No. 8	630
No. 6	1,885
No. 4	4,450
No. 2	6,010
No. 1	3,320
1/0	160
2/0	7,285
3/0	7,570
4/0	12,000
300 mcm	3,900
350 mcm	15,165
500 mcm	16,350
750	120
1/4" x 4" copper bus	30

Conduit:

Size	Length (feet)
1-1/4" Rigid Galv.	270
3" " "	7,540
4" " "	930

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

(Continued)

TABLE 3

STREET LIGHTING

Type	Quantity
Bracket Type substation Fixtures	8 ea.
Pole mounted with Arm, "ID" Fixtures	51 ea.
Pole mounted with Arm, INCAD. Fixtures	52 ea.
Insulated Conductor (Poor Condition)	16,000 LF

Notes:

1. Approximately 95% of the street lighting fixtures are in good condition and are operational.

2. Table 3 does not include general area lighting.

ELECTRICAL DISTRIBUTION SYSTEM

SHELL OIL COMPANY LEASEHOLD AREA

TRANSFORMERS AND SUBSTATIONS

The following series of DA Form 661's note the transformers and substations found in the Shell Oil Company Leasehold area during the field surveys:

TABLE 4: RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

TABLE 5: RECORD OF EQUIPMENT ADDED

TABLE 6: RECORD OF TRANSFORMERS CURRENTLY STORED IN THE VICINITY OF BUILDING NO. 361 (Primary Substation)

TABLE 4

RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

TABLE 4

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1 of 7

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-474 Transformer #68 S/N 708802	150KVA	Moloney						0-3
2	SS-474 Transformer #69 S/N 708802	150KVA	Moloney						0-3
3	SS-474 Transformer #70 S/N 708804	150KVA	Moloney						0-3
4	SS-371 Transformer #26 S/N 708822	100KVA	Moloney						0-3
5	SS-371 Transformer #28 S/N 708824	100KVA	Moloney						0-3
6	SS-371 Transformer #29 S/N 708823	100KVA	Moloney						0-2
7	SS-371 Transformer #Y-107 S/N 953693	333KVA	Kuhlman						0-2
8	SS-371 Transformer #Y-108 S/N 953694	333KVA	Kuhlman						0-2
9	SS-371 Transformer #Y-109 S/N 953695	333KVA	Kuhlman						0-2
10	SS-747 Transformer # S/N 1890685	25KVA	Allis Chalmers						0-3
11	SS-548-A Transformer #42 S/N 708814	15KVA	Moloney						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

TABLE 4
CARD NO. 2 of 7

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION
BUILDING NO.
DESIGNATION AND LOCATION

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account)
RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-321 Transformer #7 S/N 28131	333KVA	Uptegraff						0-3
2	SS-321 Transformer #8 S/N 28132	333KVA	Uptegraff						0-3
3	SS-321 Transformer #9 S/N 28133	333KVA	Uptegraff						0-3
4	SS-232 Transformer #215 S/N 1809999	10KVA	Allis Chalmers						0-3
5	SS-232 Transformer #216 S/N 1810001	10KVA	Allis Chalmers						0-3
6	SS-232 Transformer #217 S/N 1810004	10KVA	Allis Chalmers						0-3
7	SS-311 Transformer #Y-81 S/N 953622	50KVA	Kuhlman						0-3
8	SS-535 Transformer #Y-240 S/N 1885064	200KVA	Allis Chalmers						0-3
9	SS-535 Transformer #Y-241 S/N 1885065	200KVA	Allis Chalmers						0-3
10	SS-535 Transformer #242 S/N 18850665	200KVA	Allis Chalmers						0-3
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 3 of 7

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-534 Transformer #61 S/N 1810879	37.5KVA	Allis Chalmers						0-3
2	SS-314 Transformer #233 S/N 6820354	37.5KVA	General Electric						0-3
3	SS-314 Transformer #234 S/N 6820355	37.5KVA	General Electric						0-3
4	SS-314 Transformer #235 S/N 6820353	37.5KVA	General Electric						0-3
5	SS-515 Transformer #117 S/N 1810858	75 KVA	Allis Chalmers						0-3
6									
7									
8									
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

Table 4

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 4 of 7

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION (If other than account)
RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-422 Transformer #15 S/N 7087849	37.5KVA	Maloney						0-3
2	SS-422 Transformer #16 S/N 708785	37.5KVA	Maloney						0-3
3	SS-422 Transformer #17 S/N 708787	37.5KVA	Maloney						0-3
4	SS-512 Transformer #72 S/N 954293	15 KVA	Kuhlman						0-3
5	SS-521 Transformer #264 S/N 962465	100 KVA	Kuhlman						0-3
6	SS-521 Transformer #265 S/N 962467	100 KVA	Kuhlman						0-3
7	SS-521 Transformer #266 S/N 962467	100 KVA	Kuhlman						0-3
8	SS-464 Transformer #272 S/N 38220	15 KVA	Uptegraff						0-3
9	SS-464 Transformer #273 S/N 38219	15 KVA	Uptegraff						0-3
10	SS-355 Transformer #355 S/N 1887567	37.5KVA	Allis Chalmers						0-3
11	SS-355 Transformer #253 S/N 1887568	37.5KVA	Allis Chalmers						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5 of 7

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-321 Transformer #290 S/N 8687913	333KVA	General Electric						0-3
2	SS-321 Transformer #291 S/N 8687914	333KVA	General Electric						0-3
3	SS-321 Transformer #292 S/N 8687915	333KVAA	General Electric						0-3
4	SS-385 Transformer # S/N B69661	25 KVA	Kuhlman						0-3
5	SS-385 Transformer # S/N 69665	25 KVA	Kuhlman						0-3
6	SS-385 Transformer # S/N 77411	25 KVA	Kuhlman						0-3
7	SS-386 Transformer # S/N B77411	25 KVA	Kuhlman						0-3
8	SS-386 Transformer # S/N C4144	25 KVA	Kuhlman						0-3
9	SS-386 Transformer # S/N C4145	25 KVA	Kuhlman						0-3
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

Table 4

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 6 of 7

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-315 Transformer #344 S/N 6111984	25 KVA	Westinghouse						0-3
2	SS-315 Transformer #345 S/N 6111982	25 KVA	Westinghouse						0-3
3	SS-315 Transformer #346 S/N 6111983	25 KVA	Westinghouse						0-3
4	SS-315 Transformer #322 S/N B780396	37.5KVA	General Electric						0-3
5	SS-432 (moved from SS-335) Transformer #317 S/N 2514036	15 KVA	Allis Chalmers						0-3
6									
7									
8									
9									
10									
11									

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RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 7 of 7

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Location - Bldg #325 Current Transformers #24-25-26-27-28-29		Westinghouse				6		0-2
2	Type OPC - Primary Current 250/500 A Secondary Current 5/5A								
3	Location - Bldg #325 Current Transformers #13-14		Westinghouse				2		0-2
4	Type FB-50VA Primary Current - 1500A Secondary Current 5A								
5	Location Bldg. #474 Current Transformers #34-35		Allis Chalmers				2		0-2
6	Type CV Primary 5/10 Amp Secondary 5 Amp								
7	Location Bldg. 245 Current Transformers #32-33		General Electric				2		0-2
8	Type JLF-5 Primary Current - 2000A Secondary Current - 5 A								
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

TABLE 5

RECORD OF EQUIPMENT ADDED

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT ADDED

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-245 Transformer #218 S/N 1820742	75 KVA	Allis Chalmers				1		0-3
2	SS-245 Transformer #219 S/N 1820743	75 KVA	Allis Chalmers				1		0-3
3	SS-245 Transformer #220 S/N 1820743	75 KVA	Allis Chalmers				1		0-3
4	SS-347 Transformer #394 S/N L96443YGMA	25 KVA	General Electric				1		0-3
5	SS-347 Transformer #395 S/N L964433YGMA	25 KVA	General Electric				1		0-3
6	SS-347 Transformer #396 S/N L963586YEMA	25 KVA	General Electric				1		0-3
7	SS-325 Switch Yard Transformer #82 S/N 672212	3 KVA	Kuhlman				1		0-3
8	SS-325 Includes the following P.T.H. #7, #8, #9 - Potential Transformers CT #24, #25, #26 - Current Transformers						3 3		0-2 0-2
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 55.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 2 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION (If other than account): RECORD OF EQUIPMENT ADDED

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-325 Continued Pt 11 O.C.B. #1453A, #1451A, #1452A, #2862A - Oil Circuit Breakers						4		0-3
2	SS-327 Transformer #391 S/N L828826YOLA	15 KVA					1		0-3
3	SS-327 Transformer #392 S/N L961618YFMA	15 KVA					1		0-3
4	SS-327 Transformer #393 S/N L962487YFMA	15 KVA					1		0-3
5	SS-243 Transformer #330 S/N B6401	10 KVA	Kuhlman				1		0-3
6	SS-575 Transformer # S/N 79573	1000 KVA	Allis Chalmers				1		0-2
7	SS-575-A Transformer #400 S/N	25 KVA					1		0-2
8	SS-571 Transformer #616 S/NL476852PGLA	333 KVA	General Electric				1		0-3
9	SS-571 Transformer #617 S/N L47610 PFLA	333 KVA	General Electric				1		0-3
10	SS-571 Transformer #618 S/N L476103PFLA	333 KVA	General Electric				1		0-3
11	SS-781 Transformer #320 S/N 2549093	3 KVA	Allis Chalmers				1		0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

Table

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 3 of 8

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account)
RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-387 Transformer #331 S/N	25 KVA	Kuhlman						0-3
2	SS-387 Transformer #332 S/N	25 KVA	Kuhlman						0-3
3	SS-387 Transformer #333 S/N	25 KVA	Kuhlman						0-3
4									
5									
6									
7									
8									
9									
10									
11									

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RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 4 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account)

RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-531 Transformer #365 S/N	25 KVA							0-3
2	SS-515 Transformer #249 S/N	150 KVA							0-3
3	SS-515 Transformer #250 S/N	150 KVA							0-3
4	SS-515 Transformer #251 S/N	150 KVA							0-3
5	SS-515 Transformer #375 S/N	250 KVA							0-3
6	SS-515 Transformer #376 S/N	250 KVA							0-3
7	SS-515 Transformer #377 S/N	250 KVA							0-3
8	SS- Transformer #398 S/N	25 KVA							0-3
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	~~SS-462~~ Transformer #348 S/N 5990039	10 KVA	Westinghouse						0-3
2	~~SS-462~~ Transformer #349 S/N 5990040	10 KVA	Westinghouse						0-3
3	~~SS-461~~ Transformer #53 S/N 708793	50 KVA	Moloney						0-3
4	~~SS-461~~ Transformer #54 S/N 708795	50 KVA	Moloney						0-3
5	~~SS-510~~ Transformer #77 S/N	25 KVA							0-3
6	~~SS-510~~ Transformer #78 S/N	25 KVA							0-3
7	~~SS-510~~ Transformer #79 S/N	25 KVA							0-3
8	~~SS-512~~ Transformer #73 S/N 708786	25 KVA	Kuhlman						
9	~~SS-512~~ Transformer #74 S/N 708783	15 KVA	Kuhlman						0-3
10	~~SS-514~~ Transformer #75 S/N 708800	150 KVA	Moloney						0-3
11	~~SS-514~~ Transformer #76 S/N 708803	150 KVA	Moloney						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

Table 5

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 6 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-514 Transformer #77 S/N 708801	150 KVA	Moloney						0-3
2	SS-517-A Transformer # S/N	75 KVA							0-3
3	SS-517-A Transformer # S/N	75 KVA							0-3
4	SS-517-A Transformer # S/N	75 KVA							0-3
5	SS-516 Transformer #211 S/N	75 KVA	Allis Chalmers						0-3
6	SS-516 Transformer #212 S/N	75 KVA	Allis Chalmers						0-3
7	SS-516 Transformer #213 S/N	75 KVA	Allis Chalmers						0-3
8	SS-517 Transformer #386 S/N	50 KVA							
9	SS-517 Transformer #387 S/N	50 KVA							0-3
10	SS-517-B Transformer # S/N	25 KVA							0-3
11	SS-517-B Transformer # S/N	25 KVA							0-3

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RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 7 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION (If other than account)

RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-517-B Transformer # S/N	25 KVA							0-3
2	SS-525-A Transformer # S/N								0-3
3	SS-330 Transformer # S/N								0-3
4	SS- Transformer # S/N 78055	3 KVA							0-3
5	SS Transformer # S/N								0-3
6	SS-548 Transformer #338 S/N	750 KVA							0-3
7	SS-355 Transformer #254 S/N 1887571	37.5 KVA	Allis Chalmers						0-3
8									
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 8 of 8

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): RECORD OF EQUIPMENT STILL IN PLACE FROM PREVIOUS CONDITION SURVEYS

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	SS-432 Transformer #317 S/N 2514036	15 KVA	Allis Chalmers						0-3 (moved from SS 335)
2	SS-474 Transformer #255 S/N 962373	25 KVA	Kuhlman						0-3 (moved from 531)
3	SS-474 Transformer #52 S/N 953782	25 KVA	Kuhlman						0-3 (moved 531)
4	SS-474 Transformer #257 S/N 962371	25 KVA	Kuhlman						0-3 (moved from 531)
5	SS-381 Transformer # S/N	50 KVA							0-3
6	SS- Transformer # S/N	25 KVA	Allis Chalmers						0-3
7									
8									
9									
10									
11									

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

TABLE 6

RECORD OF TRANSFORMERS

CURRENTLY STORED IN THE VICINITY OF BUILDING NO. 361

Table 6

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Transformer #21 S/N 0609008258	200 KVA							0-3
2	Transformer #20	200 KVA							0-3
3	Transformer #19	200 KVA							0-3
4	Transformer #Y-67 S/N 708816	15 KVA	Moloney						0-3
5	Transformer # Y-58 S/N 708789	50 KVA	Moloney						0-3
6	Transformer #323 S/N 3780398	37.5 KVA	General Electric						0-3
7	Transformer #161 S/N 953671	75 KVA							0-3
8	Transformer #185 S/N 953630	15 KVA							0-3
9	Transformer #176 S/N	10 KVA							0-3
10	Transformer #14 S/N 209854 - No Good	15 KVA	General Electric						0-3
11	Transformer #13 S/N	15 KVA	General Electric						0-3

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DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 2 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	S/N 6861740	250 KVA	Westinghouse						0-3
2	Transformer #Y-59 S/N 0609008359	50 KVA	Moloney						0-3
3	Transformer #Y-49 S/N 708798	75 KVA	Moloney						0-3
4	Transformer #Y-51 S/N 708797	75 KVA	Moloney						0-3
5	S/N 708791	50 KVA	Moloney						0-3
6	Transformer #Y-50 S/N 708791	75 KVA	Moloney						0-3
7	Transformer #311								0-3
8	Transformer #110 S/N 2962635	37.5 KVA	Westinghouse						0-3
9	Transformer #111 S/N 2962633	37.5 KVA	Westinghouse						0-3
10	Transformer #112 S/N 2962636	37.5 KVA	Westinghouse						0-3
11	Transformer #241 S/N E85784624	50 KVA	General Electric						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

Table 6

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 3 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING NO.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Transformer # S/N 2831977	25 KVA	Westinghouse						0-3
2	Transformer #23 S/N 2833938	25 KVA	Westinghouse						0-3
3	Transformer #131 S/N 1821636	37.5 KVA	Allis Chalmers						0-3
4	Transformer #175 S/N 2834792	15 KVA	Westinghouse						0-3
5	Transformer #50 S/N 1821590	50 KVA	Allis Chalmers						0-3
6	Transformer #86 S/N	7.5 KVA							0-3
7	Transformer #122 S/N 1850570	15 KVA	Allis Chalmers						0-3
8	Transformer #132 S/N 1768491	3 KVA	Allis Chalmers						0-3
9	Transformer #105 S/N 1728215	3 KVA	Allis Chalmers						0-3
10	Transformer #3 S/N 5941925	15 KVA	Westinghouse						0-3
11	Transformer # S/N 1811627	10 KVA	Allis Chalmers						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 4 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No.:

DESIGNATION AND LOCATION:

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Transformer #64 S/N 28130	50 KVA	Uptegraffuse						0-3
2	Transformer #270 S/N No Good	3 KVA	Allis Chalmers						R-4
3	Transformer #Y-153 S/N	10 KVA	Allis Chalmers						0-3
4	Transformer PT 10 S/N 1785110	3 KVA	Allis Chalmers						0-3
5	Transformer #281 S/N 1241597	15 KVA	Moloney						0-3
6	Transformer #223 S/N 1820864	10 KVA	Allis Chalmers						0-3
7	Transformer #222 S/N 1820686 No Good	10 KVA	Allis Chalmers						R-4
8	Transformer #221 S/N 1820636 No Good	10 KVA	Allis Chalmers						R-4
9	Transformer #62 S/N 708813	15 KVA	Moloney						0-3
10	Transformer #186 S/N 1821633	15 KVA	Allis Chalmers						0-3
11	Transformer #318 S/N 2514-43	15 KVA	Allis Chalmers						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Transformer #89 S/N H53889	167 KVA	General Electric						0-3
2	Transformer #71 S/N 53889267K	167 KVA	General Electric						0-3
3	Transformer #401 S/N MS8893511PA	167 KVA	General Electric						0-3
4	Transformer # S/N 24032	52 KVA	NWL Transformer Reactor						0-3
5	Transformer # S/N L985010YHMA	50 KVA	General Electric						N-1
6	Transformer # S/N 65M7552	15 KVA	Westinghouse						N-1
7	Transformer # S/N 76V8324	25 KVA	Van Tran						N-1
8	Transformer #259 S/N 962374	25 KVA	Kuhlman						0-3
9	Transformer #231 S/N 70009	15 KVA	Moloney						0-3
10	Transformer # S/N 1247682	37.5 KVA	Maloney						0-3
11	Transformer # S/N 645114	50 KVA	General Electric						0-3

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

Table 6

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 6 of 6

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY SHELL OIL COMPANY LEASEHOLD

BUILDING IDENTIFICATION SECTION

BUILDING No.

DESIGNATION AND LOCATION

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

STATION (If other than account): Record of Transformers currently stored in the vicinity of Building No. 361

ITEM AND DESCRIPTION				INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	Transformer #Y-230 S/N 951829	15 KVA	Kuhlman						0-3
2	Transformer #232 S/N 951706	15 KVA	Kuhlman						0-3
3	Transformer # S/N 65M7253	15 KVA	Westinghouse						N-1
4									
5									
6									
7									
8									
9									
10									
11									

DA FORM 1 JUN 56 661 REPLACES EDITION OF 1 OCT 45.

STEAM DISTRIBUTION SYSTEM

STEAM DISTRIBUTION SYSTEM

A property inventory and conditional survey of the steam distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil, Co.

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

Steam can be generated in both the Power Plant Building No. 325 and the Boiler House Building No. 321. Presently all of the plant steam is being generated at the Power Plant.

The Boiler House generating equipment consists of four 100,000 pounds per hour steam boilers which generate steam for plant processes and space heating at 175 psig saturated. The boilers, manufactered by Combustion Engineering Company, were originally designed as pulverized coal-fire boilers. Natural gas and number six fuel oil burners were added to the boilers approximately ten years after the original installation. Boilers No. 1 and 2 have not been in operation since 1946. Boilers No. 3 and 4 are on stand-by and are not usually in operation. The controls for Boilers No. 1 and 2 have been used as spare parts for the other boilers over the years, and are considered inoperable. (Refer to the condition inventory report for Building 321 for a detailed account of the steam generation system condition).

The Power Plant generating equipment consists of two 115,000 pounds per hour steam boilers which was designed to supply steam for the turbine generator at 400 psig. Excess steam, however, is made available to the central distribution system for plant processes and space heating at 175 psig saturated steam after desuperheating. The boilers, manufactured by Babcox and Wilcox, were also originally designed as pulverized coal-fired boilers.

STEAM DISTRIBUTION SYSTEM

(Continued)

They were changed over for natural gas and number six fuel oil operation approximately ten years after the original installation. (Refer to the condition and inventory report for Building 325 for a detailed account of the steam generation system condition). Representatives of Shell Oil Company indicated that they maintain all of the steam generation facilities and the main steam header. Rocky Mountain Arsenal maintains steam line connections to their buildings.

The steam distribution inventory included the total steam system located within the South Plants area. Steam is distributed from Buildings 321 and 325 throughout the South Plants area by an overhead distribution system. A condensate return system parrallels a portion of the steam distribution system. Steam and condensate return piping systems consist of approximately 8.5 miles of 1 1/4 inch to 14 inch welded steel pipe wrapped with asbestos or other insulation material and covered with aluminum. There are several steam metering stations located along the distribution system which allow for control of the system.

The steam distribution system was originally installed during the early 1940's. Several additions have been made to the system since that time. A main steam line providing steam to the North Plants area was connected to the original steam system supplying the South Plants a few years after the South Plants began operation. In 1981, an energy conservation program indicated that the 8 inch steam line to the Denver Effluent Treatment area was economically inefficient. The 8 inch line was disconnected in place from the main steam line with a blind flange. A smaller diameter steam line was extended from an existing steam line located at Building 728 into the area.

Shell Oil Company has installed a system to treat the condensate if the conductance is too high or if the pH cannot be controlled. Pumps are installed throughout the system that can pump samples of condensate to Building 414 for monitoring and diversion to a cooling tower if treatment is required.

STEAM DISTRIBUTION SYSTEM

(Continued)

In general the steam pipes are in good condition. The entire system is shut down annually by the Shell Oil Company in order to inspect, and replace if necessary, all valves and gaskets. An NL90 Amine solution is continually added to the steam system in order to avoid corrosion of the pipe line. However, this chemical has a tendancy to condense before it can be distributed to the eastern section of the distribution system resulting in corrosion problems.

A majority of the condensate return piping has been replaced recently and is in excellent condition. A program was also initiated to repair all pipe insulation in the plants area which deteriorating. New insulation installed consists of fiberglass with an aluminum cover. The pipe insulation is generally in good condition. Insulation in a few isolated locations was found to be deteriorated. Most of the lines in these locations, however, are abandoned.

In general, the steam generation facilities are in good condition except as noted in the Condition Inventory report for Buildings 321 and 325.

POTABLE WATER DISTRIBUTION SYSTEM

POTABLE WATER DISTRIBUTION SYSTEM

A property inventory and conditional survey of the potable water distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

Potable water is supplied to Rocky Mountain Arsenal by the City of Denver. A 33 inch water main connected to a meter house located on the city water main carries water to a one-million gallon underground storage reservoir designated as Facility 372. Water from this reservoir provides all potable water for the Shell Leasehold area. All potable water is chlorinated at Building 372A prior to discharge into the storage reservoir. Water is pumped from the reservoir to the distribution system by three, 1 million gallon per day pumps located in the pump station (Building 371).

A majority of the potable water system inventory included the distribution system located within the South Plants area. The inventory also included Pump Station Building 371 and the water main leading from the pump station to the South Plants area. The potable water distribution system was installed throughout the South Plants area in the early 1940's. The potable water system consists of approximately 8.1 miles of 3/4 inch to 16 inch diameter steel pipe. Potable water supplies are used for domestic needs, a portion of the fire hydrants, and for use in various processes. All domestic water used for plant processes is isolated from the distribution by an air break system. There are 7 fire hydrants connected to the potable water system within the Shell Leasehold area. The system has adequate metering and valving facilities that allow for proper maintanence of the system. Representatives of Shell Oil Company indicated that they are responsible for maintenance of the potable water system located south of December 7th Avenue. The distribution systems are reportedly in poor condition. Leaking pipe sections are prevalent throughout the system. Water lines have been

(Continued)

repaired by plugging cracks, installing clamps around deteriorated pipe, and by installing a by-pass line around one pipe section. In the mid-1970's a plastic liner had to be installed in the water line leading from the pump house into the South Plants area.

In general the potable water distribution system is in poor condition. The water supply and pumping system is in good condition except as noted in the Condition Inventory Report for Facilities 371, 372 and 372A. Anticipated maintenance and repair costs associated with the water distribution system is outlined in VOLUME FIVE.

PROCESS WATER SUPPLY

AND DISTRIBUTION SYSTEM

PROCESS WATER SUPPLY AND DISTRIBUTION SYSTEM

A property inventory and conditional survey of the process water distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Ronnie J. Willenson, Shell Oil Co.

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

Process water for Rocky Mountain Arsenal is obtained from the South Platte River through a 70 mile Highline Canal which connects to a 5 mile intake canal located on the Arsenal. This intake canal, along with runoff from the Uvalou Canal, provides water for a two lake process water storage system. Water from the Highline Canal is obtained under irrigation water rights owned by the Government.

Surface runoff from the Highline Canal and the Uvalou Canal originally discharged into Upper Derby Lake. In 1981, a diversion box was installed along the Highline Canal in order to by-pass Upper Derby Lake. Uvalou Canal was also blocked by an earthen dike. Both canals presently discharge into Lower Derby Lake. An outlet structure from Lower Derby Lake, designated as Facility 369, discharges water from the lake into the Sand Creek Lateral. A diversion box located on Sand Creek Lateral, designated as Facility 374, diverts water to an open channel which flows into Ladora Lake.

Process water is pumped to the distribution system by a pump station located on the western side of Ladora Lake. This pump station, designated as Building 371, contains three 10 million gallon per day process water pumps. Three water well stations have been used in the past to augment the process water supply. These water wells, designated as Buildings 385, 386 and 387 are connected to a 14 inch main leading to Ladora Lake. The water wells have not been used in recent years. Process water is primarily used throughout the Shell Leasehold area for process dilution requirements.

PROCESS WATER SUPPLY AND DISTRIBUTION SYSTEM

(Continued)

It is also used to supply the water requirements for mechanical equipment cooling, process make-up water, and the building sprinkler systems.

A majority of the process water system inventory dealt with the distribution system within the South Plants area. The inventory also included the Highline Canal, Lower Derby Lake, Ladora Lake, Pump Station Facility 371 and the associated distribution system located to the west of the South Plants. The process water distribution system consists of approximately 11.8 miles of 4 inch to 36 inch steel and asbestos cement pipe. The system has adequate metering and valving facilities for proper control and maintenance. There are also approximately 75 fire hydrants that have been connected to the process water distribution system through the years. In the mid 1960's, fire protection sprinkler systems were installed in several buildings. There were approximately 26 post indicator valves added to the system during that time.

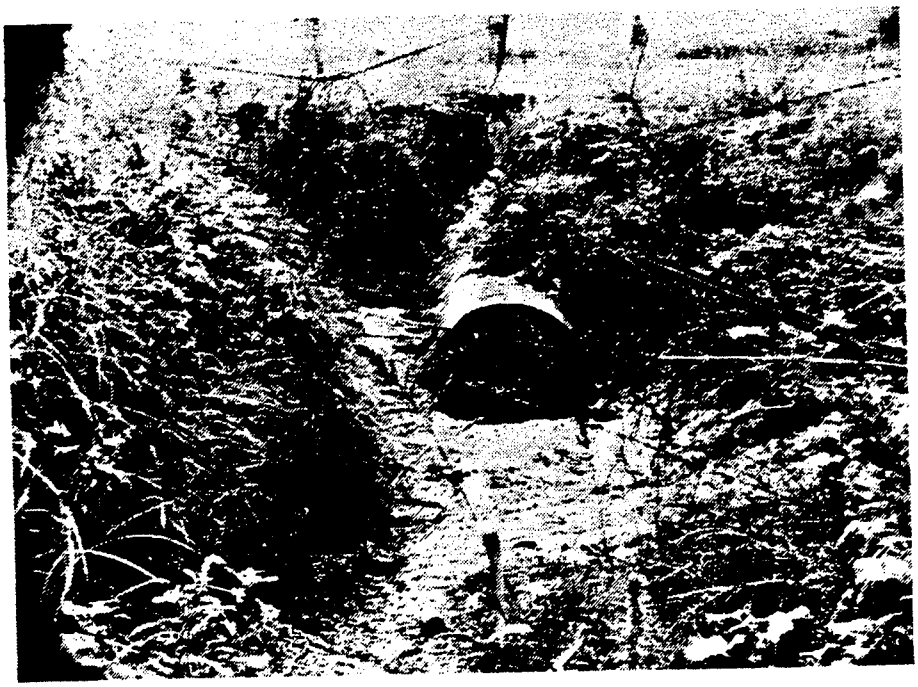
Shell Oil Company maintains the process water system south of December 7th Avenue. There have been several breaks in the process water mains in recent years. Pipes are heavily corroded in certain areas and have been repaired by plugging, welding or patching the lines. Fire hydrants are continually being repaired due to the deterioration of parts. Erosion control linings have been installed along the Highline Canal in order to decrease the amount of sediment that enters into the process water storage supply. An annual maintenance program has been followed to control trash and weed control in the open channels. In the past, a major dredging operation of Ladora Lake was undertaken in order to remove excess sediment accumulation. There is excessive vegetation growth along the banks of Lower Derby and Ladora Lakes. There is excessive vegetation growth along the banks of Lower Derby and Ladora Lakes. There have been attempts to control weed growths in the past, however, this practice has not been followed recently. Chemical additions have been added to Ladora Lake in order to control the pH in the system. Chlorination facilities are also present

PROCESS WATER SUPPLY AND DISTRIBUTION SYSTEM

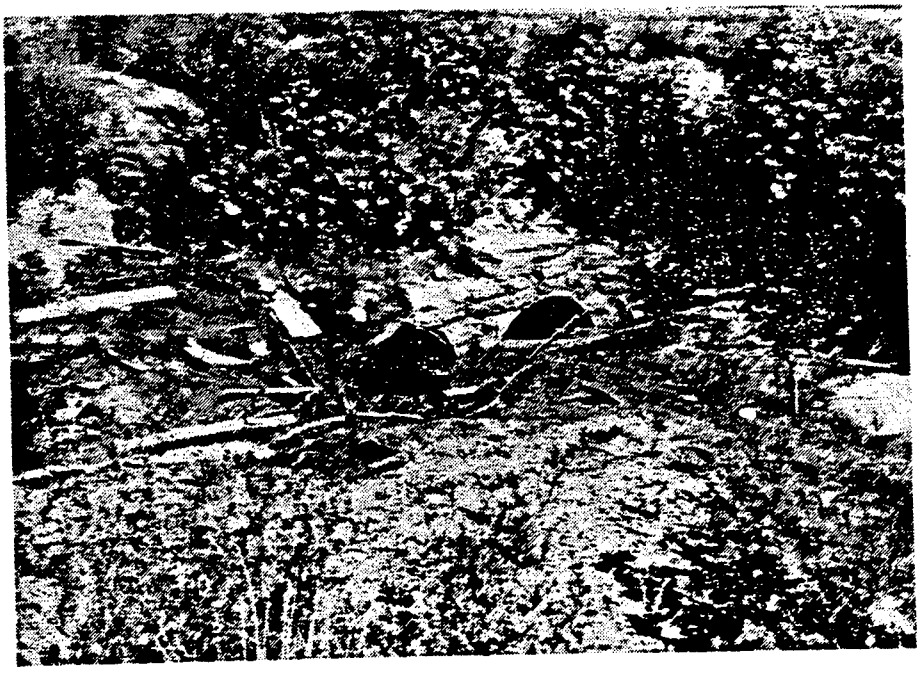
(Continued)

in the pump house for disenfection of the process water.

In general, the process water distribution system is in poor condition. The process water supply system is in good condition except as noted in the Condition Inventory Report for Facilities 371, 385, 386 and 387.

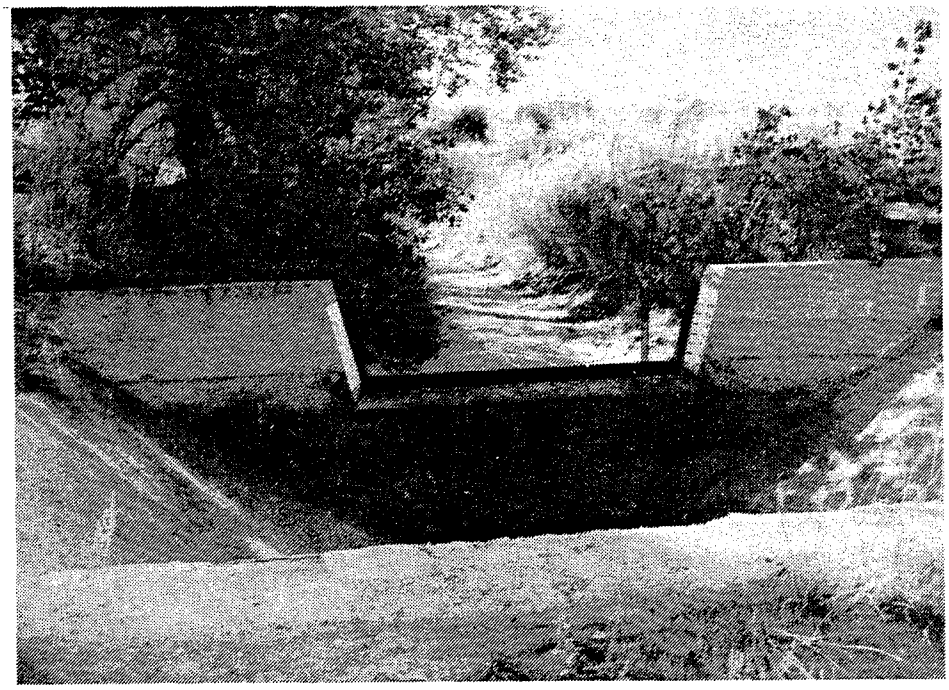


HIGHLINE CANAL: Entering Arsenal
Near South Boundary
Date of Photograph: 3 September 1982

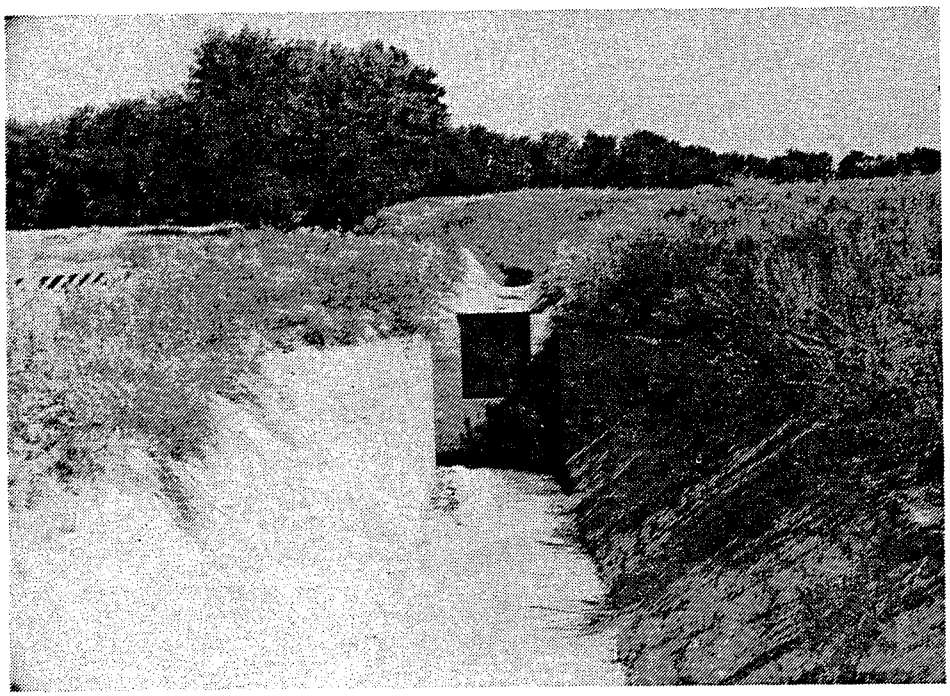


HIGHLINE CANAL: Outside the Arsenal
(Looking North)
Date of Photograph: 3 September 1982

HIGHLINE CANAL: Diversion Control Channel
Date of Photograph: 3 September 1982



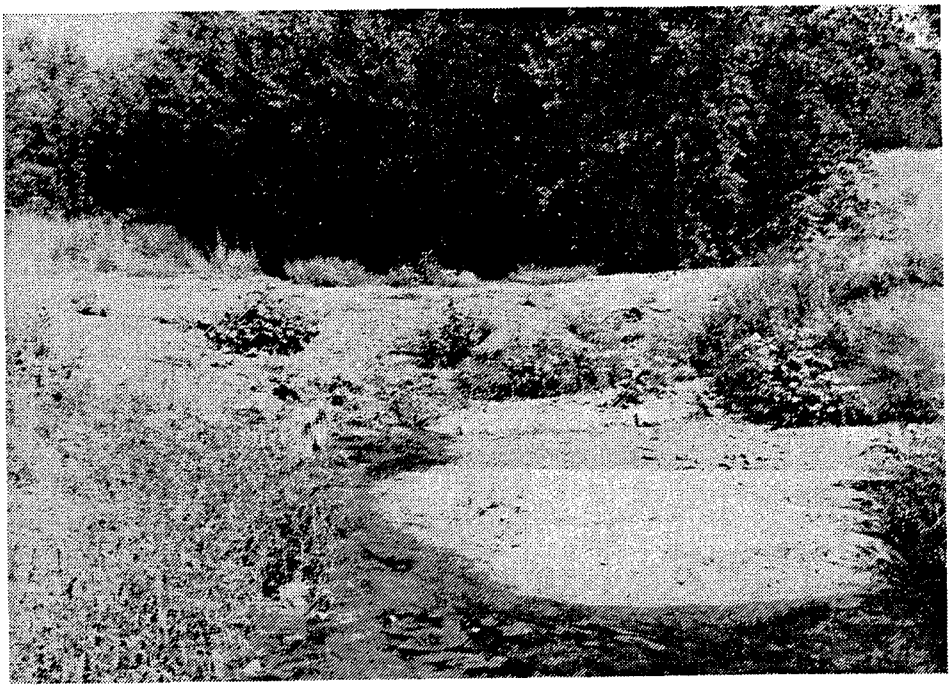
MEASURING STATION: South of 6th Avenue (Looking South)
Date of Photograph: 3 September 1982



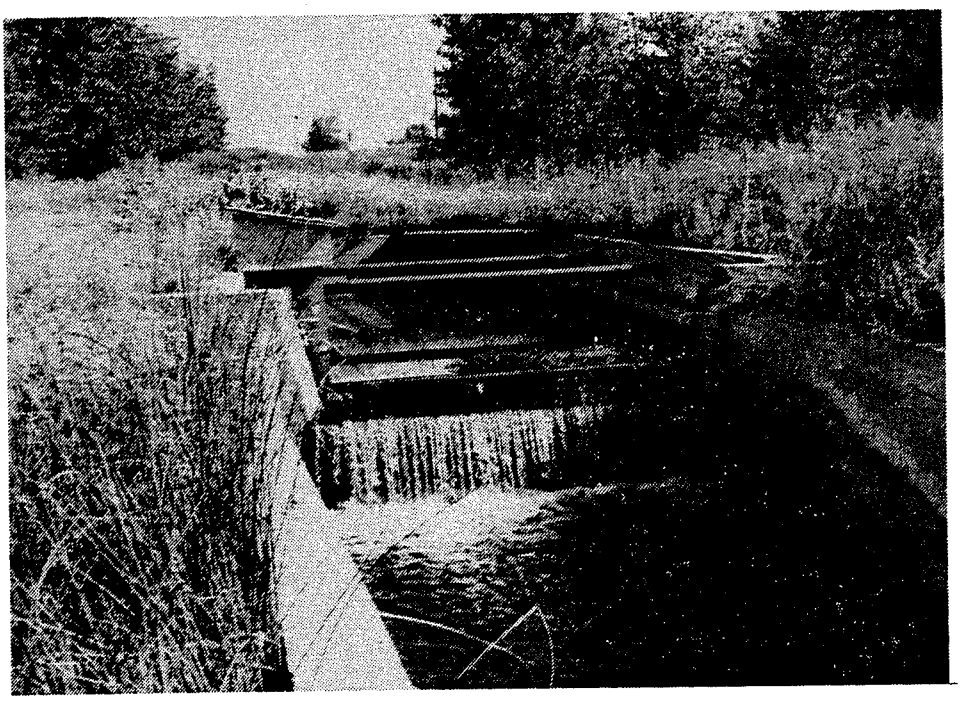
DIVERSION GATE STRUCTURE: North of
6th Avenue (Looking North)
Date of Photograph: 3 September 1982

DIVERSION DITCH TO LOWER DERBY
(Looking West)
Date of Photograph: 3 September 1982

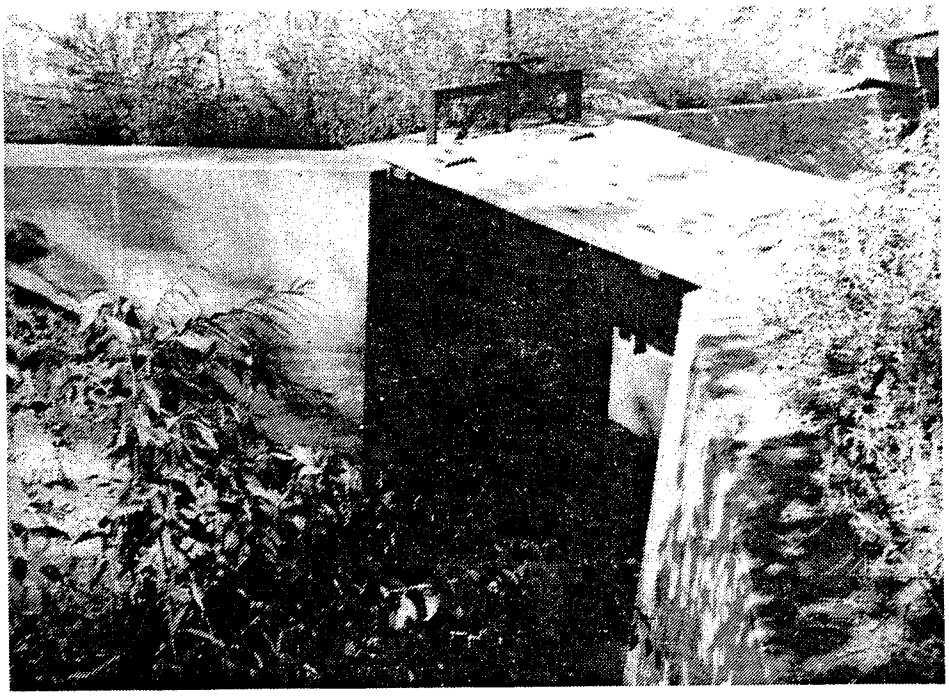
DIVERSION STRUCTURE FROM HIGHLINE
CANAL (Erosion) (Looking East)
Date of Photograph: 3 September 1982



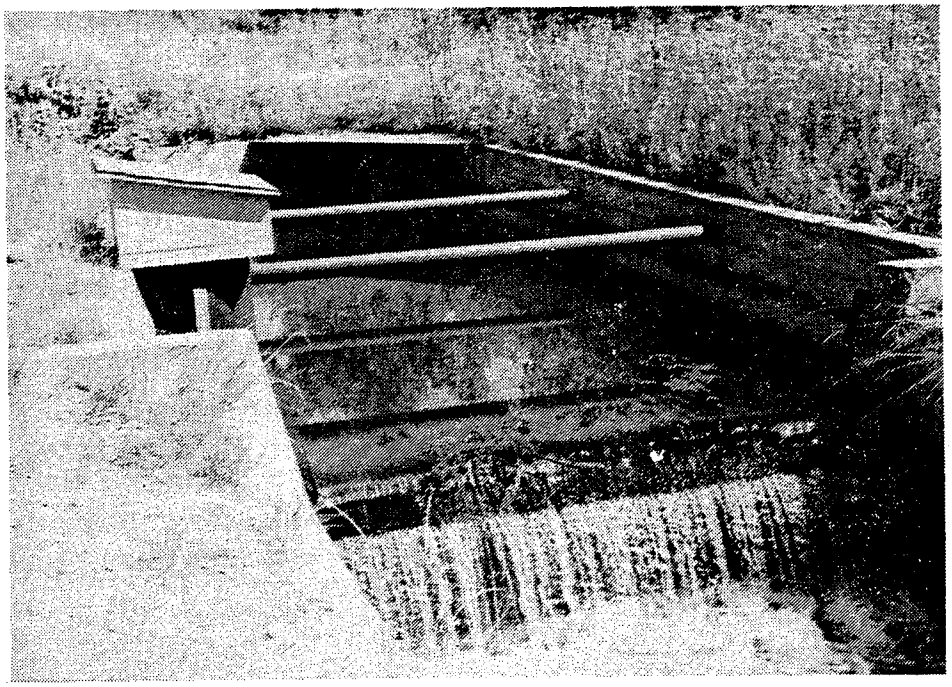
MONTBELLO CANAL: Block and
Diversion To Lower Derby Lake
Date of Photograph: 3 September 1982



DIVERSION CHANNEL FROM UPPER
DERBY OUTFALL TO LADORA LAKE
Date of Photograph: 3 September 1982

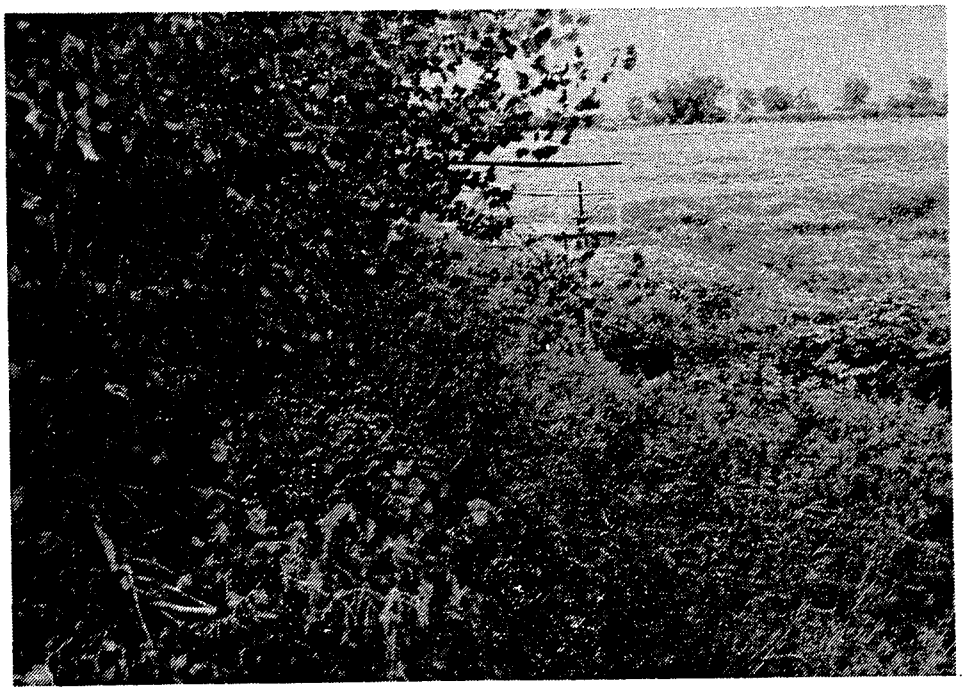


Diversion Box from Upper
Derby
Date of Photograph: 7 September 1982

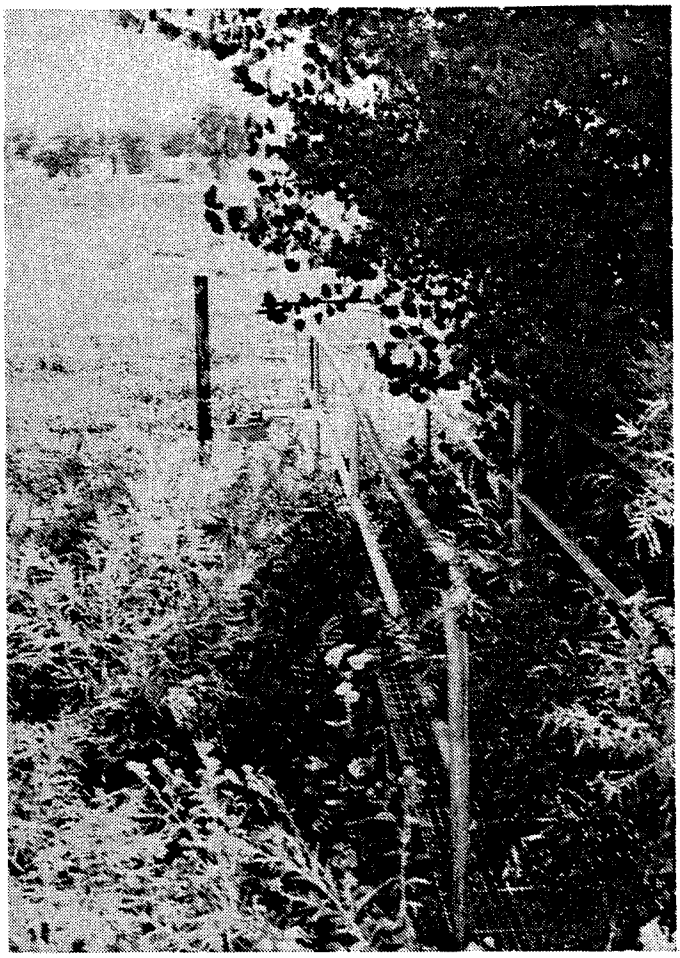


Diversion Channel from Upper
Derby Outfall to Ladora Lake
Date of Photograph: 7 September 1982

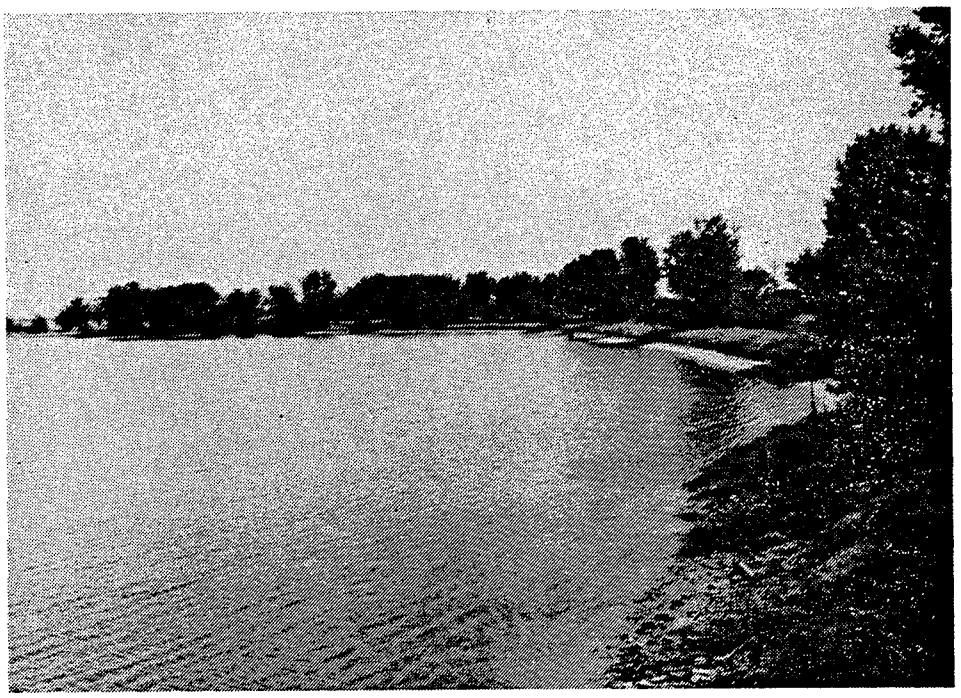
DIKE BETWEEN LOWER AND UPPER
DERBY LAKE: Looking North
Date of Photograph: 26 August 1982



UPPER DERBY LAKE: Sluice Gate
and Riprap
Date of Photograph: 26 August 1982

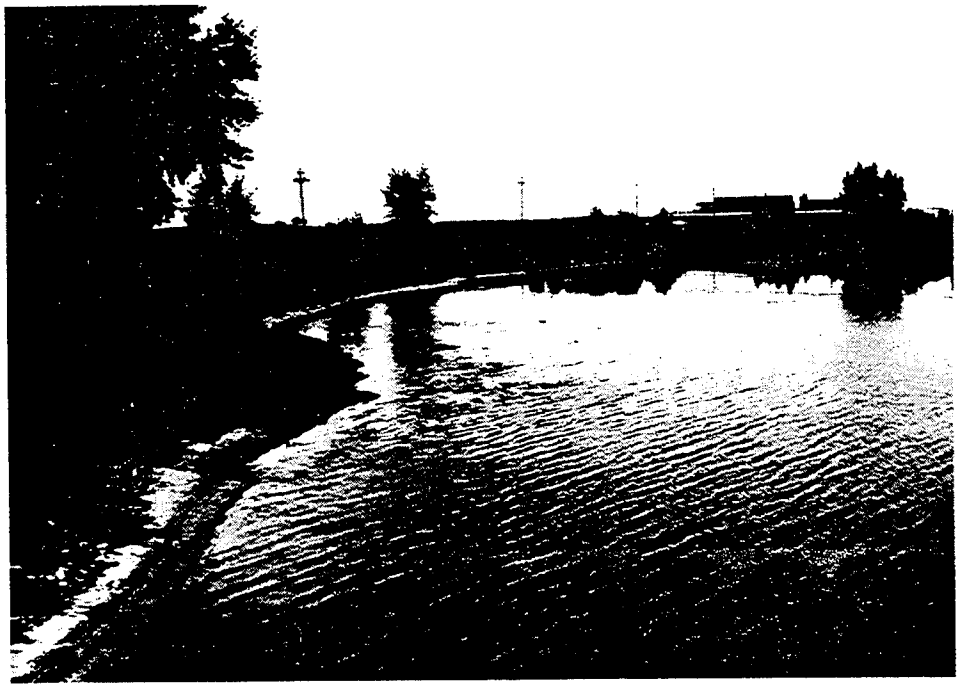


UPPER DERBY LAKE AND OUTFALL
STRUCTURE (Abandoned)
Date of Photograph: 3 September 1982



LOWER DERBY LAKE: Looking South
Date of Photograph: 26 August 1982

LOWER DERBY LAKE: Dike and Riprap.
(Looking South)
Date of Photograph: 26 August 1982

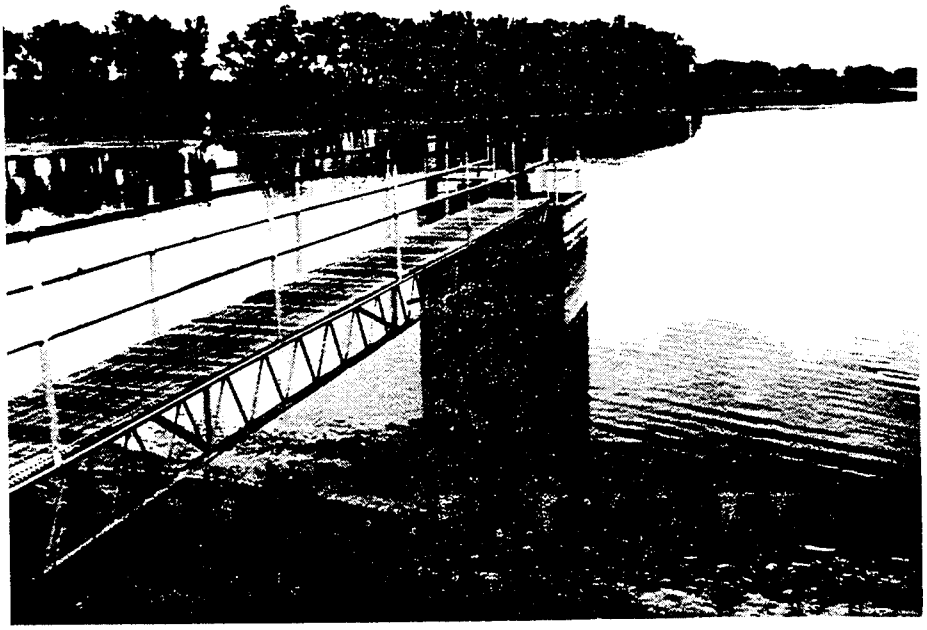


LOWER DERBY LAKE DIKE RIPRAP:
(Looking North)
Date of Photograph: 26 August 1982

LOWER DERBY LAKE: (Looking West)
Date of Photograph: 26 August 1982

LOWER DERBY LAKE: General View
(Looking East)
Date of Photograph: 26 August 1982

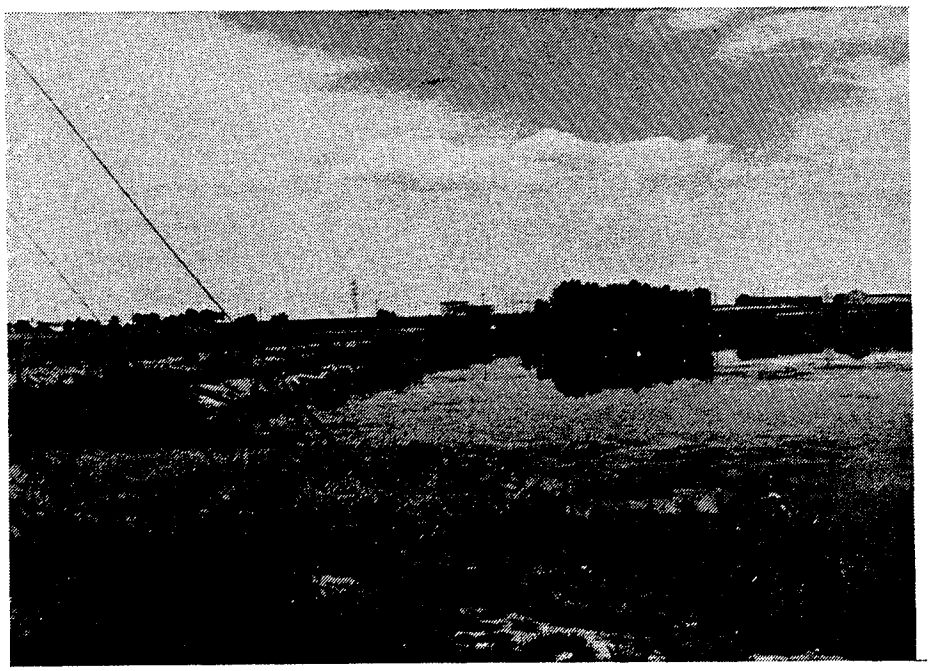
LOWER DERBY LAKE: General View
(Looking Southeast)
Date of Photograph: 26 August 1982



LOWER DERBY LAKE: Sluice Gate
Structure
Date of Photograph: 26 August 1982

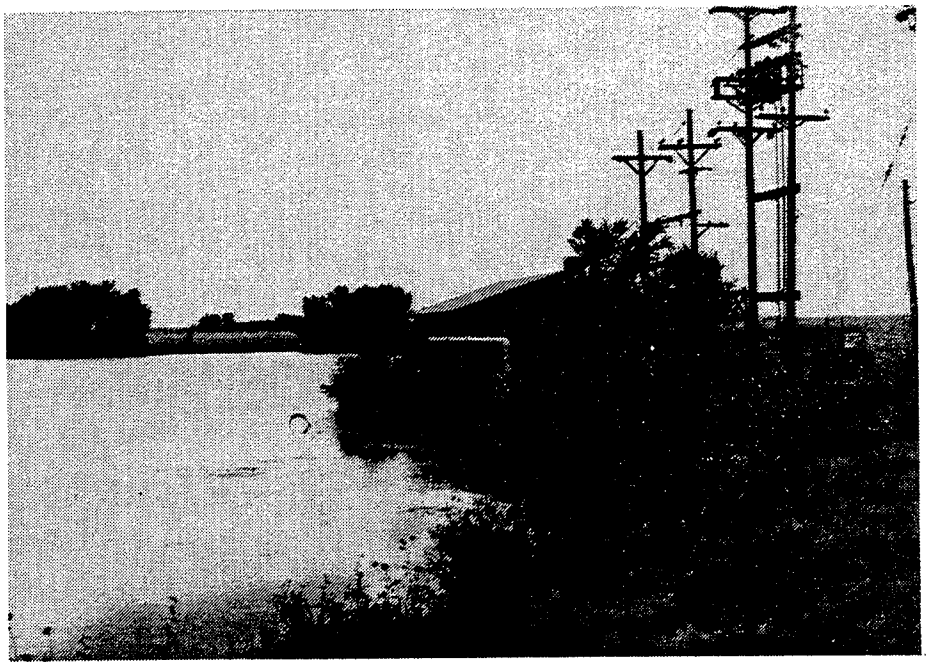
LOWER DERBY LAKE: Sluice Gate
Structure
Date of Photograph: 26 August 1982

LADORA LAKE DIKE AND RIPRAP:
Looking South at West Side
Date of Photograph: 26 August 1982



LADORA LAKE DIKE: Looking North
at West Side
Date of Photograph: 26 August 1982

LADORA LAKE DIKE: Looking South
From Building No. 371.
Date of Photograph: 26 August 1982



LADORA LAKE: Looking South
Date of Photograph: 26 August 1982

PROCESS WATER RETURN SYSTEM

PROCESS WATER RETURN SYSTEM

A property inventory and conditional survey of the process water return system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Ronnie J. Willenson, Shell Oil Co.

Garland D. Gunther, Rocky Mountain Arsenal

Two separate process water return systems exist within the Shell Leasehold area. A southwestern system consists primarily of return piping for cooling water and uncontaminated wash down water from the Power Plant and isolated condensate return lines. The main system consists of process return water from the remainder of the Shell Leasehold buildings. The process water return piping systems consist of approximately 1.9 miles of 6-inch to 42-inch reinforced concrete pipe.

Originally, both systems returned process water to Lower Derby Lake. In 1964 the main process water return system was converted into a closed system by Shell Oil Company. An outfall from this system flows into a lift station, designated as Facility 550. Two, 4,000 gallon per minute vertical turbine pumps mounted above the lift station, pump water to the wet well for the main pump house, designated as Facility 548. Three, 3,500 gallon per minute pumps located in the pump house, lift process water from the wet well into a cooling tower facility. The cooling tower, (Facility 549) consists of a two cell tower with a 7,000 gallon per minute capacity. A 500,000 gallon reinforced concrete reservoir is located beneath the cooling tower. Three additional 3,500 gallon per minute pumps located in the pump house process water from the reservoir back into the process water distribution system. These pumps also lift process water into a 500 thousand gallon elevated storage tank, designated as Facility 551. Return water from the southwestern system continues to flow back into Lower Derby Lake.

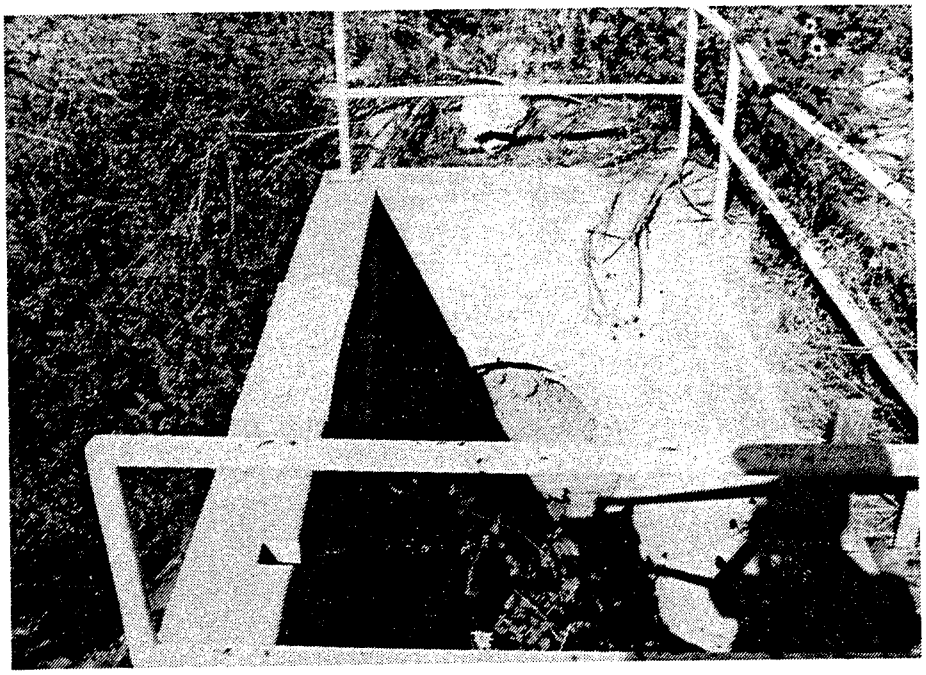
PROCESS WATER RETURN SYSTEM

(Continued)

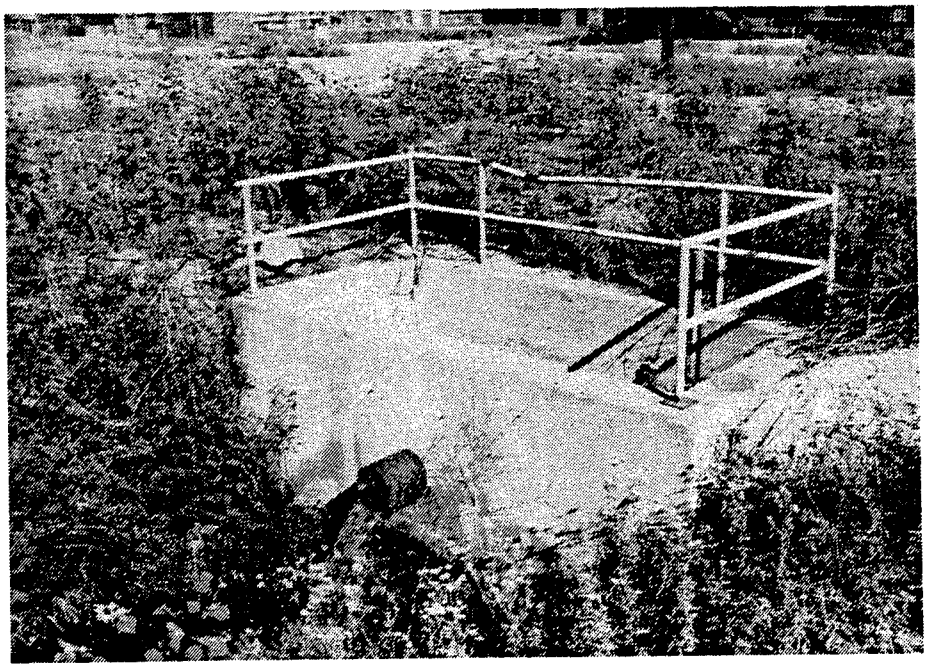
Representatives of Shell Oil Company indicated that they maintain the process water return sewer system. Inflow into the system is a problem during periods of heavy runoff. A large part of the southwestern system has been abandoned in place due to the excessive inflow rates. The 42-inch reinforced concrete sewer line, located east of Building 422, has been sliplined with a 12-inch plastic pipe to the outfall into a concrete catch basin and plugged at both ends.

In general the process water return system is in poor condition. The mechanical facilities associated with process return system are in good condition except as noted in the Condition Inventory Report for Facilities 548, 549, 550, and 551.

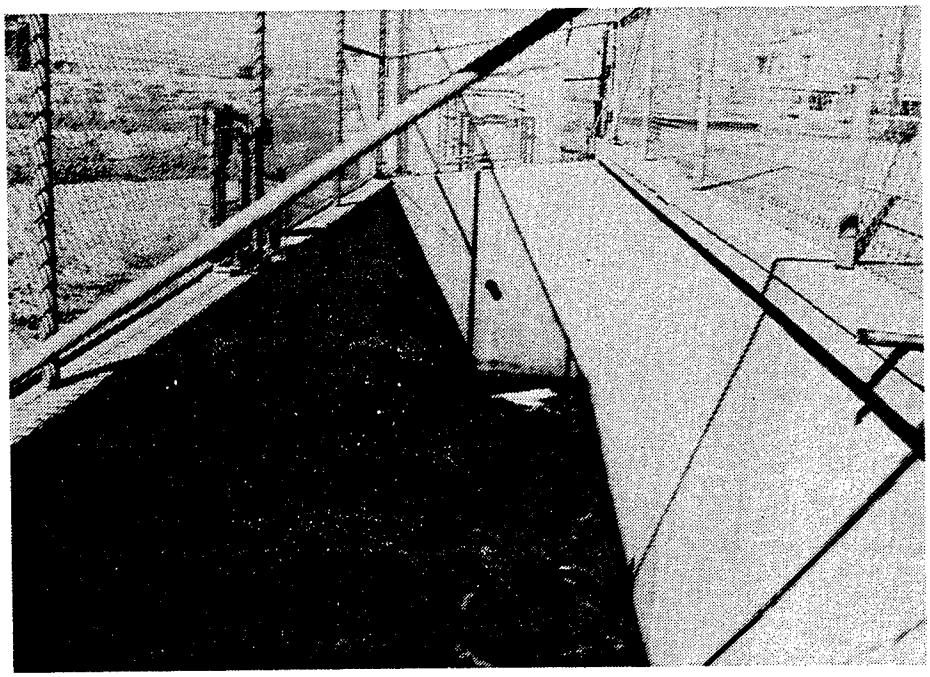
FACILITY NO. 550: Lift Station
(Near Building No. 548)
Date of Photograph: 14 September 1982



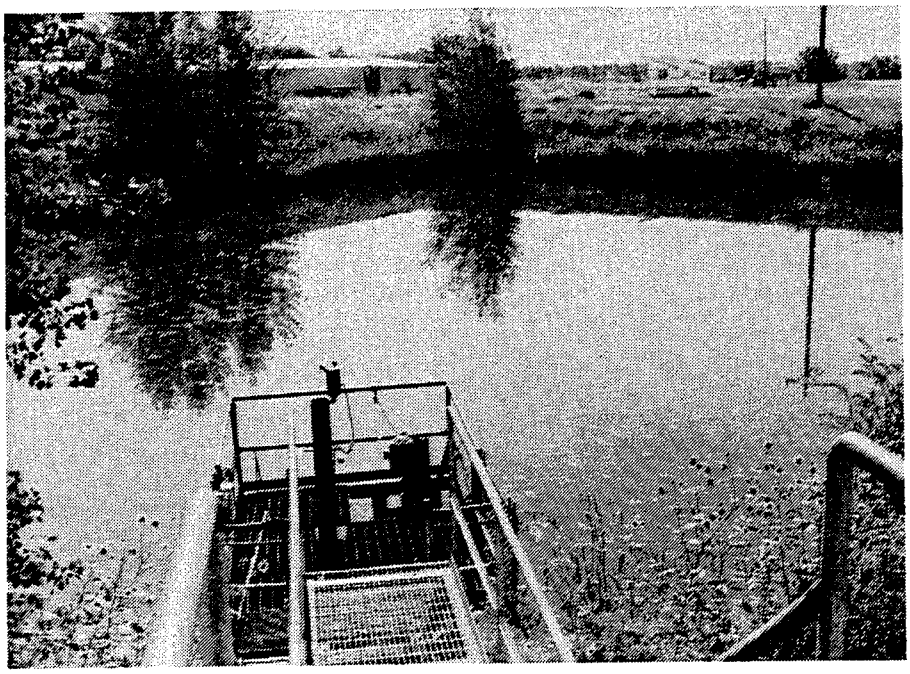
CONCRETE COLLECTING BOX: General
View (Near Building No. 548)
Date of Photograph: 31 August 1982



CONCRETE COLLECTING BOX: General View
(Near Building No. 548)
Date of Photograph: 31 August 1982



WET WELL: Adjacent to Pump Room
(Building No. 548)
Date of Photograph: 31 August 1982



EXCESS STORAGE POND: Near
Building No. 548 (Looking Southeast)
Date of Photograph: 3 September 1982

CONTAMINATED WASTE SEWER SYSTEM

CONTAMINATED WASTE SEWER SYSTEM

A property inventory and conditional survey of the contaminated waste sewer system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

The original contaminated waste sewer system was installed during the early 1940's in order to carry contaminated aqueous wastes to storage reservoirs. Waste streams entering into the sewer system have consisted of process wastes, such as spent caustic solutions, scrubber wash downs, floor drain discharges and miscellaneous chemical spill wash downs. Four contaminated sewer laterals extend north of December 7th Avenue from the Shell Leasehold area and discharge into the main sewer line leading to Lake F Reservoir. The contaminated waste inventory dealt with all contaminated waste sewer located within the South Plants area. Pipes in this system consist of approximately 4.6 miles of 6-inch through 12-inch vitrified clay pipe and 2-inch through 6-inch force mains. Approximately forty-four percent of the system is owned by Rocky Mountain Arsenal while fifty-six percent is leased by Shell Oil Company.

In 1975, the Denver Effluent Treatment Facility was installed to treat contaminated waste streams originating from Shell Oil Company operations. Waste streams from the operations were isolated in the two central contaminated sewer laterals leaving the Shell Leasehold area. These lines were blocked off and wet wells were constructed at Manhole 1-11 and at an unnumbered manhole located 600 feet due east from Manhole 1-11. Pump Stations 502 and 503 were constructed adjacent to the wet wells in order to pump contaminated wastes to the Denver Effluent Treatment Facility. During a period of time from 1975 to March 1978, effluent from the Denver Effluent Facility was discharged

to Lake F reservoir. After March 30, 1978, this practice was terminated. Final effluent from the treatment facilities is now hauled from the Rocky Mountain Arsenal by truck and disposed of at the Lowry Disposal Facility.

The underground contaminated sewer system located south of December 7th Avenue was abandoned in place during 1979 due to the poor condition of the sewer lines. Rocky Mountain Arsenal has ceased to use its westernmost sewer lateral and has filled the terminal manhole from the Shell Leasehold area with concrete. A separate force main system was installed in 1979 by Rocky Mountain Arsenal in order to handle the waste stream previously handled by their eastern contaminated sewer lateral. Pump stations located by Buildings 314 and 743 discharge into force mains which lead to a 170,000 gallon waste storage tank located to the south of Building 527. During 1981, Shell Oil Company constructed an elevated contaminated sewer system consisting of plastic pipe to replace the existing system. This system consists of approximately 3,490 feet of 2-inch to 6-inch stainless steel 316 L and FEB 386 Teflon lined pipe. There are 12 lift stations located by buildings which pump contaminated waste into the system. Shell Oil Company also excavated and removed the contaminated sewer system located to the north of December 7th Avenue in order to isolate Lake F from waste streams.

The abandoned contaminated sewer system is in poor condition. Recent television inspections have indicated that there is excessive inflow into the system. Removal of sewer lines located north of December 7th Avenue was necessary in order to control excessive flow into Lake F. Recent additions to the contaminated sewer system are in good condition. The contamination pump stations generally are in good condition. No conditional inventory has been made for the lift stations associated with the elevated contaminated wste sewer system.

Additional Comments - (8 November 1982 letter)

2. The equipment list provided by Mr. Dappen has been reviewed. Pages 152, 153, 153a, 153b, 161 and 171 have been revised to clarify the inventory, condition code and location of this equipment.

The relationship of the equipment to the buildings listed in the addendum is explained in the Process Water Return System Report, Volume III, page 233. The equipment located in Building 325 includes the following: Panel #1, four (4) recording receivers plus Remote Control buttons (Stop/Start). The Start/Stop buttons remotely controls motors located in the other builidngs. (See Volume II, Building 325, pages 61 (Items 3 to 11) and 62 (Items 1 to 3) for an inventory of the equipment located there.)

Building 371 provides water from Ladora Lake to the process system in the Shell Leasehold area. A further explanation of Building 371's relationship to the equipment list can be found in the Process Water Supply and Distribution System Report, Volume III, page 215.

COMPRESSED AIR DISTRIBUTION SYSTEM

COMPRESSED AIR DISTRIBUTION SYSTEM

A property inventory and conditional survey of the compressed air distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Two separate compressed air systems serve the South Plants Area. The main system provides compressed air to buildings requiring process air. A separate breathable air system also distributes air throughout the South Plants area for use in emergencies.

Compressed air is supplied to the distribution system from facilities located in Building 321. Process compressed air is supplied by a duplex double end rotary two stage air compressor driven by a 600 horsepower syncronous motor and a simplex compressor driven by a 300 horsepower motor. Each compressor has a capacity of 1,220 cubic feet per minute. Two standby reciprocating, two stage compressors, each with a capacity of 820 cubic feet per minute, are also available for emergency operation.

Breathable compressed air is supplied by three rotary vane type air compressors with a 70 cubic feet per minute capacity at 80 psig. The compressed air goes through a filtering process and is distributed at 60 psig. Three "V" type, reciprocating two stage Worthington compressors, each with a capacity of 65 cubic feet per minute, are also available for emergency operations.

The compressed air inventory included all compressed air and breathable air distribution throughout the South Plants Area. The compressed air distribution system consists of approximately 1.3 miles of 1-inch to 6-inch welded steel pipe. Compressed air valves are checked daily and the distribution system is well maintained. The compressed air system in general is in good condition.

COMPRESSED AIR DISTRIBUTION SYSTEM

(Continued)

The breathable air system consists of approximately 1.6 miles of 3/4-inch to 2-inch pipe. This system is also well maintained and in good condition. Representatives of Shell Oil Company indicated that they maintain the compressed air distribution systems. In general the compressed air generation facilities are in good condition except as noted in the Conditional Inventory Report for Building 321.

GAS DISTRIBUTION SYSTEM

GAS DISTRIBUTION SYSTEM

A property inventory and conditional survey of the gas distribution system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

Natural gas is supplied to Rocky Mountain Arsenal by the Public Service Company of Colorado. An 8-inch black steel gas line owned by the Public Service Company delivers gas to a valve vault at a pressure of 100 p.s.i. The valve vault is interconnected with another valve vault and to a gas metering house designated as Building 211. From these structures the natural gas is distributed to the South Plants Area through a system owned and operated by Rocky Mountain Arsenal. A 1,700 foot service connection to Building 347, however, is provided for by the Public Service Company of Colorado.

The gas distribution inventory included that portion of the gas distribution system owned by Rocky Mountain Arsenal and located within the South Plants area. The gas distribution system owned by Rocky Mountain Arsenal consists of approximately 1.4 miles of 1-inch to 3-inch black steel pipe that is asphalt covered and wrapped.

Representatives of the Rocky Mountain Arsenal indicated that they maintain the gas distribution system not owned by the Public Service Company of Colorado. Shell Oil Company maintains service connections for their buildings.

SANITARY SEWER SYSTEM

SANITARY SEWER SYSTEM

A property inventory and conditional survey of the sanitary sewer system within the Shell Oil Company Leasehold at the U.S. Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard, P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.
Darrell G. Mack, Rocky Mountain Arsenal
Garland D. Gunther, Rocky Mountain Arsenal

The sanitary sewer system was installed during the early 1940's. This system carries domestic wastes from the Shell Leasehold Area to Manhole 46 of the Rocky Mountain Arsenal sanitary sewer system. The sanitary sewer inventory included all sanitary sewers and lift stations located within the South Plants Area. The sanitary sewer system consists of approximately 4.0 miles of 6-inch to 18-inch vitrified clay pipe, 18-inch reinforced concrete pipe, and 4-inch cast-iron force mains.

There are three lift stations located in the South Plants Area. Lift Station 546 pumps sewage from a southeastern section of the sanitary sewer system serving Buildings 544, 545, 751 and 752. Lift Stations 341B and 364 pump sewage from the southwestern corner of the sanitary sewer system to the main sewer line. Station 364 primarily serves Building 362. Station 341B serves Buildings 328, 347, 351 and the discharge from Lift Station 364.

Representatives of the Rocky Mountain Arsenal indicated that they maintain the sanitary sewer lines and lift stations. Shell Oil Company maintains service laterals connecting to their buildings. The sanitary sewer system is considered to be in poor condition. There is a large amount of inflow that enters into the sanitary sewer systems after heavy rainfall events. There have been reports that the excess flow into the Rocky Mountain Arsenal sanitary treatment plant has exceeded 200 percent of the normal dry weather flow. A physical television inspection of the sanitary sewer system during 1980 has revealed several locations where pipe joints are separated and sewer pipes are deteriorated. The lift stations reported to be generally in fair condition. Periodic replacement of pumps is necessary due to normal wearing of parts.

STORM DRAINAGE SYSTEM

STORM DRAINAGE SYSTEM

A property inventory and conditional survey of the storm drainage system within the Shell Oil Company Leasehold at the US Army Rocky Mountain Arsenal was conducted from 23 August 1982 through 15 September 1982 by William E. Ehrhard P.E. and Michael J. Conroy of Harland Bartholomew & Associates, Inc. Technical assistance during the field surveys and research efforts was provided by:

Jack H. Culley, Shell Oil Co.

Darrell G. Mack, Rocky Mountain Arsenal

Garland D. Gunther, Rocky Mountain Arsenal

The storm drainage inventory included all storm drainage facilities located within the South Plants Area. Storm drainage within the area consist mainly of crossroad culverts which convey runoff to drainage ditches located throughout the area. Inlets are located in isolated areas to drain problem ponding areas, and discharge into storm sewer lines.

There are also a few storm sewer lines which provide drainage for larger drainage areas. A 48-inch reinforced concrete storm sewer receives runoff from a large open channel located approximately 250 feet north of Building 362. This line flows to the west before discharging to a drainage ditch leading to the Sand Creek Lateral. This system provides drainage for a majority of the southern half of the South Plants Area.

Another storm sewer system is located in the north central section of the South Plants Area. A branching system of laterals receives drainage from several plant buildings and leads to a main line which runs under December 7th Avenue to the north and discharges into an open ditch. A few isolated inlets were located which discharge into the process water return system.

Representatives of Shell Oil Company and Rocky Mountain Arsenal indicated that they maintain sections of the storm sewer system that are located in the vicinity of their buildings. In general, the storm sewer system is in poor condition. Several of the culverts are partially filled with silt and debris. Most of the culverts that cross entrances to the warehouses located in the southwest area are completely buried. The top of the 48-inch

reinforced concrete pipe leading to Sand Creek Lateral is exposed in some areas and is broken through at one location.

CORRECTIONS AND REVISIONS

GROUP IV PROPERTIES AND UTILITY SYSTEMS

VOLUME 3

PAGE	ITEM NO.	QUANTITY (8)	CONDITION CODE	REMARKS
30				Add page 30A and Forms 661, pages 30a, 30b, 30c, 30d and 30e.
62	(Building 337)			Previous Condition Codes were obtained from Installed Property Record Cards (661 Forms) found in Book 6 of the Original Condition Survey.
71				Add attached 661 Form (Revised).
72	9 (Meter-RMA#4030)	1	0-3	
	9			Delete Quantity.
77	1 (Recloser)	1	0-3	
81				Add Form 661, Pages 81a and 81b.
16 134 139 144 152 153 153A 153B				*N/A under Previous Condition Code indicates condition coding was not included in original Condition Survey and Inventory Reports.
105				The original survey for Facility No. 372 (Reservoir) is covered in Book 1, page 134. The underground reservoir referenced in Book 4, page 7 is part of Facility No. 549 - Cooling Tower. See Revised pages 160 & 161 for additional information on the cooling tower.

CORRECTIONS AND REVISIONS

GROUP IV UTILITY SYSTEMS

VOLUME III

INDEX OF REPORTS

PROPERTY INVENTORY AND CONDITION SURVEY REPORTS

PROPERTY INVENTORY AND SURVEY REPORTS

CORRECTIONS AND REVISIONS

GROUP IV PROPERTIES AND UTILITY SYSTEMS

VOLUME 3

PAGE	ITEM NO.	QUANTITY (8)	CONDITION CODE	REMARKS
126				Add revised page.
127				Add revised page.
134				Add revised page.
139				Add revised page.
151	3.10 & 3.20 Building No. 548 (Interior & Exterior)			Add revised page.
152 153 153A 153B	(Building No. 548)			Add revised pages.
160 161	(Building No. 549)			Add revised pages.
171 172	(Building No. 552)			Add revised pages.
175				Add revised pages.
190				Add attached 661 Form (Revised).
192				Add attached 661 Form (Revised).
				Add attached 661 Form (Revised).

CORRECTIONS AND REVISIONS

GROUP IV PROPERTIES AND UTILTIY SYSTEMS

VOLUME 3

PAGE	ITEM NO.	QUANTITY (8)	CONDITION Code	REMARKS
194 195 196				Title of Page should read: RECORD OF EQUIPMENT ADDED
196	8 (SS-152)		0-3	
197				Title of Page should read: RECORD OF EQUIPMENT ADDED
197	8 (SS-517)		0-3	
198 199				Title of Page should read: RECORD OF EQUIPMENT ADDED
240				Add revised page.
241	Elevated Contaminated			The elevated contaminated sewer was constructed by Shell Oil Company in 1981; therefore this system was not considered to be in the Scope of Work for a Conditional Survey. No previous survey existed.
246	Gas Distribution System			The gas distribution is in generally good (G) condition.

4.00 RECORD OF EQUIPMENT

CURRENTLY STORED IN BUILDING NO. 322

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 322

DESIGNATION AND LOCATION: COAL SAMPLING BUILDING

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	STEEL "I" Beams	4"x18"					36		0-2
2	FIRE BRICK	10"x10" x4"					75		0-2
3	FIRE BRICK	9"x6" x4"					100		0-2
4	BURLAP BAGS						100		0-2
5	PIPE INSULATION (BOXES)	3/4" to 6"					7		0-3
6	MANHOLE Plugs	18" to 24"					2		0-2
7	MANHOLE Plugs	12" to 15"					1		0-2
8	MANHOLE Plug	12"					1		0-2
9	MANHOLE Plug	18"					1		0-2
10	MANHOLE Plug	36"					1		0-2
11	TEMPERATURE RECORDER (Non-Operable)						1		0-2

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 2

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO. 322

DESIGNATION AND LOCATION: COAL AMPLING BUILDING

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	COUPLINGS	Misc.	Dresser Mfg. Co.				8		0-2
2	POLY ETHYLENE Pipe	12"dia. x7'-6"					1		N-1
3	BOILER Water Glass						1		0-2
4	BOILER Water Light & Glass Assembly						2		0-2
5	PROPORTIONING PUMP (Parts)	1/2"	Hills-McCanna				2 sets		0-2
6	STEEL VALVES	1-1/2"					4		0-2
7	STEEL VALVES	2"					3		0-2
8	BUCKET TRAP Steam	2"					2		0-2
9	CHECK VALVE	6"					1		0-2
10	CHECK VALVE	2"					1		0-2
11	METERS Water	1"					3		0-2

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 3

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO.: 322

DESIGNATION AND LOCATION: COAL SAMPLING BUILDING

STATION (If other than account):

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	TEMPERATURE Recorder		Foxboro				1		0-3
2	FLANGE Repair (Kits)						4		0-2
3	STEAM Scrubber Parts						29		0-2
4	CONTROL for induced Draft Fan						1		0-2
5	CONTROL Valve	3"					1		0-2
6	ELECTRIC Motor 1750-RPM	1/2 HP					1		0-2
7	BUCKET Trap Crest	6"	Trident				1		0-2
8	ROTARY GEAR Pump (No Motor)	2-1/2"					1		0-2
9	PUMP Impellers Brass	12"					3		0-2
10	PUMP Impeller Brass	21"					1		0-2
11	PUMP Impeller Brass	10"					2		0-2

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 4

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 322

DESIGNATION AND LOCATION
COAL SAMPLING BUILDING

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	STANDPIPE Covers Steel	7-1/2" Dia.					7		0-2
2	SOOT BLOWER Parts						1 lot		0-2
3	BOILER TUBES Admiralty Metal	5/8"o.d x5'					179		0-2
4	GATE Valves, Brass (Bodies Only)	2"					3		0-2
5	COAL Crusher (Motor Removed)						1		0-2
6	LEVEL FLOAT Stainless Steel						1		0-2
7	CONTROL VALVE	1-1/2"					1		0-2
8	BUCKET Trap	1-1/2"					1		0-2
9	FAN - With 1/4 hp Motor	24"					1		0-2
10	STEAM - Aspirator Pumps	1-1/2"					2		0-2
11	STEAM - Aspirator Pumps	2"					1		0-2

30d

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 5

ACCOUNT: PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION: US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 322

DESIGNATION AND LOCATION: COAL SAMPLING BUILDING

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	STEEL PIPE Fittings	1" to4"					1 lot		0-2
2	STUDS & BOLTS	1-1/2"					1 lot		0-2
3	WATER METERS	1"	National				2		0-2
4	BEARING FOR TURBINE (Bldg. 325)						1		0-2
5	WATER - Oil Separators		Fuller				2		0-2
6	PRESSURE CONTROL VALVE 70 - 250 PSI (New)	3/4"	Macon Eilan				1		N-1
7	BRAIDED STEEL CABLE	1/4"					50 ft.		N-1
8	PIPE SPOOL 150 psi	16"					1		0-2
9	PORTABLE MIXER	1/4 hp	Lighning-Wagner				1		0-2
10	GATE VALVE Steel	10"					1		0-2
11	ADDITIVE PUMP Duplex Hi Pressure (Non-Operable)	3/4"	Hills-McCanna				1		R-4

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 361SS

DESIGNATION AND LOCATION: 110KV Sub-Station and Control House 81320

STATION (If other than account)

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
No (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	BATTERY, (cells) consists of 60 (9plates) glass case cells, type EM-9, 72 Hr. cap 232 amp. 8 hr.		Exide						(Replaced) See Page 81A Item No. 2 for Replacement Article
2	Cap. 160 H RMH #3115								
3	CHANGER, Tap, RMA #4024, type HB, 115KV, style 1156645, 1 to 33 position, Ser. #3104089		Westinghouse				1	1	0-2
4	CHANGER, Tap, RMA#4024, Type HB, 115KV, Style 1156645, 1 to 33 position, Ser. #3164089		Westinghouse				1	1	0-2
5	CHANGER, Tap, RMA #4034, Type HB, 115KV., Style 1156645,1 to 33 position, Ser. #3164096		Westinghouse				1	1	0-2
6	FAN, Ventilating, RMA #5463, direct drive, Bifacated, 4 blade w/	Approx. 12"dia.	Propellaire				1	1	0-3
7	MOTOR, RMA #1322, direct drive Type KH, Mod 5KH43AB716A, 1725 RPM, 2.4 Amp, vertical, Ser.#GW	1/3 H.P. 115V 1ph.	General Electric				1	1	0-3
8	HEATER, Unit, RMA #12361,Electric, Cat. #2A178G27, 25,590 BTU p/hr., 230V., single phase, 60 cy.	7.5KW	General Electric				1	1	0-3
9	METER, RMA #4020, Type HA, Style STS-1296-2, Reading 0 to 150 x 5 kilovolts. AC. Ser. #1670230		Westinghouse				1	1	0-3
10	METER, RMA #4021, Power Factor readings 50 to 100 x 2 lag, 50 to 100 x 2 lead, Style 931816.	115V 3 ph.5A Ser.#1695356.	Westinghouse				1	1	0-3
11	CHARGER, Battery,RMA#3113,"Rectox, Rectomatic",Style 1186485-B .6-6Amps, Max., complete.	230 V.AC 129 V.DC	Westinghouse						(Replaced) See Page 81A Item No. 1 for Replacement Article

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD No. 1

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING No. 361 SS

DESIGNATION AND LOCATION: 110 KV Sub-Station and Control House 81320

STATION (If other than account)
RECORD OF EQUIPMENT ADDED

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				AUGUST 1982 CONDITION CODE AND REMARKS	
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. No. (7)	QT. (8)	BAL. (9)		
1	BATTERY CHARGER S.N. EC68216, 12 Amp, 60 Cell 115/230V.Single Phase, 60 Cycle (Replacement)	132 Volts					1		0-2	Replaced items on Page 71
2	BATTERY C & D Lead Calcium (Replacement)						60		0-2	Replaced items on Page 71
3	CIRCUIT BREAKER Oil - OCB S.N. 1435A						1		0-3	
4	METER, KW, TOTAL SENDER (Not in Use)		Leeds & Northrup				1		0-3	
5	METER, RECORD S.N. 24241992						1		0-3	
6	METER S.N. 105190AN						1		0-3	
7	METER S.N. 105186AN						1		0-3	
8	METER S.N. 105187AN						1		0-3	
9	METER, 3 Amp U.S.A.-CE-M, S.N. 5718---						1		0-3	
10	CIRCUIT BREAKER Oil, Main Feeder S.N. 1433A						1		0-3	
11	RECLOSER S. N. 55172ES						1		0-3	

DA FORM 1 JUN 58 661 REPLACES EDITION OF 1 OCT 45.

RECORD OF EQUIPMENT IN PLACE

For use of this form, see AR 735-26; the proponent agency is the Office of the Comptroller of the Army.

CARD NO. 2

ACCOUNT
PROPERTY INVENTORY AND CONDITION SURVEY
SHELL OIL COMPANY LEASEHOLD

STATION
US ARMY ROCKY MOUNTAIN ARSENAL

BUILDING IDENTIFICATION SECTION

BUILDING NO. 361

DESIGNATION AND LOCATION
110 KV Sub-Station and Control House 81320

STATION (If other than account)
RECORD OF EQUIPMENT ADDED

ITEM AND DESCRIPTION					INSTALLATIONS AND REMOVALS (Encircle quantity to indicate removal)				
NO (1)	ARTICLE, TYPE, AND MODEL (2)	SIZE (3)	NAME OF MANUFACTURER (4)	UNIT VALUE (5)	DATE (6)	VOU. NO. (7)	QT. (8)	BAL. (9)	AUGUST 1982 CONDITION CODE AND REMARKS
1	FUSED DISCONNECT 100 Amp, 250 Volt	250 Volt					2		0-2
2	FUSED DISCONNECT 200 Amp	250 Volt					1		0-2
3	POWER PANEL 2-30 amp Fused Pull Outs 3Ø 250 volt	250 Volt	SQUARE D				1		0-2
4	POWER PANEL 2-60 amp Fused Pull Outs 3Ø 250 volt	250 Volt	SQUARE D				1		0-2
5	LIGHTING PANEL 8 Circuit 120/240		SQUARE D				1		0-2
6	DISCONNECT Fused 60 Amp	250 Volt					1		0-2
7	DISCONNECT 30 Amp Fused	250 Volt					2		0-2
8	AUTO THROWOVER PANEL (SS)		GENERAL ELECTRIC				1		0-3
9	LIGHTING CONTRACTOR A.B.	30 A	A & B				1		0-3
10	CONTROL For Motor Operated Air Brake Switch Pilot Light Trip Switches						2		0-3
11									

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