

13 December 1961

TO: President, Police and Firemen's Benefit Society

FROM: J. S. Gurican and E. I. Webb

SUBJECT: Request for Re-evaluation of Classification of Firemen  
Working as Inspectors:

In the past year both the Police and Firemen's Benefit Society and Management have attempted to negotiate for a separate classification for firemen working as Fire Inspectors, with no final disposition being rendered. It is now requested by the writers that negotiations be reopened to have a final disposition made. The writers realize that in the past negotiations a full and complete list of duties and assignments were not properly submitted to the Police and Firemen's Benefit Society for presentation to management. It is at this time we wish to present to you a complete list of duties with comments as to our value to the company. We do not wish to compare our duties to anyone or group of people in our department or to infer that we are in any way indispensable, but rather to explain why we feel that we do justify a classification change. This letter is not meant to degrade or infer that members of supervision are lax in any way or that we are doing their work, but rather to tell you what is expected of Firemen assigned to the Fire Inspection Section. Following is a list of assignments and duties which we perform:

At present the Fire Inspection Section has two Firemen working as Inspectors under the supervision of one Lieutenant, J. S. Gurican and E. I. Webb are presently assigned to the Inspection Section, working for Lt. E. G. Addeo. Our duties consist of:

Fire and Safety Inspection of Large Engine test area, Components test areas, warehouses, Maintenance Areas, Office Areas, Solid Propellant Areas, Explosive Storage Areas, and Propellant Storage Areas. These inspections include inspection of housekeeping, firex systems, first aid firex equipment, safety equipment (showers, blankets, exits, aisles, etc.), vent lines, fill lines, storage tanks, trucks, tank trailers, electrical outlets and lines, pressure lines, relief valves, and any and all equipment used by personnel at PFL. We inspect storage of flammable liquid dispensing areas for compliance with the California Industrial Safety Codes and Rocketdyne's Standards. Inspection of explosive storage magazines which consists of compatibility storage of explosives.

Our duties call for report writing on any incident concerning fire prevention and safety, toxic vapor incidents, recommendations for fire prevention and personnel safety.

Ex. 34 - 5158

GURICAN  
00063

We give demonstrations on safe handling of rocket propellants. This demonstration consists of physically demonstrating the hazards connected with rocket propellants.

The Fire Inspectors compiled a training book for the Rocketdyne Fire Department. This book consists of 62 pages and has been accepted by the Fire Department as an official training book on any hazardous propellant used at Rocketdyne. This book is in great demand, originally 18 copies were made, now over 200 books have been made and distributed by the Fire Inspection Section. This was the direct result of the Firemen working as Inspectors. The research, typing, ditto work, and correlating was done by the Inspectors. The Inspectors are assigned the work of chemical disposal. During a 20 month period from December 1958 to September 1960, a total of over 50,000 gallons of highly hazardous propellants and chemicals and over 1-1/2 tons of explosive solid propellants and 124 leaking and hazardous cylinders were destroyed by the Fire Inspectors without any incident of any kind or any malfunction or injury. During this 20 month period, a total of 524 hours were worked by the Inspectors at the disposal areas burning chemicals and only 66 hours were supervised. This is only 1/8 of the time burning chemicals that a supervisor was present. This means that we must know propellants and their hazards for self preservation and to be able to destroy these propellants without incident. The savings to the Company on disposal has amounted to thousands of dollars.

The Fire Inspectors are also assigned cafeteria inspection to see that the health standards are maintained.

We do the training of all new fire personnel for routine fire duties, inspection, and propellant familiarization.

The Fire Inspectors are also required to answer emergency calls, take standbys, and weld checks when regular shift personnel are not available.

We escort the Army Ordnance Inspectors on tours of inspections of all areas, the Fire Underwriters, and Fire Rating Bureau Inspectors on tours of inspections.

The Inspectors are required to pick-up and transport all highly dangerous chemicals from the Chem. Lab. to the disposal areas.

We work directly with Industrial Engineering to obtain storage facilities and for relocation of fire fighting equipment and various other needs of different areas.

To: Chief O. C. Ledbetter  
From: Capt. A. W. Miller  
Subject: LOX Spill; Bravo Area and Subsequent Events

Page -2-  
8 September 1958

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Wednesday afternoon, before the conclusion of the first shift, you will recall that the writer informed you of these events, and that the only additional temporary instructions the writer would issue to fire personnel would be at the time of tanking from truck to tanks. During this tanking, we would follow Mr. Lodge's request and close down flames and sparking devices in the area. This was done Wednesday night in two instances, and caused quite a lot of opposition.

Thursday, 4 September 1958, conference with Mr. W. R. Johnson, D/596-67 Group Leader. Mr. Johnson is in agreement with D/552, and feels that present fire regulations are sufficient to cover all unknown emergencies at PFL. He feels more strict control is necessary on tanking and transfer operations.

Thursday afternoon, conference at your office in Canoga. As a result, before the conclusion of the first shift, verbal and written instructions were issued to Police and Fire personnel to enforce only our own written regulations as we have done in the past, and if other departments have more strict requirements, they may enforce them, but we will not. The writer returned that evening and gave the same instructions to Police and Fire personnel at the beginning of the third shift, because of the illness of the third shift Fire Engineer, leaving a Police Sergeant in charge of fire operations.

Friday morning, 5 September 1958, conference with Mr. Lodge. It was agreed that instructions he had issued were only temporary, and that the whole matter would be turned over to the Propellant Field Applications Group headed by L. D. Weber, D/596-92. The writer phoned Mr. Weber, who is in complete agreement with D/552 fire regulations at present, and desires no change or additions to them at this time. A meeting was arranged for the first part of the week with Mr. Weber to confer on anything else necessary in regard to LOX transfers.

The writer had a meeting with W. J. Cecka, Senior Management Representative, regarding all the foregoing conversations, particularly with reference to Mr. Lodge's report, and Mr. Cecka was of the opinion that this would have to be changed and said that he would attend to the matter.

"ROCKETDYNE EXPOSURE EVALUATION COMMITTEE":

This new committee has been formed as of 25 August 1958. With the advent of new chemicals, fuels, oxidizers, etc., it is imperative that adequate protection of our personnel be made continuously effective in Test, Research and Manufacturing. For this purpose, the Rocketdyne Exposure Evaluation Committee is hereby activated and charged to establish adequate protective standards which, in turn, will be submitted to the Rocketdyne Management Safety Committee for final approval and acceptance.

Ex. 34 - 5160

GURICAN  
00065

To: Chief O. C. Ledbetter  
From: Capt. A. W. Miller  
Subject: LOX Spill; Bravo Area and Subsequent Events

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8 September 1958

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The minimum membership is appointed and is comprised of the following:

Chairman-Secretary - 596 Analysis and Equipment Group Leader -  
D. J. Jolicœur

596 Propellant Field Applications Supervisor - L. D. Weber

552 Industrial Security - Capt. A. W. Miller

551 Medical Director - Dr. A. L. Weller

593 Plant Engineering - E. L. Spearman

551 Safety - Rex B. Gordon

851 Safety, Industrial Hygiene Consultant - J. B. Ficklen

BURN PIT FOR THE DISPOSAL OF DANGEROUS MATERIALS:

Several months ago, while in the Inspection Office, the writer had a large earthen pit constructed near the west boundary line of PFL just below CTL III. This was, and has since been, used to dispose of dangerous chemicals, fuels, oxidizers, explosives, etc. These are burned with quantities of ordinary contaminated fuels. This procedure eliminated the costly method in use at that time, of trucking them from the facility and dumping in the ocean, or by other complicated ways of disposal requiring permits from various official agencies, etc. This usually required from three to six months, and similar materials were accumulating everywhere as a result. Arrangements have been made with Transportation regarding safety practices in handling. Inspection and conveying of these materials is done by the Fire Department. The writer has just been informed by Don Hatz, D/596-62, of the Propellant Field Applications Group that an official procedure is being written on the disposal of hazardous materials. This will incorporate the D/592 disposal method as standard procedure. Large amounts of Hydrazine, UHM and other materials, which have required expensive neutralization methods, can be disposed of in this manner in the future. For example, 45 drums of assorted mixtures of UHM and Hydrazine are being disposed of at this time. This would ordinarily require a large amount of Hydrogen Peroxide for the neutralization material.

CONTRACTORS' JUNGLE, AREA II:

This is the area set aside for contractors' shacks and various materials. It has always been an unsightly mess. A fire break has been constructed around this location and intervening brush and grass burned out. Large amounts of accumulated rubble from former contractors has been burned. The area is now safe and contractors will be allowed to burn a limited amount of small material under controls. The whole area is being cleaned up and will be policed regularly in the future.

Ex. 34 - 5161

To: Chief G. C. Ledbetter  
From: Capt. A. W. Miller  
Subject: LOX Spill; Bravo Area and Subsequent Events

Page -4-  
8 September 1958

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NITROGEN TETROXIDE, TEMPORARY STORAGE LOCATION:

This has been located in Area II in the open land between the Silvernals Lake and the Contractors' Jungle. Brush and grass were burned from the perimeter and storage of about 30 tons of this material is now accomplished. This relieves the dangerous storage condition that existed around the 80-1 Area.

POWER FAILURE, PFL:

On Saturday evening, 6 September 1958, at 5:32 P.M., the entire facility suffered a power failure as a result of lightning. Edison Company power was off for about one hour. The writer was notified at home by the Control Center Operator and drove up to the facility immediately. Considerable difficulty was experienced in locating the proper Edison Company Office furnishing power to this facility. Telephone numbers listed were out of date. The procedure for notification in event of power failures, etc., at this facility was also found to be out of date, and should be rewritten. This will be taken care of in the immediate future.

A. W. MILLER  
Fire Captain  
Santa Susana

AWM/lgx

Ex. 34 - 5162

GURICAN  
00067

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Capt. A. W. Miller DEPARTMENT 552 - SanSu - Area II  
FROM Fireman J. S. Gurican DEPARTMENT 552 - SanSu - Area II  
PHONE 435 DATE 6 November 1958  
SUBJECT TOXIC VAPORS; INCIDENT AT LOWER RESEARCH

As per Capt. A. W. Miller's request, the writer contacted Mr. Lou Wessels, 596/91, in regard to the SO-1 incident which occurred at Lower Research at approximately 2:00 A.M. 6 November 1958. Mr. Wessels' statement, which was taken from the Research Log, is as follows:

The second shift, with Mr. T. B. Parker, Engineer In Charge, 596/91-2119, began a transfer of SO-1 from the new 5,000 lb. trailer to the 600 lb. trailer. This was the first transfer ever made from the 5,000 lb. trailer.

A leaking flange was noted and a new gasket was made and repairs completed. The transfer continued. Mr. Wessels stated that there was no possible way to determine the amount of SO-1 lost by the leaking flange, but Mr. Parker estimated that the immediate area was contaminated with about one ppm for about 45 minutes. The areas around the Lower Research area showed only slight traces of SO-1 odor. Road blocks were established to keep people out of contaminated areas.

During transfer of SO-1, normal loss due to venting would be approximately two to three lbs. Usually, when venting after a run, the amount of SO-1 lost depends upon pressure, vent size and the nature of the test, and is estimated to be between one-half to two lbs.

The writer spoke to J. A. Hanley, D/552 Investigator, who had contacted Mr. Tom Parker, Engineer In Charge at Lower Research. Mr. Parker's alleged statement to Mr. Hanley is as follows:

A Helium pressure check was made on the 5,000 lb. trailer transfer line. This check revealed a leaking seal. Repairs were made, and the transfer to the Facility tank and the 600 lb. trailer began. No SO-1 was lost during the transfer. After completion of transfer, approximately 30 lbs. of liquid SO-1 were lost during the tank venting. Mr. Parker stated this would be a normal amount in the regular venting process.

This was not considered an unusual occurrence. The second shift men did complain of sore throats, but this is not unusual in handling SO-1.

Mr. Stan Greenfield, 596-64, Group Leader, and Mr. Wessels stated that venting will possibly be done by venting into ducting and flushing down with the First System. This will eliminate a great deal of odor and contamination in the entire area.

Ex. 34 - 5163

596/254  
CC: File

FORWARDED:

*E. G. Addeo*  
E. G. Addeo  
Fire Engineer, Inspections

*J. S. Gurican*  
J. S. Gurican  
Fireman, Inspections  
Santa Barbara

GURICAN  
00068

# ROCKETDYNE

## INTER-OFFICE LETTERS ONLY

TO F/E E.G. Addeo DEPARTMENT 552  
FROM J.S. Gurican DEPARTMENT 552  
PHONE 485 DATE 28 July, 1959  
SUBJECT TOXIC VAPORS; INCIDENT AT DELTA 3C.

At your request the writer contacted Mr. George B Kerr 596 -6151 group 66, in regard to Fluorine Vapor incident which occurred at Delta 3C at approximately 10 AM, July 24, 1959. Mr Kerrs statement is as follows, and statements of other personell involved.

Mr. Kerr stated that Pilot control solenoid to the Fluorine main valve on Delta 3C malfunctioned, allowing the fluorine main valve to open momentarily. This allowed a small amount of Gaseous fluorine to be released in the area. The stand personell cleared the area immediately.

T.J. Shofi 596 - 8055, Engineer on Delta 3C stated that the T.O.C. was not notified do to an oversight. Mr. Shofi stated that he is well aware of the procedure to notify T.O.C. of any venting or similar operation.

statement of Mr. Andrew J. Wilson 596 - 6578 EIC Delta 3B is as follows. Initial release of F<sub>2</sub> vapors on Delta 3C caused personell to leave the test area and the vicinity of Delta 3. E.I.C of Delta 3B took advantage of an very poor condition and released pressure on Delta 3B oxidizer tank, releasing contaminated helium gas. This gas was at low pressure and contained very slight amounts of F<sub>2</sub>. The tanks had been opened twice prior to pressurizing. Delta 3B personer was not notified of presence of personell in canyon below Delta 3.

A. G. Garcia 596-6587 stated that a total of eight men were in the Delta control room at the time of the venting. Garcia stated that the Power room contained any concentrations of Fluorine odors.

Joe Summers 596-66 stated that no PA announcement was made. Firemen in canyon and stand personell could not be warned do to unforeseen incident. Summers stated that four men reported to Area #2 first aid there names are as follows. Lee Wells 596-6164, Ed. Liggett 596 - 5363, R.E. Olson 596 - 6399, Edward Hackel 596-3065, group 61. Wells, Liggett, Olson were working in a off stand 32E4 tank at the time of the vent. Hackel was working on Delta 3 stand.

C. Anselmo called a meeting to discuss preventive measures to assure that this type of incident would not happen again.

J.S. Gurican  
552 -49

Ex. 34 - 5164

GURICAN  
00069

# ROCKETDYNE

## INTER-OFFICE LETTERS ONLY

FROM	Capt. A. J. Miller	DEPARTMENT	552 - San Jo - Area II
PHONE	520	DEPARTMENT	552 - San Jo - Area II
SUBJECT	LOWER RESEARCH; INCIDENT RE. TOXIC VAPOR	DATE	5 March 1959

At 2:50 P.M., 5 March 1959, the writer was called to the Tunnel Area with regard to storage of Chlorine-Tri-Fluoride. While investigating the storage problem, the Lower Research Area fired. The firing was an exotic fuel, or propellant type, firing using Nitrogen Tetroxide.

The writer noticed a cloud of HFO drift over the Chem. Lab A Area and through the Tunnel Area. No warning of any kind was given to the personnel in the Tunnel Area. The writer cleared the area of all personnel, and instructed the personnel to take cover inside when notified of HFO vapors drifting toward their area. At this time, the writer received a whiff of the HFO vapors. The personnel concerned, consisting of five or six men, stated that no notification had been given that Lower Research was firing HFO.

The writer witnessed three firings from the Tunnel Area. Two clouds drifted over Chem. Lab A. A man was working on a power pole at the Chem. Lab and was not warned in sufficient time to get down before the cloud passed over.

The wind seemed to change, and the next cloud went directly through the NAKA Area. A check was made at the NAKA Area, and personnel were questioned as to what warnings were given them of the HFO firings. These people stated that no warning had been given them at all. The writer instructed the loadman to make a P.A. announcement when Lower Research fired, and this was done on the next two runs. The wind again seemed to shift and the clouds drifted through the Peroxide Area. No warnings had been given to the personnel at that area.

The writer contacted Andy Wilson, the Engineer making the tests at Lower Research, and he stated that the TEE and Chem. Lab A had been notified in the morning of the HFO firings. Wilson stated that the Tunnel Area was called by telephone in the morning, and that no one answered the telephone. No other warning was given these people. Wilson also stated that the Peroxide Area personnel had not been notified at all.

Earlier in the day, the writer noticed a large cloud of HFO drift away from the Lower Research Area, and the writer proceeded to investigate. Bill Colwell was contacted, and he stated that a chamber was drained and the water washing methods did not adequately take care of the HFO, thereby causing a large cloud of vapor. Colwell stated that this would not happen again.

Ex. 34 - 5165

GURICAN  
00070



To: Capt. A. W. Miller  
From: Fireman J. S. Gurican  
Subject: Lower Research; Incident No. Toxic Vapor

Page -2-  
9 March 1959

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While investigating the above incident, the writer witnessed the dispensing of HFO from a one-ton cylinder into a small tube-type piece of equipment and a large beaker. This was done by a mechanic and an Engineer. The safety precautions which were taken were as follows: The mechanic had a pair of rubber gloves, a face shield and a canister type mask. The engineer had no safety gear at all. After the tube was filled, a small amount of HFO was drained into the beaker and the engineer picked up the beaker and carried it away. Fireman J. E. Kervin also witnessed this. Kervin questioned the men with regard to safety precautions and was advised that this was standard procedure, and that they had all the necessary safety equipment needed.

This is the fourth incident involving exotic type propellants witnessed by the writer at Lower Research in the past six months. Each incident has shown a complete disregard for all safety procedures. Also, they have shown a complete disregard for the safety of other personnel in the nearby areas.

This is also the third report on toxic vapor incidents at Lower Research in the past six months that has been submitted by the writer.

J. S. GURICAN  
Fire Inspector  
Santa Susana

JSG/lgx  
CC: File

Ex. 34 - 5166

GURICAN  
00071

# ROCKETDYNE

## INTER-OFFICE LETTERS ONLY

TO Capt. A.W. Miller DEPARTMENT 552  
FROM J.S. Gurican DEPARTMENT 552  
PHONE 520 DATE March 5, 1959  
SUBJECT Toxic Vapor Incident at Lower Research.

At 2.50 P.M. March 5, 1959 the writer was called to the Tunnel Area, in regard to storage of chlorine tri fluoride. While investigating the storage problem, The Lower Research Area fired. The firing was a exotic fuel or propellant type firing, using nitrogen tetroxide.

The writer noticed a cloud of NTO drift over the Chem. Lab A area and through the Tunnel area. No warning of any kind was given to the personal in the Tunnel Area. The writer cleared the area of all personal and instructed the personal to take cover inside when notified of NTO vapors drifting toward their area. The personal consisting of 5 or 6 men stated that no notification had been given that Lower Research was firing NTO.

The writer witnessed three firings from the Tunnel Area, Two clouds drifted over Chem Lab A. A man was working on a power pole at the Chem Lab and was not warned in sufficient time to get down before the cloud passed over.

The wind seemed to change and the next cloud went directly through the the Naka Area. A check was made at the Naka Area and personal were questioned as to what warnings were given them of the NTO firings. These people stated that no warning had been given them at all. The writer instructed the leadman to make a P.A. announcement when Lower Research fired and this was done on the next 2 runs. The wind again seemed to switch and the clouds drifted through the Peroxide Area, no warnings had been given the personal at that area.

The writer contacted Mr. Andy Wilson engineer making the tests at Lower Research, and he stated that the TRE and Chem Lab. A had been notified in the Morning of the NTO firings. Mr Wilson stated that the Tunnel area was called by telephone in the morning and that no one answered the telephone, no other warning was given these people. Mr. Wilson also stated that the Peroxide Area personal had not been notified at all.

Earlier in the day the writer noticed a large cloud of NTO drift away from the Lower Research area and the writer proceeded to investigate. Mr. Bill Colwell was contacted, and he stated that a chamber was drained and the water washing methods did not adequately take care of the NTO, thereby causing a large cloud of vapors. Colwell stated that this would not happen again.

While investigating the above incident the writer witnessed dispensing of NTO from a one ton cylinder into a small tube type piece of equipment and a large beaker, this was done by a mechanic and a engineer. The safety precautions taken are as follows. The mechanic had a pair of rubber gloves, a face shield, and a canister type mask. The engineer had no safety gear at all. After the tube was filled a small amount of NTO was drained into the beaker and the engineer picked up the beaker and carried it away. Fireman J.E. Kervin witnessed this also. Kervin questioned the men in regard to safety precautions and was told that this was standard procedure that this was

*at this time the writer received a report of NTO vapors.*

Ex. 34 - 5167

GURICAN  
00072

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO  
FROM  
PHONE  
SUBJECT

DEPARTMENT  
DEPARTMENT  
DATE

all the necessary safety equipment needed.

This is the fourth incident involving exotic type propellants witnessed by the writer at Lower Research in the past six months, and each incident has shown a complete disregard for all safety procedures and the safety of other personnel in the nearby areas.

This is also the third report ~~xxxxxxxxxxxx~~ submitted by the writer on Toxic vapor incidents at Lower Research in the past six months.

*Amu*

*J. S. Gurican*  
Joseph S Gurican  
Fire inspector

Ex. 34 - 5168

GURICAN  
00073

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

*E. H. Adams*  
TO ~~Captain A. M. Butler~~

ADDRESS

FROM J.S. Gurican

ADDRESS

PHONE

DATE 11 -6 -58

SUBJECT S.O.1. Leak at Lower Research

At your request the writer contacted Mr. Lou Wessels 596/91, in regard to the S.O.1. incident, which occurred at Lower Research at approximately 2.00 A.M. November 6, 1958. Mr. Wessels statement, which was taken from the Research Log is as follows.

*B:K<sup>u</sup> ex #*  
The second shift, with Mr. Tom Parker E.I.C. began a transfer of S.O.1. from the new 5000 lb. trailer to the 600 lb. trailer, a leaking flange was noted and a new gasket was made and repairs completed. The transfer continued. Mr. Wessels stated that no way was possible to determine the amount of S.O.1. lost by the leaking flange, but Mr. Parker estimated that the immediate area was contaminated with about 1 part per million for about 45 minutes. The Lower Research area other than the immediate vicinity showed only slight traces of smell. Road blocks were established to keep people from going to the Bowl area.

This was the first time that the 5000 lb. trailer was used. During transfer of ~~S.O.1.~~ the amount of S.O.1. loss ~~to~~ venting would be approximately 2 to 3 lbs. Normal amount of S.O.1. loss depends upon pressure, vent size and the operation. Normal loss in tank venting is  $\frac{1}{2}$  to 2 lbs.

This was not considered an unusual occurrence, the second shift personnel who have been handling S.O.1. did complain of sore throats, but this is not unusual in handling S.O.1.

Mr. Stan Greenfield and Mr. Lou Wessels stated that venting will be done possibly by venting into ducting and flushing with the fire X system. This will eliminate a great deal of odor and contamination in the entire area.

*J.S. Gurican*  
J.S. Gurican  
Fire inspector

Ex. 34 - 5169

GURICAN  
00074

# Avoid Verbal Orders

TO: D.J.Hatz

DEPT. 596-162 PFL

INTER-OFFICE CORRESPONDENCE

FROM: E.G. Addeo

DEPT. 552

PHONE 520

SUBJECT: Chlorine-trifluoride Cylinders (1 ton cap.) at the DATE 2 August 1960  
Chemical Disposal Area.

On Monday 1, August 1960 the two one-ton CTF cylinders that have defective valves were weighed by the Fire Department.

The cylinder that was bled-off showed a true weight of 1370 lbs. which indicates that it is empty.

The other cylinder registered a true weight of 1980 lbs. which indicates that it contains about 610 lbs of CTF.

If it is decided to transfer the 610 lbs of CTF into the empty cylinder after the valves are replaced or repaired, please be reminded that we encountered slag that caused a stoppage in the dip tube and it was necessary to roll the cylinder to clear the stoppage. Please advise the writer what disposition will be made of the CTF.

*E. G. Addeo*  
Fire Lieutenant  
Inspections.

Area 1 follow-up. ✓

File.

TO: D. E. Y. O'Brien  
DEPT. \_\_\_\_\_  
FROM: J. J. Thurman  
DEPT. \_\_\_\_\_ PHONE \_\_\_\_\_

Avoid Verbal Orders

INTER-OFFICE CORRESPONDENCE

SUBJECT: Cylinders at Dixon's Area

DATE 8-2-60

The three cylinders at the Dixon pit were weighed and the following weights are:

1. N.T.O. cylinder 3370 lbs Gross net
2. C.T.F. cylinder 1980 lbs
3. C.T.F. cylinder 1370 lbs.

The cylinders are all marked as to weight.

Form 5-G Rev. 3-57

*J. J. Thurman*  
552-49

GURICAN  
00076

Ex. 34 - 5171

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Joe Gurican DEPARTMENT 552  
FROM E. J. Hammer DEPARTMENT 993-761  
PHONE 365 DATE 6 April 1962  
SUBJECT Letter of Commendation

1. The Logistic Training Unit would like to commend Mr. Joe Gurican for the outstanding job of instruction on the Unconventional Propellant Handling course, recently conducted at Edwards Rocket Site. The hours of research and planning necessary to achieve this high standard was greatly appreciated.
2. Should the opportunity arise we would be pleased to work again with Mr. Gurican.

E. J. Hammer  
Group Leader  
Field Operations

EBB:skk:sh

Ex. 34 - 5172

GURICAN  
00077

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Capt. A. W. Miller

ADDRESS

FROM J. S. Duncan

ADDRESS

PHONE

DATE

SUBJECT

The writer spoke to J. A. Hannely, investigator Dept. 552 in regard to 801 incident at Lower Research. Mr Hannely had contacted Tom Parker E. I. C., at Lower Research. Mr Parker stated that a Helium pressure check was made on the 5000 lb trailer transfer line, this check revealed a leaking of <sup>seal</sup> flanges. Repairs were made and the transfer to the 100 lb trailer & the facility tank began. After completion of the transfer approximately 30 lbs of raw 801 was lost during venting. ~~no 801 was lost during venting.~~ The wind conditions died down and the 801 drifted away from the Lower Research Area. The 801 furnace apparently drifted back and the concentration at Lower Research was about 1 ppm or a little more. At the Area & other areas it was considerably less. Mr Parker stated that a loss of 30 lbs during the venting is a normal amount. Mr Parker also stated that had the transfer taken place immediately and on a more favorable day, the wind conditions were favorable, but the venting 1 1/2 hrs in time to it repair ~~to it~~ the venting was normal and the results were normal.

Ex. 34 - 5173

GURICAN  
00078



# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO

ADDRESS

FROM

ADDRESS

PHONE

DATE

SUBJECT

The writer feels that this statement conflicts somewhat with that of Mr. Tom Weslin; but the writer feels that you are entitled in all the information you can get in regard to this incident, subsequently the two different reports.

J. J. Gurnea  
Fire Inspector

Ex. 34 - 5174

GURICAN  
08079

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO *Capt Al Miller*  
*H. H. [unclear]*

ADDRESS

FROM *G. D. H. [unclear]*

ADDRESS

PHONE

DATE

*11-6-58*

SUBJECT *Incident at Lower Research*

*As per Capt Al Miller*

~~At your~~ request the writer contacted Mr. Lou Wessels 596/91 in regard to the SO1 incident, which occurred at Lower Research at approximately 2 a.m. November 6, 1958. Mr. Wessels statement which was taken from the Research Log is as follows.

*T.B.*

*E.C. #2119*

The second shift, with Mr. ~~Tom~~ Parker 596/91 began a transfer

of SO1 from the new 5000 lb trailer to the 600 lb trailer. This was the first transfer ever made from the 5000 lb trailer.

A leaking flange was noted and a new gasket was made and repairs completed. The transfer continued. Mr. Wessels stated no way was possible to determine the amount of SO1 lost by the leaking flange, but Mr. Parker estimated that the immediate area was contaminated with about 1 ppm for about 45 minutes. The areas around the Lower Research Area showed only slight traces of SO1 color.

Good blocks were established to keep people out of contaminated area.

Ex. 34 - 5175

GURICAN  
00080

# ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO

ADDRESS

FROM

ADDRESS

PHONE

DATE

Ex. 34 - 5176

SUBJECT

Mr. Wesch stated this was the first time the new 5000 lb trailer was used.

During transfer of SO1 normal loss due to venting would be approximately 2 to 3 lbs. Usually when venting after a run, the amount of SO1 lost depends upon pressure, vent size & the nature of the test and is estimated to be between 1/2 to 2 lbs.

The writer spoke to J.A. Hanley Dept 552 investigator who had contacted Mr. Tom Parker E. I. C. at Lower Research Mr. Parker's ~~statement~~ alleged statement to Hanley ~~is as follows:~~ is as follows:

A. Helium pressure check was made on the 5000 lb-trailer transfer line. This check revealed a leaking seal. Repairs were made and the transfer to the facility tank and the 600 lb trailer began. No SO1 was lost during the transfer. After completion of transfer approximately 30 lbs of liquid SO1 was lost during the tank venting.

# ROCKETDYNE

## INTER-OFFICE LETTERS ONLY

TO  
 FROM  
 PHONE  
 SUBJECT

ADDRESS  
 ADDRESS  
 DATE

Mr. Parker stated this would be a normal amount in the regular venting process.

This was not considered an unusual occurrence, the second shift men did complain of sore throats but this is not unusual in handling S.O.I.

Mr. Stan Greenfield <sup>596-66 Group 2:00:00</sup> and Mr. Vershe stated that venting will possibly be done by venting into ducting and flushing down with the Firex system. This will eliminate a great deal of odor and contamination in the ester area.

CK

Curr

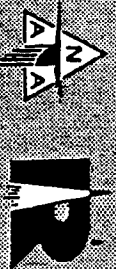
J. S. Guran  
 Fire Inspector

Approved

Finley

Ex. 34 - 5177

GURICAN  
 00082



ROCKETDYNE

# SKYWRITER

Ex. 34 - 5178

VOL. XX, No. 30

NORTH AMERICAN AVIATION, INC.

JULY 29, 1960

## All-Time High in Deposits Noted by Credit Union

Response to the new high dividend rate plus added services finds the L.A. area North American Employees Federal Credit Union in a unique position—that of having too much money.

According to S. J. McCloy, CU manager, employees have been quick to take advantage of the benefits inherent in semi-annual dividend payments and the higher rates paid with the result that hundreds of new members' deposits have swelled the coffers to overflowing.

### Broad Range

"What we want to do now," McCloy said, "is help those employees in need of loans. We think it's fine that employees are saving through deposits with us. What many of them apparently are not aware of is the broad range of loans available."

Particularly in the fields of real estate loans, McCloy added, the Credit Union is a "money-saver."

Advantages  
The advantages of



**EXECUTIVE BRIEFING**—IBM's C. L. Hardway, seated, explains console of new IBM 7090 computer to Rocketdyne executives, from left: D. M. Garman, Integrated Data Processing manager; C. W. Guy, executive vp; F. J. Knepper, controller.

## USE OF THRUST CHAMBER GAS TO DRIVE TURBOPUMPS REPORTED

Additional reliability in high thrust turbo-fed liquid propellant rocket engines through elimination of the gas generator tap-off system is reported by Rocketdyne, according to a study of the gas generator.

## Ultra-Fast IBM 7090 Received at Canoga Powerful Computer to Replace Pair of 709s Currently in Use

The newest and most powerful electronic data processing computer available to American industry, International Business Machines Corp.'s 7090, was delivered to the Canoga complex last week. It will replace the two IBM 709s now in use.

"The replacement of the two 709 computers by the 7090 will result in an estimated savings of thousands of dollars per year to Rocketdyne," says D. M. Garman, Integrated Data Processing manager.

"In addition, although the transistorized 7090 computer is replacing two 709s, the computing capacity available to Rocketdyne scientists and engineers will be more than doubled."

### Example of Speed

The speed of the IBM 7090 is almost beyond imagination. For example, the work accomplished by the computer in a single hour would require the equivalent of one man using a calculator for over 10 centuries.

It can read and write electronically at the rate of 3,000,000 bits of information a second through the use of its Multiplexor. It can perform 225,000 additions or subtractions a second.

### Core Storage

In 2.18 millionths of a second, it can locate and make ready for use any of 32,768 problem or instruction numbers (each of 10 digits) in the system's magnetic core storage. While the IBM 7090 is a

(Continued on Page 2, Column 4)

**Cecka, Shumsky Appointed New**

SAVER.

**Advantages**  
Among the advantages offered by the CU in real estate loans are:

Anyone desiring to buy a lot, for building or investment purposes, may receive a loan of 50% on the appraised value of the unimproved property. Interest charged is at the rate of three-quarters of 1% per month on the unpaid balance.

"What many people don't realize," McCloy said, "is that on second FID loans we have no minimum length of time for the loan and no penalty for pay-  
(Continued on Page 3, Column 3)

thrust turbo-fed liquid propellant rocket engines through elimination of the gas generator system has been achieved in an experimental engine simplification program, C. A. Hansen, of Rocketdyne's Advanced Design, recently told American Rocket Society members at a meeting in Columbus, O.

This has been done by tapping the main thrust chamber to obtain hot gases to drive the turbopump, thus eliminating the need for the separate gas generator.

A reduction of approximately 60% in potential problem areas can be achieved by use of the

gas generator. This means a potential gain in engine reliability, according to Rocketdyne.

Sixty-four tests with a modified MA-2 sustainer engine were made to demonstrate the feasibility of the tap-off system.

**Initial Start**  
The Rocketdyne tap-off system uses a solid propellant spinner to initially start the turbopump.

Propellants used for the tests were liquid oxygen and RP-1 which are standard for all current first-stage, high-thrust liquid propellant booster engines. The tap-off experimental  
(Continued on Page 2, Column 1)

published by the computer in a single hour would require the equivalent of one man using a calculator for over 10 centuries.

The amazing speed of the new computer will enable Rocketdyne personnel to successfully attack problems that were not feasible up to this time.

**More Powerful**

The solid-state 7090 system is approximately six times as powerful as its vacuum-tube predecessor, the IBM 709. The six-fold increase in the computing speed is made possible largely by the use of more than 50,000 ultra-fast transistors in the central processing unit, and the fastest magnetic core storage available.  
The new system can simul-

**Appointed to New Rocketdyne Posts**

Heading a list of three major organizational changes announced last week by Rocketdyne Executive Vice-President C. W. Guy, W. J. Cecka, Jr., has transferred to Research and Engineering as manager of Applications Engineering, a new title replacing that of Sales Engineering.

Under Cecka's direction, the department will continue to be responsible for planning and conducting Rocketdyne sales programs directed toward devel-  
(Continued on Page 2, Column 1)

# Quick Thinking by PFL Employee Prevents Injury to Fellow Drivers on Access Road

When Moss Gasparian of the Propulsion Field Laboratory's Machine Shop started home-ward down the winding access road in his 1949 Mercury on Wednesday evening, July 13, he had no idea that his life—and the lives of others—was in danger.

Gasparian drove carefully down the hill just as he had hundreds of times before, staying about three car lengths behind the car in front of him.

As he rounded the final bend and the intersection where Valley Circle Drive meets the access road and the bottom of the hill came into view, Gasparian put his foot on the brake pedal.

**No Brakes**

The brake caught once . . . then went clear to the floor. Gasparian was horror-stricken. He had no brakes! And there wasn't time to grab the emergency brake.

"The car just seemed to take off on its own," he recalls. "It was a terrifying feeling."

Ahead of him were three cars. He knew if he smashed into the rear of the car right in front of him, a chain collision would result. Instinctively, he swerved over into the left lane, praying that no car was coming up the hill. But a car *was* coming up the hill . . . with two passengers.

**Quick Decision**

Gasparian made his decision in a split second. Rather than crash into the oncoming car he jerked hard on the wheel and drove his brakeless vehicle off the road and into the ravine.

The car rolled over once and came to rest on its side. Gasparian climbed out a window and started walking toward the Security officer who was rushing toward him.

"Had a little accident," said Gasparian, forcing a slight smile. "My brakes failed."

Despite his protest that he was not injured, the Security officer called the ambulance immediately.

The time was 4:37. At 4:40 the ambulance was on its way. At 4:47—just 10 minutes from the time of the accident—Gasparian was in the ambulance and on his way to Northridge Hospital.

After a thorough check, he was released from the hospital. Miraculously, he had survived the accident without a scratch!

**Commendation**

According to C. N. Cochran, PFL Machine Shop supervisor and Gasparian's boss, "Gasparian's quick thinking and course of action undoubtedly saved other persons from serious injury. He is to be commended for thinking of others rather than himself."

Says Gasparian: "I guess it was just my lucky day."



**SIGN TO REMEMBER**—Moss Gasparian, who narrowly escaped injury when his brakes failed on the road from PFL, dusts off sign at bottom of road for benefit of other motorists. Gasparian's quick thinking in accident saved others from injury.

JUNE 29, 1960

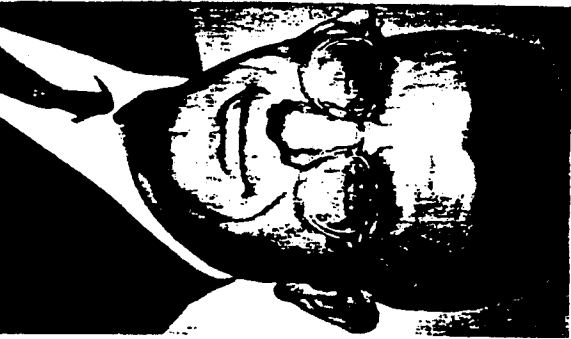
Rocketdyne Skywriter



**GOOD HOUSEKEEPING**—Ron Weber, left, and A. H. Barnett, of Material Services, straighten up outside storage area as part of good housekeeping program. The Rocketdyne Canoga department was recently singled out for demonstrating "outstanding improvement" in housekeeping.



W. J. Cecka, Jr.



A. A. Shumsky

**Cecka Shumsky Named . . .**  
Continued from Page 1, Column 5 | Present in charge of Rocketdyne's maintenance and Special Products program

### Material Services Honored for Work

Material Services was singled out for special recognition this week by Conservationalist George Haver for the outstanding improvement the department has achieved in Rocketdyne's Housekeeping program. Haver pointed out that the standards established by Material Services were especially noteworthy because of the large volume of material the department handles. Material Services receives hundreds of parts on a continuing basis, which they store and deliver.

"It cannot be stressed too strongly that a clean, neat working area increases the safety factor, creates high morale and greater efficiency," Haver said. **Michman**

## New 7090 Computer Contributing to Key NASA and USAF Projects

HEAT 7090 computers like that received by Rocketdyne last week are making major contributions to NASA missiles as well as Air Force manned aircraft projects in other key research programs.

At the Marshall Space Flight Center, Huntsville, Ala., NASA scientists are using a similar computer to make detailed studies on the clustering of eight Rocketdyne engines which will give the free world's largest space vehicle its 1,500,000 pounds of thrust booster power.

**Simulated Flights**  
Saturn will be "flown" thousands of times by the 7090 as scientists explore design modifications and their effect on actual flight in space. They will explore new areas of research opened up by clustering of eight

of the powerful H-1 engines. Vibration and heat transfer problems caused by interaction of the engines will be programmed on the 7090 in connection with the 30,000,000 horsepower generated by the booster in static firing tests.

At North American's Los Angeles Division a similar computer is playing a major role in the development of the B-70 Valkyrie intercontinental bomber which will cruise for long distances at high supersonic speeds.

Through the microwave tie-up between Rocketdyne's computer center and the Los Angeles Division, the new 7090 at Canoga will also be available for B-70 and other manned weapon system projects if required.

### Canoga 7090 Computer . . .

(Continued from Page 1, Column 5) The general purpose data processing system, it was built with special attention to the needs of engineers and scientists, who find computation demands multiplying rapidly.

Despite its great speed advantage, the 7090 takes up less space than the 709. The 7090's construction also provides a large reduction in power consumption and air conditioning requirements. It is of modular design for easy maintenance and accessibility.

Each unit consists of modular slitting frames with two vertical pullout racks. When the racks are drawn out from the frame, they may be opened to permit access to hundreds of transistor cards and test points.

**Rep. Holt Reports on Rocketdyne's Role in Progress**  
Members of the House of Representatives were told of Rocketdyne's major role in America's outer space exploration recently by California Representative Holt of the 22nd District.

Rocketdyne is the second division of North American to get a 7090 computer. The Los Angeles Division received one last month. Another 7090 is scheduled for delivery to the Corona office in September for use in commercial applications.

(Continued from Page 1, Column 2) opening new requirements and new applications for Rocketdyne.

Cecka replaces Alan Andrews, who has been appointed Rocketdyne senior representative at Dayton.

A. A. Shumsky has been appointed assistant to the pres-

## NAA Newswire

**AUTONETICS**—Appointment of Robert T. Jones to the newly created post of director of International Operations was announced by President John Moore. His duties will include export sales and licensing agreements with foreign manufacturers.

**MISSILE**—A commendation for the division on its scientific contributions to the observation of earth satellites was published this week in a letter from the director of the National Space Surveillance Control Center.

## New Engine . . .

(Continued from Page 1, Column 2) work was performed under a contract for product improvement of liquid propellant propulsion engines sponsored by the Ballistic Missile Division of the Air Research and Development Command. Included in the program is the company's X series of engines which have been tested with as few as eight moving parts.

New concepts proven in such research have also contributed to the simplification of the H-1 Saturn engine and new higher thrust MA-3 Atlas propulsion system.

ident in charge of Rocketdyne's Specialty Products Program which has been initiated to design, produce, and sell end items for applications that are independent of Rocketdyne propulsion systems.

In addition, he will serve as chairman of the New Products Planning Board.

**MID** was cited for supplying "valuable observations of Earth satellite positions which have been used in the prediction of these objects."

**COLUMBUS**—A new lamp, smaller than a postage stamp yet providing as much light as a 150-watt bulb, has been developed for use in the wingtips of the A3J Vigilante, the division announced this week.

**LOS ANGELES**—Gen. Thomas D. White, Air Force chief of Staff, said the B-70 bomber is a "very practical" weapon needed by the U. S. and "there is no shadow of a doubt about it working." Gen. White made his remarks in a copyrighted interview in *U. S. News and World Report*.

**ATOMICS INTERNATIONAL**—Organic cooled nuclear reactors have the potential of competing with conventional energy sources for almost every major power application. Dr. Sidney Siegel, AI vice-president, told the third Inter-American Symposium on the Peaceful Application of Nuclear Energy in Rio de Janeiro.

## Michigan Alumni to Meet Aug. 8

North American alumni of the University of Michigan will meet at the Kam's Horn Restaurant, 162705 Ventura Blvd., Encino, on Aug. 8.

Dinner will be served at 7 p.m. Guest speaker will be Dr. Robert Ramsay, president of Woolbury College.

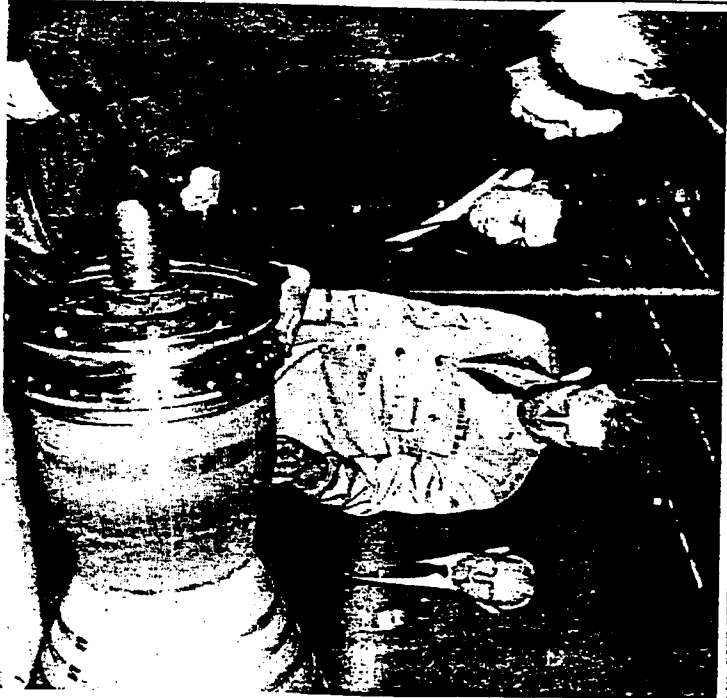
Alumni interested in attending should contact Phil Dietz, ExL 2014 at Canoga.

Apparatus often spent exploring Mars recently by California for the Hall of the 22nd District.

"The story of Rocketdyne is an example of American free enterprise and our government working together to keep America strong militarily," said Holt.

**Current Projects**  
Holt went on to tell of Rocketdyne's organization, the division's extensive operations in making rocket engines, and cited the current projects in which Rocketdyne is now engaged.

Holt's remarks were incorporated into the July 15, 1960, Congressional Record.



**INSPECTION TOUR**—Maj. Gen. David Wade, CG, First Missile Division, Vandenberg AFB, inspects new stainless steel thrust chamber capable of 45,000 pounds of thrust. With the general, from left: Rocketdyne's C. A. Hatfield, D. W. Hege, C. J. Stratton and Capt. Allen Hancock during visit to Rocketdyne.

## Project Reports Discussed at LA PERT Symposium

Current and potential applications of the recently developed Program Evaluation Review Technique were discussed at a symposium held yesterday at the Aerospace Industries Assn.'s western headquarters building in Los Angeles.

**Chairman**  
According to CO's Bill Hammel, who heads the AIA's Government Reports Committee and served as chairman for the symposium, well over 200 industry reps, including members from all North American divisions, attended the one-day meeting.

**PERT** involves breaking down the complexities of a weapon system into a sequence of small steps. As the time involved in each of the steps is estimated by scientists and engineers associated with the project, they are transcribed on IBM cards and fed into a computer.

**Continuous Reports**  
As the project gets underway, continuous reports are filed, transcribed, and fed into the computer, which is able to evaluate the impact on the overall program of any changes in any step on the schedule.

Immediate attention can be concentrated by management on the problem areas, enhancing the possibility of completing the program on schedule.



# TESTING PROGRAM UNDER WAY ON LIGHTING IN MAIN PLANT

The new fluorescent light installations in north, south, and center bays of Canoga's Main Plant Bldg. have been installed for a dual purpose—to provide improved lighting and determine the most efficient and economical tubes to be used, according to W. C. Rich, Maintenance Engineer.

The latter program, which will save two years or more to complete, involves keeping an accurate record of the life of tubes manufactured by three different companies.

## Importance Noted

"The lighting of a big plant is one of the areas in which the Maintenance Dept. can cut costs of operations," says Rich. "Replacing a burned out tube costs more money than the price of the tube, so it is very important that tubes with the longest life be used."

All the new lights are of the cool white variety. The lights formerly in use were warm white. Cool white lights are more

## Credit Union . . .

(Continued from Page 1, Column 1) ing off the loan early. This policy, incidentally, is in effect on any type of real estate loan.

For employees desiring to build a home, the Credit Union will help secure long-term financing and will advance money for the construction period and loans the money on a "pay-as-you-go" plan with interest being charged only on the amount of money actually in use at a given time.

Employees who have a maturity date of . . . years can secure

nearly like daylight and are more restful to the eyes.

During the survey, which began several months ago by plant engineers, readings are taken every 10 days.

## Maintenance Sets

### Picnic Tomorrow

Personnel of Canoga's Maintenance Dept. will hold their third annual picnic tomorrow at the Valley Rec Center from 10 a.m. to 5 p.m., according to Chet Clark, chairman of the event.

Highlight of the affair will be Indian war dances by Chief Looking Horse and his 12 squaws and braves. Also scheduled is a tug of war between Canoga and San-Su Maintenance personnel.

Santa Susana has won this battle of brawn for the last two years and if they win this year they will gain permanent possession of the tug of war trophy.

## Entertainment

"Home-made" music will be provided by a pick-up band composed of musicians who work in Maintenance.

Over 1000 individuals are expected to attend the picnic, which will probably be the largest departmental picnic ever held at the Rec Center. Co-chairmen of the event are A. J. De Kruijf and R. J. O'Donnell.

## Neesho Sports

### Enthusiasts Hear

### Talk on Boatinn



**INSULATION**—Application of glass tape insulation is one of early steps in manufacturing of solid propellant Tartar/Terrier gas generators at McGregor. Right, after taping, charge is trimmed to final size at burning end by remotely controlled saw to provide smooth finished surface.



changed only on the amount of money actually in use at a given time.

Employees with second trust deeds which have a maturity date of three years can secure a low-rate, five-year loan.

#### Second TD

Those desiring to initiate a second trust deed may do so up to 75% of the appraised value less the amount remaining on the first trust deed.

McCloy urged any North American employee interested in any type of real estate loan to check with the Credit Union first.

He also said that the money now available is not reserved for real estate loans exclusively, but includes automobile, stock, furniture, and signature loans.

## Neosho Sports Enthusiasts Hear Talk on Boating

The Rocketdyne Rod and Tackle Club at Neosho last Wednesday heard an informative discussion of boating laws and safety when Carl Engelbrecht, Missouri Conservation Dept. agent for the area, addressed the group.

The meeting was billed as a "get acquainted" session by the members from the plant.

The club, its officers point out, is affiliated with the National Rifle Assn. It regularly schedules fishing trips, shooting activities, family picnics, and other sports events in season.



**LIAISON**—Capt. Robert Madden, left, head of Rocketdyne firemen at SanDiego, discusses fire prevention techniques with Inspector Ted Jensen, of the Los Angeles Fire Dept., as part of continuing liaison program with various local fire units.



**PROTECTION**—Full-length sleeve of fibreglass-like material, machined to high tolerance to prevent gas leakage during firing, is inserted to give additional protection to case. Right, in final assembly grain has been inserted in case and end plate locked into place. Tube is attached to nozzle flange at right end to carry gas during firing to hydraulic or electric turbine.

## Firemen Observe Fire Prevention Techniques at PFL

More than 500 officers and firemen from surrounding communities — and as far away as Honolulu — have witnessed demonstrations of advanced fire prevention and suppression techniques developed at the Propulsion Field Laboratory, according to Fire Chief O. C. LeBletter.

#### Indoctrination

Interested primarily in Rocketdyne's experience in handling and transporting special rocket propellants and other industrial materials, each of the firemen attended four-hour indoctrination periods which included lectures, demonstrations, and test firings of large rocket engines. In charge of the program was Capt. Robert Madden, assisted by fireman Joe Carrigan.

#### Municipalities

Half of the visiting firemen were from Los Angeles city and county fire units, but many came from Ventura County, Burbank, Glendale, Downey, Vernon, and numerous municipalities within Los Angeles County. Two representatives of the Honolulu Fire Dept. also attended the sessions. Middle

## Hargiss Named Assistant Manager of LPO Quality Control at Canoga

W. C. Hargiss has joined a variety of Kansas, Dorring Rocketdyne as assistant manager, World War II he served with Quality Control, Liquid Propulsion Operations. It was announced by R. L. Heath, manager, Quality Control.

A native of Emporia, Kan., Hargiss holds both a Bachelor's and Master's degree in mechanical engineering from the University of Kansas.

## Wolf Chairman of Local ASME Unit

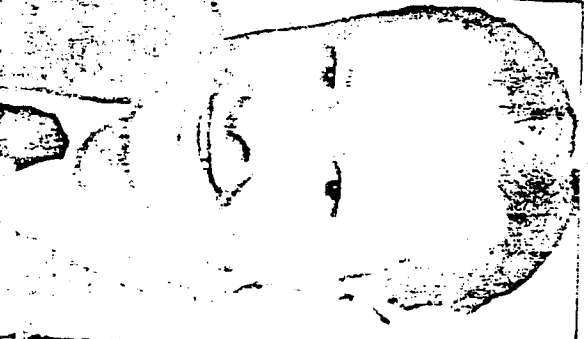
J. E. Wolf, principal engineer of the Mark 10 Turbopump at Canoga, has been elected chairman of the Los Angeles section of the American Society of Mechanical Engineers for 1960-61.

Prior to his election to his present post, Wolf had served as secretary and vice-chairman of the organization.

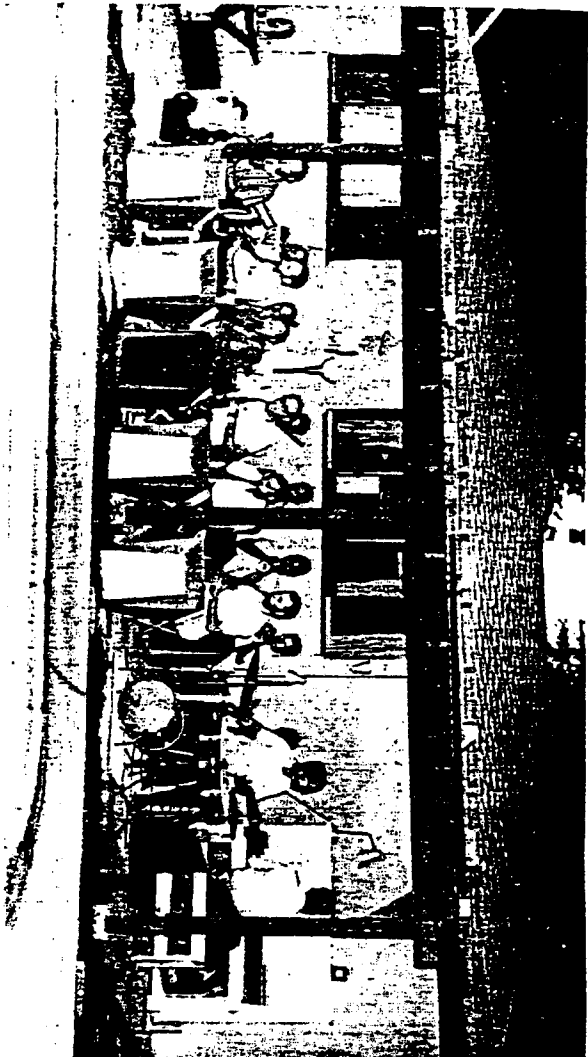
#### Large Group

The Los Angeles section of the ASME has about 3000 members, the largest membership in the United States.

Other Rocketdyne personnel who are active in the local functions of ASME include: R. B. Dillaway, Naughton's manager; Verne Digner, Advanced Design supervisor; and E. M. Burbank, Field Service Failure and Analysis unit supervisor.

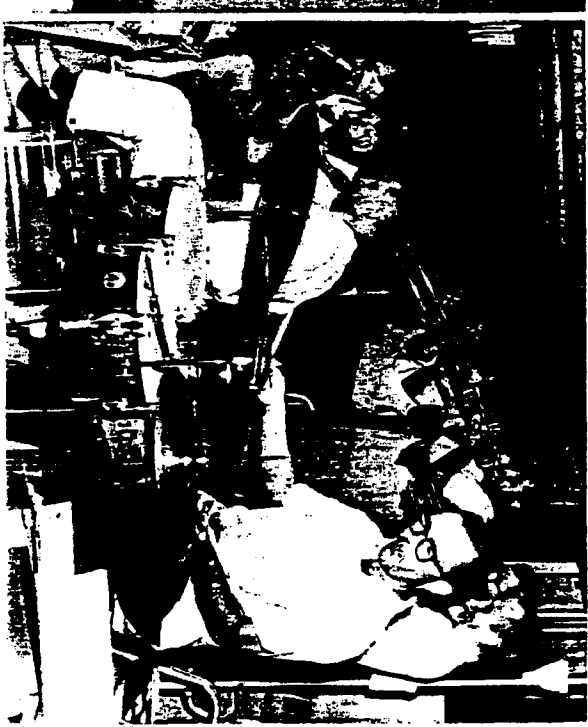


W. C. Hargiss



**COOL REHEARSAL**—Canoga's own 16-piece dance band rehearses on patio at home of El Hubbard, band director and trombone player. Band rehearses once every two weeks, with substitutes sitting in when regular sidemen are absent.

In right pic, drummer Dick Franz sets the tempo as brass and reed sections give out on hot number. Outfit, which ranges from Bach to Boogie, was heard in one of first sessions by the Valley Chapter of the Management Club.



**JAM SESSION**—Intense musicians in informal jam session are, from left: Bob Lake, Jack Hadley, Bill Steers, George Jarvis, El Hubbard, Dick Franz, Jim Henderson, George McMahon.

## Management Club Members Hear Performance by Rocketdyne Band

Rocketdyne's own dance band, which made its debut at the Guys and Dolls Hawaiian Holiday last month, played its second company engagement last Wednesday night.

At this time they serendad Valley Chapter members of the North American Los Angeles Management Club at their monthly dinner meeting at the Sportman's Lodge in Studio City.

### In Second Year

The 16-piece band, under the direction of E. A. Hubbard, was formed about a year ago by former Rocketdyne employee Harry Warden, who still plays with the band on a substitute basis.

During its brief history, the band had plenty of success, "reg painis."

## Management Club Members Hear Performance by Rocketdyne Band

as Stan Kenton, Alvino Ray, Hoyd Raeburn, Skinny Ennis, Freddy Martin, and Spade Cooley.

The band, which plays for company charitable functions free of charge, is partially supported by Welfare and Rec, which has supplied the piano and music stands.

## Logistics Slates Summer Picnic

A Summer picnic will be held by the Logistics division Saturday, Aug. 6, at the Recreation Center from 10 a.m. to 6 p.m., according to E. F. Klass, public chairman. Everyone from the Van Nuys

## Classified Ads

- FOR SALE**  
 ROVAT, P-14, 35. Examine motor, skin, trailer, \$995. Altamont (D). ST 2.9511.  
 CAMERA, 2 1/2" x 3 1/4" Bessaflex ground glass, 100' film, 100' extension bellows. Bessaflex (D). DR 7.5303.  
 WATERK softener, 1 1/2 cu. ft., fully automatic, used 2 mos., \$500. Bredhenson (D). TU 5.4534.  
 TABLE, rattan, formica top, dropleaf, 4 chairs, \$125. Kuch (D). DI 7.5762.  
 STOVE, Viking & Merrill, double brock oven & broiler, still, \$100. Hauser (D). DI 3.2516.  
 COUCH, black, manchester, \$40. Harris (D). DI 7.1987.  
 TRAMP, upright, antique finish, a hand, \$65. Jackson (D). DI 7.9276.  
 HOUSING, Johnson, 1 1/2 bath, insulated, disposal, sprinklers, central, \$16,950. White (D). DI 7.8835.  
 1957 FORD Fairlane 500 RR11. SW, full power, \$1195. Goodwin (D). SF 4.4921.  
 1955 HUDLICK Converter, Special Studler (D). ST 6.2417.  
 1950 STRUCTURON, 4 dr., \$150. Peterson (D). FO 1.0509.  
 1959 FORD, Fairlane, convertible, white, 1 1/2 bath, power, best offer. Fisher (D). FO 7.2001.  
 1958 Buick, white with red interior, best offer, 2000 miles, \$1,100. Jones (D). DI 8.9722.  
 SADDLE, western, road, 15.5" wide and 16.5" high, \$80. Best offer, 1 1/2 weeks. Price has (owner) \$1, \$10.

No. American Flying Horsemen

Atg, from left: Bob Lake, Jack Tauley, Bill Steers, George Jarvis, El Hubbard, Dick Franz, Jim Henderson, George McMillan.

## North American Flying Horsemen Slate Open House Wednesday

All Rockeddyne Division men interested in the finer points of horseback riding are invited to turn out for an open house program Wednesday night sponsored by the North American Flying Horsemen.

### Free Steeds

The program will get under way at 7:30 p.m. at Dupree Stables at the south end of the San Diego Freeway in Culver City. Horses will be provided free of charge for all attending. Reservations should be made with Henry Shapiro, L.A. Ext. 2056, or the Recreation office. Flying Horsemen will demonstrate their rookie training program, tent pegging, the

## New Datafax System Connects McGregor, Canoga Park Plants

Engineering drawings, production schedules, and miscellaneous charts and letters are speeding between the McGregor and Canoga Park plants since installation of a new Datafax transmission system.

Operating much like the wirephoto service common to newspapers and television stations, the machine transmits exact copies from one plant to the other in a matter of minutes.

### Transmittal Pre-press

In operation, a typal drawing or chart is placed in the Datafax transmitter at McGregor's correspondence control center or at Canoga's data transmittal center. After clear-

ing the band on a substitute basis.

During its infancy the band had plenty of "growing pains." In fact, after several months of unsuccessfully trying to find a place to rehearse, the band broke up.

### Rehearsal Hall

Fortunately for Rockeddyne music lovers, band members found a rehearsal hall when the Valley Recreation Center was constructed. Last October they began blowing up a musical "storm" in the Guest House at the Valley Rec Center.

The band is composed of both amateur and professional musicians. Some members are former name band sidemen and have played with such famous bands

Center from 10 a.m. to 6 p.m. according to E. F. Klass, publicity chairman.

Everyone from the Van Nuys facility and Field Service personnel are invited to attend the gala event.

### Activities Set

Music will be furnished by George Jarvis and his Jaybirds. There will be games, sports for adults and kids, and free prizes for all, and free soft drinks, popcorn, and cotton candy. Everyone should bring lunch.

Tickets, at 50 cents per family, may be obtained from unit secretaries.

Further information may be obtained from E. F. Klass, Ext. 271, Van Nuys.



**FAST DELIVERY**—McGregor's Mary Hesse starts Engineering drawing on way to Canoga over new Datafax system. Machine transmits exact copy from one plant to another in minutes.

1958, 194, 4, where with red interior, less than 21,000 miles, \$1,095. Write: (DD), DI 1-80-22.

**SADDLE**—Western, complete. Tackle and harness, \$40. Saddle, \$15. 5 pieces, 2 weeks. DI 6-27-60.

**1958 ALISTON HEAVY**—14 ft. 6 in. 1st wheel with 1000 block interior, \$2,100. DI 11-11-60.

**STONE**—Universal panel, auto, 1st rate model, \$75. Krzywicki (DD), 6-6-58.

**WATER**—cooler & copper tubing, resistor (over) \$25. See (DD), DI 7-9-60.

**HUNTER**—6-man, acre lot with view lake privileges. Hurus (ND), DI 6-1-60.

**FREEZER**—14 ft. Norge Commercial, 37 inch over payments, \$24.58. or cash. Fontana (DD), ST 1-9-58.

**STRUTS**—CAR, built for plastic phenolic, \$5 motor, \$100. Swim DI 8-8-62.

**SPRINGFIELD**—30.06 Sportster, 1st model (DD), DI 5-9-65.

**SHENK**—S, Kerkelbach, 2 1/2 ft. high, brand horse, \$5. Cleveland (DD), ST 5-27-58.

**REFRIGERATOR**—G.E., approx 11 cu ft., cross top freezer, \$30. Paul (DD), DI 7-24-61.

**GOLF**—CLUBS, full set McGregor Young, bag & cart, \$135. Green (DD), 7/00, Midway, Canoga Park.

**1953 JAVIER**—green NK120 convertible, \$1195. Nichols (DD), DI 6-6-62.

**HON**—TRAILER, 5 x 6 x 8 ft. high, with hitch, \$25. Martin (DD), DI 7-8-63.

**TRAILER**—5, made by manufacturer, 9 weeks old, responsible. Kinnings (DD), DI 9-15-60.

**BEAT**—18" Performance, 10 hp Royal South American, Tracker, 1959, \$1505. Brock (DD), DI 9-4-58.

**MILBERGER**—111 machine, 5 quiet, several other supplies included, \$100. Yahn (DD), DI 6-18-60.

**RETORID**—(JAN)GIE, Calhoun, 3 speed GIE carburetor, diamond needle, base Wenz (DD), DI 7-8-62.

**WASHER**—Jenbacher, Hydromatic auto, best offer takes. Neuman (DD), ST 1-26-56, 9-15-60.

**FOR RENT**—FURNISHED guest house, single kitchen, the bath, walk-in wardrobe. Kelly (DD), DI 8-16-56.

**RIDE WANTED**—MAMMATEAN Beach to Canoga, 7:18 to 4:30. Herron (DD), DI 6-5-62.

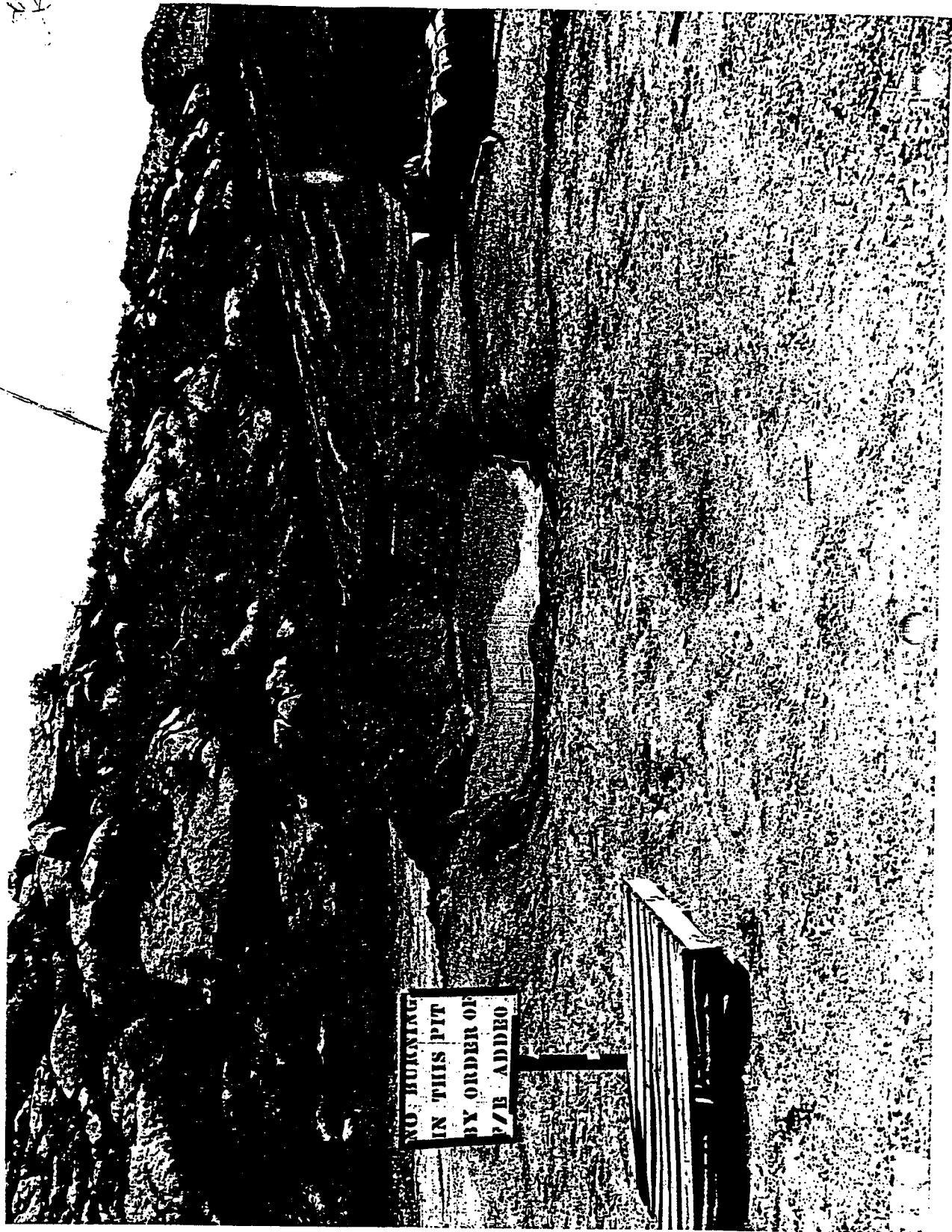
**ROCKEDDYNE**  
**SKYWRITER**

Bill Levering  
Editor, Company Publications

Rockeddyne Canoga Park  
Frank Thistle, Ext. 1218

Rockeddyne Neosho  
Harry Herranen  
Rockeddyne McGregor  
Richard Moore

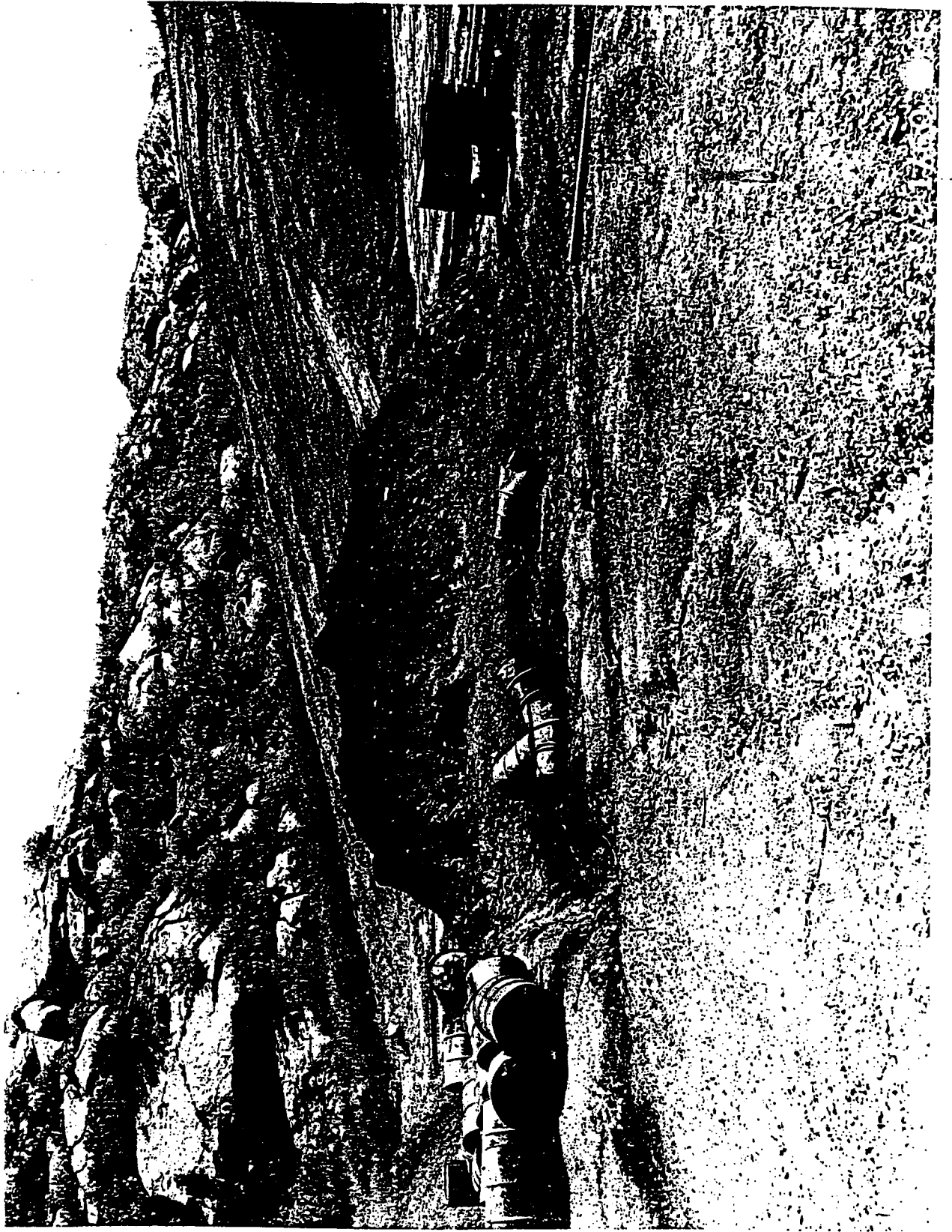
THIS PIT IS USED FOR HAZARDOUS  
AND DANGEROUS FUELS DISPOSAL - NO WATER  
RETAIN - NO DRAIN-OFF TO SECONDARY PITS.



NO BURNING  
IN THIS PIT  
BY ORDER OF  
[illegible] ADDED

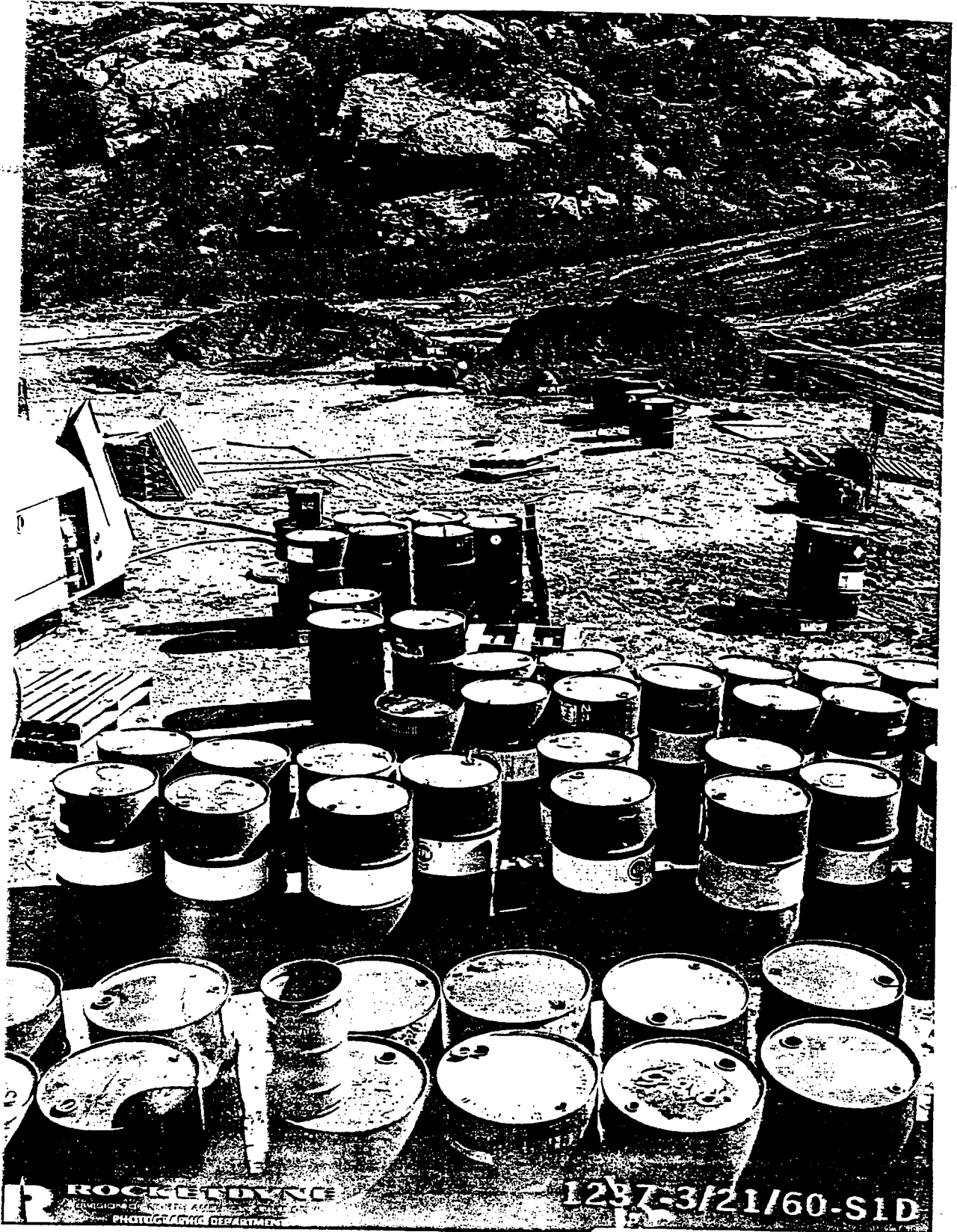
Ex. 34 - 5186

GURICAN  
000102



Ex. 34 - 5187

GURICAN  
000103

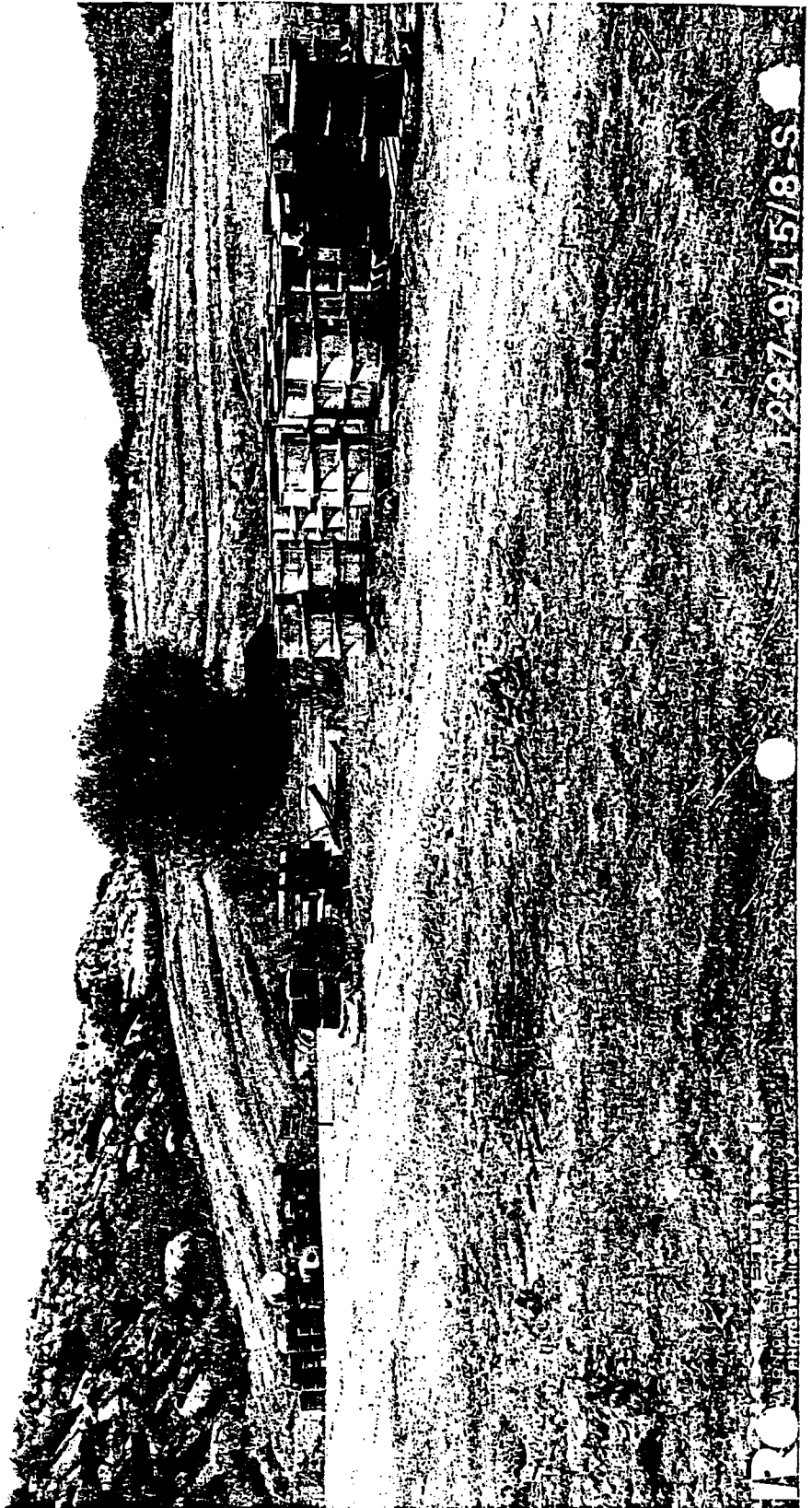


ROCKETDYNE  
PHOTOGRAPHIC DEPARTMENT

1287-3/21/60-S1D

Ex. 34 - 5188

GURICAN  
000104



Ex. 34 - 5189

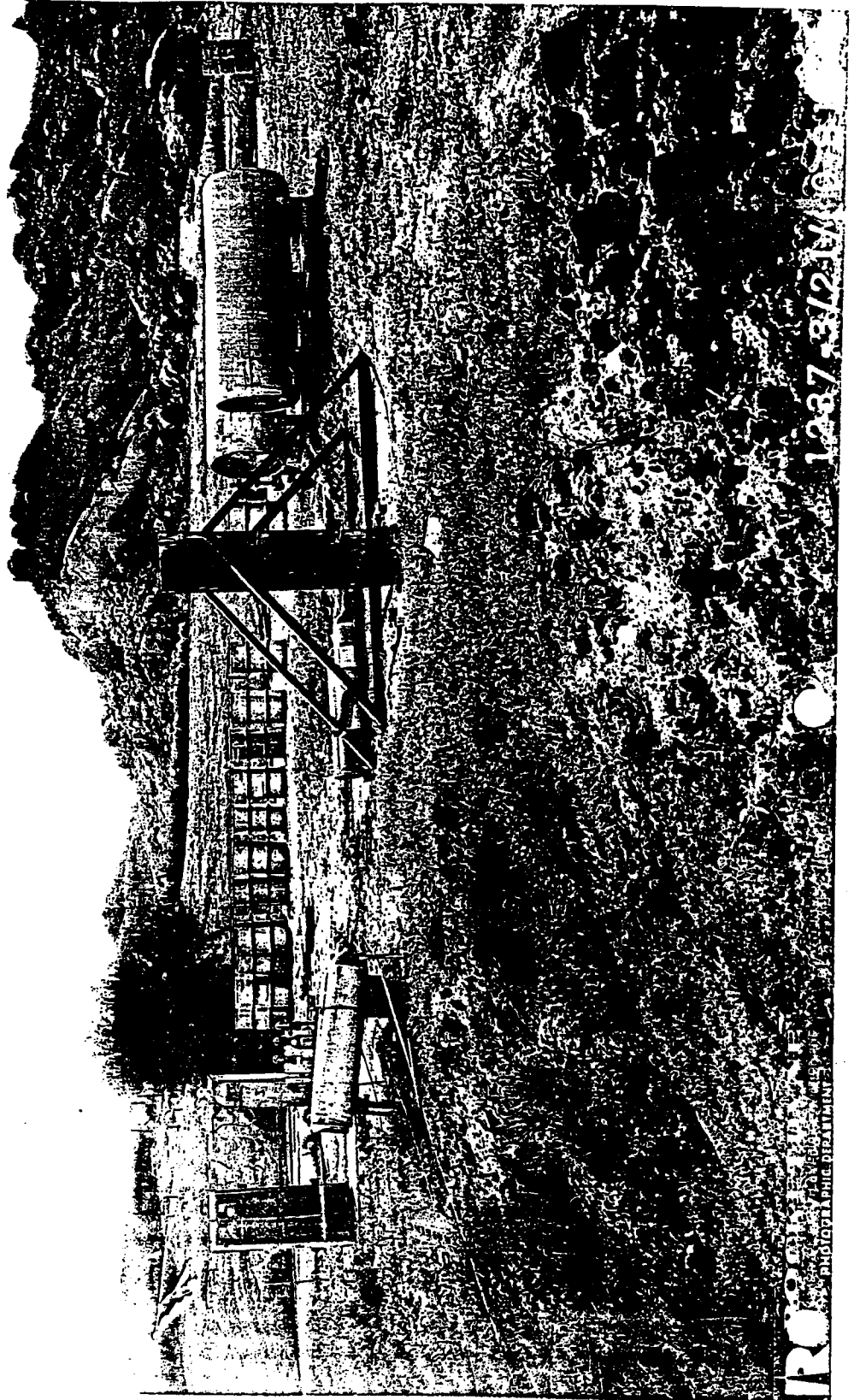
GURICAN  
000105





GURICAN  
000106

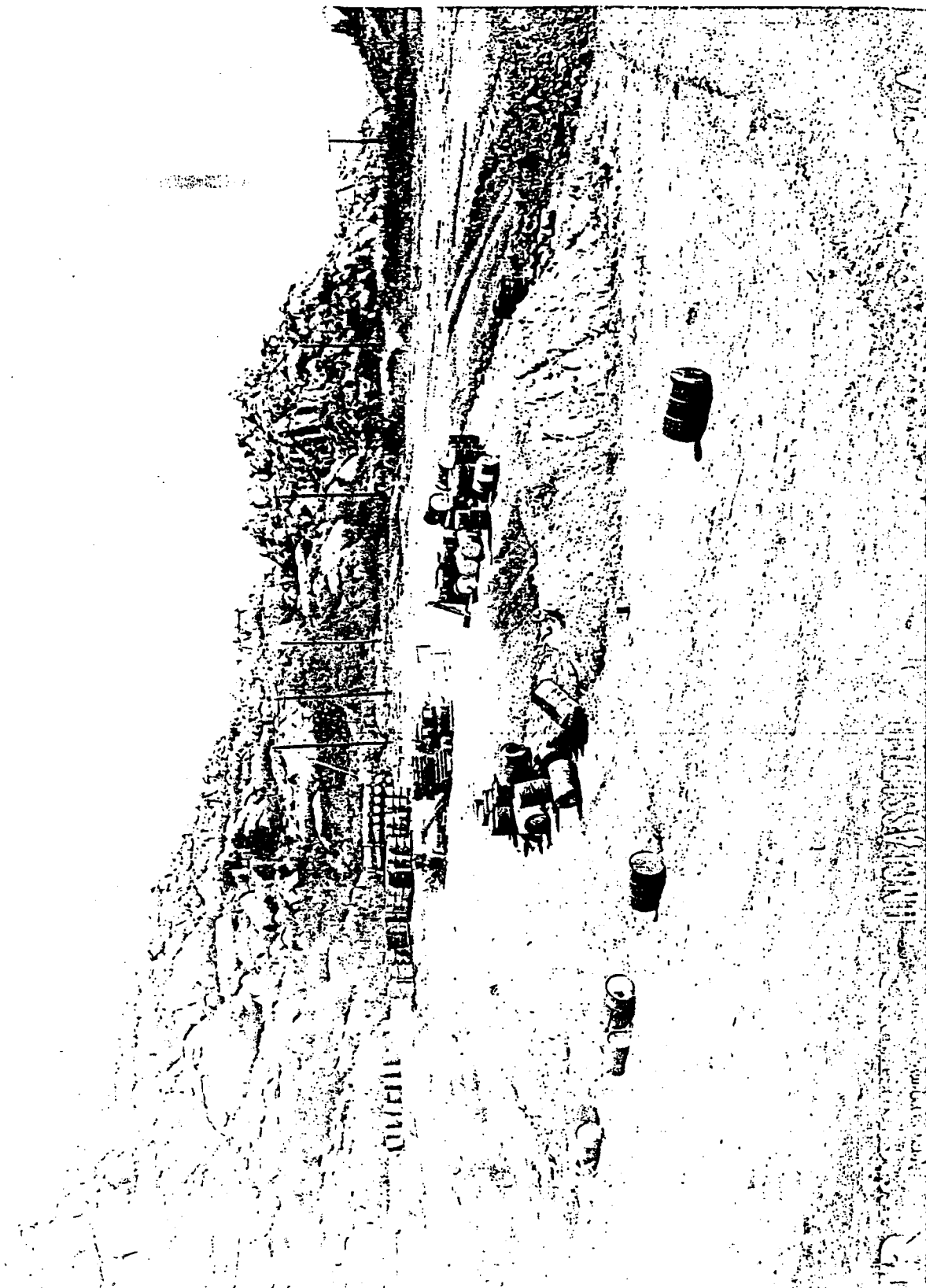
Ex. 34 - 5190



1237-312-1058  
PROJECT 1058  
PHOTOGRAPHIC DEPARTMENT

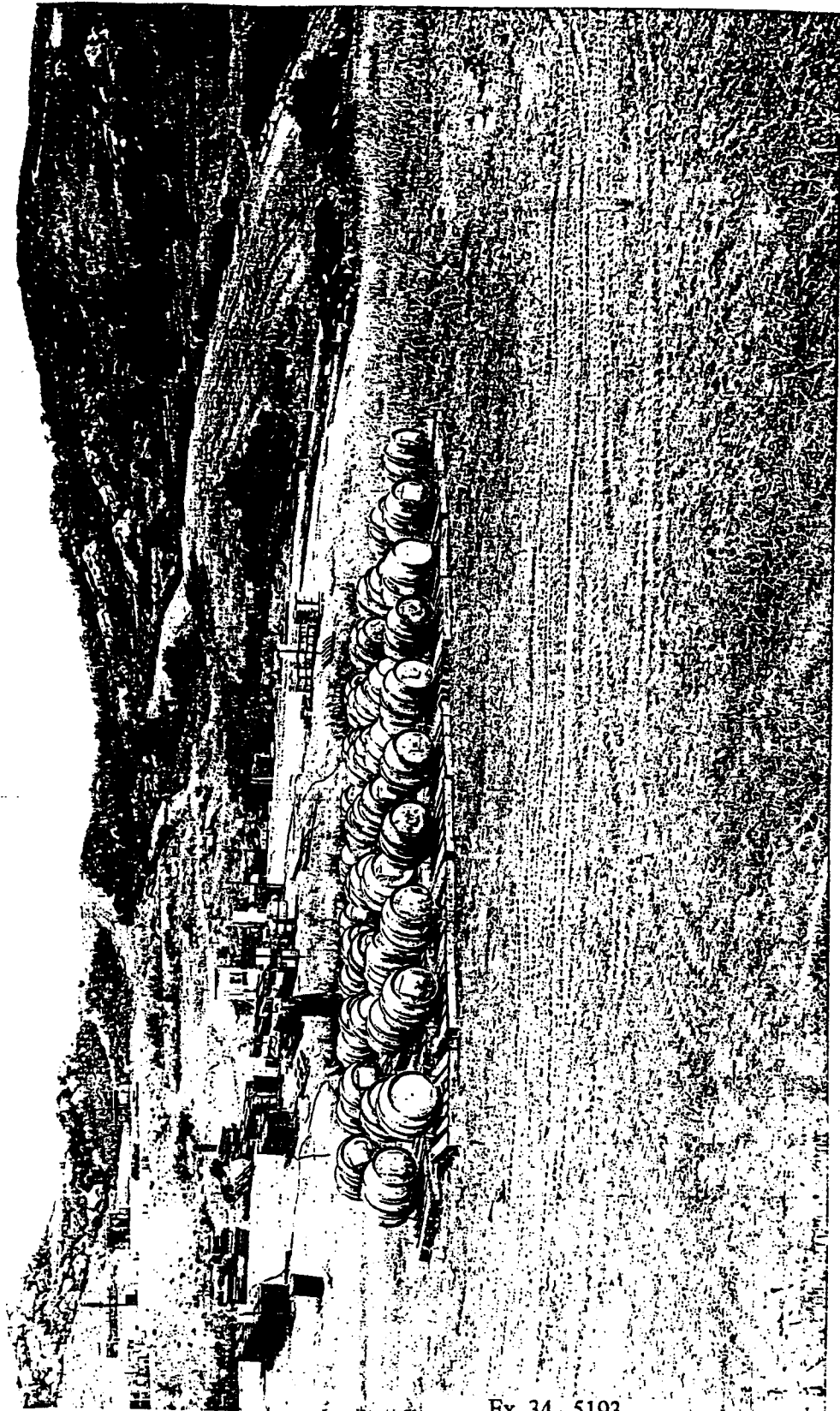
Ex. 34 - 5191

GURICAN  
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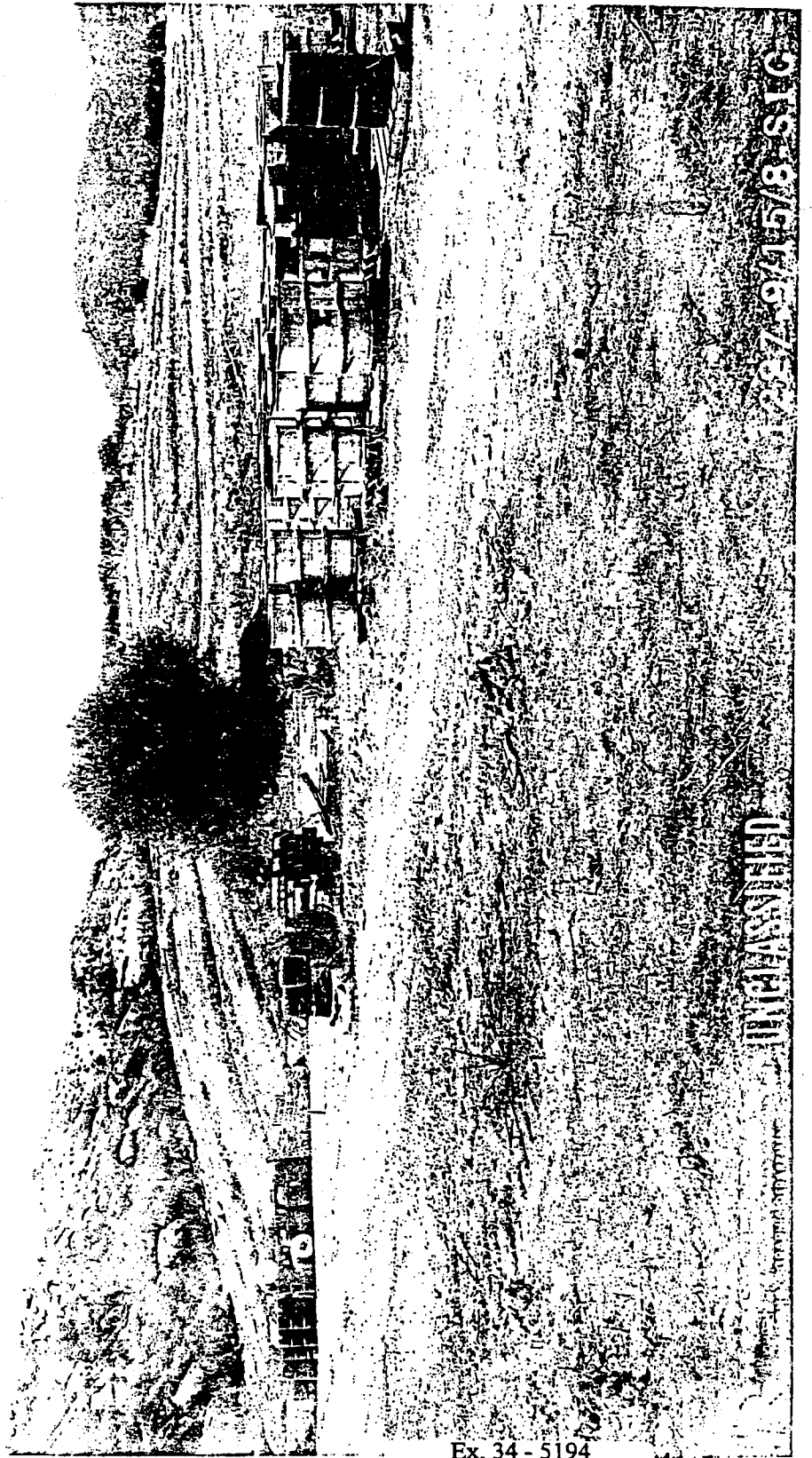
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GURICAN  
000108



Ex. 34 - 5193

GURICAN  
000109

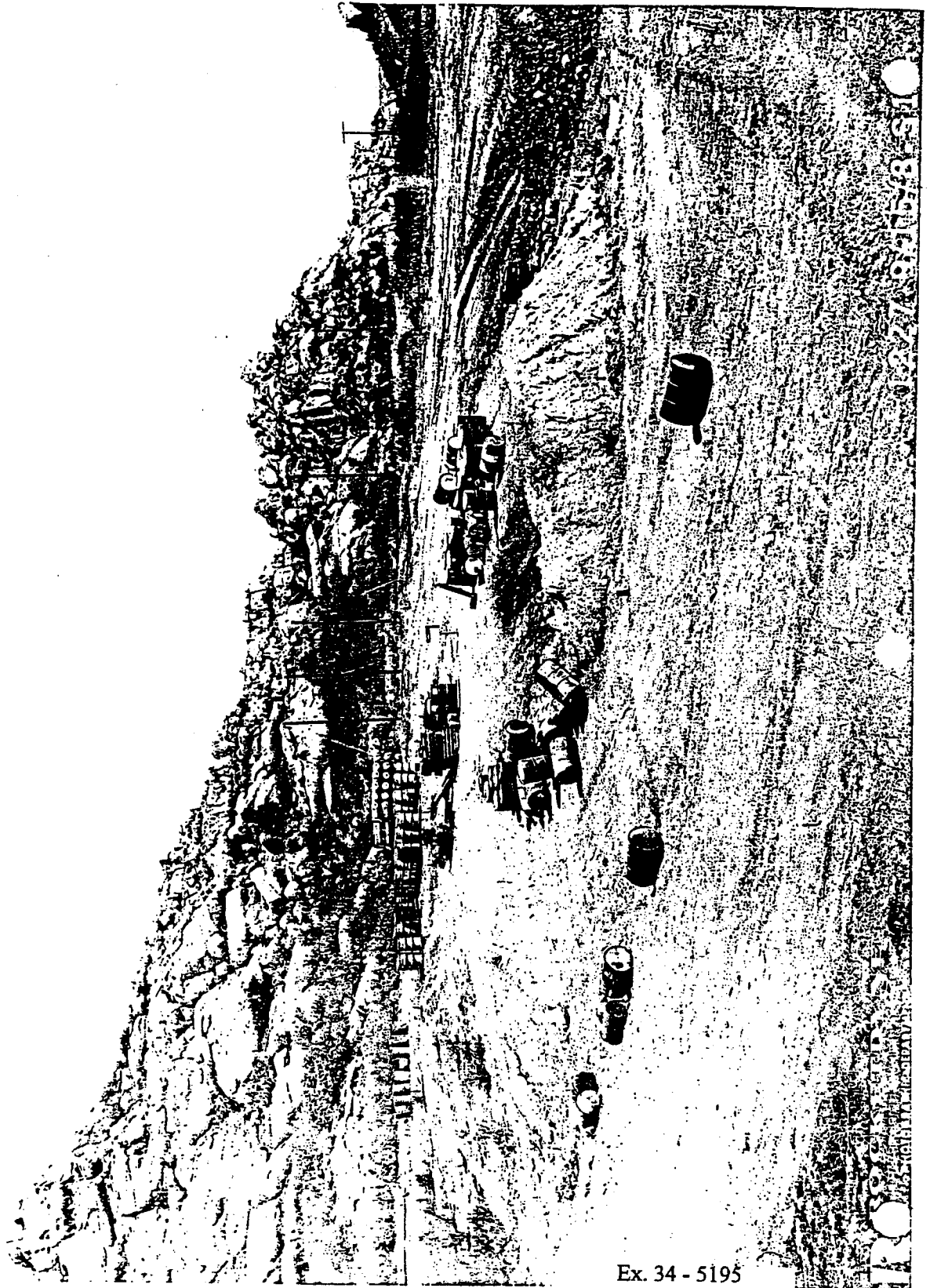


UNCLASSIFIED

2007-09-15/8-516

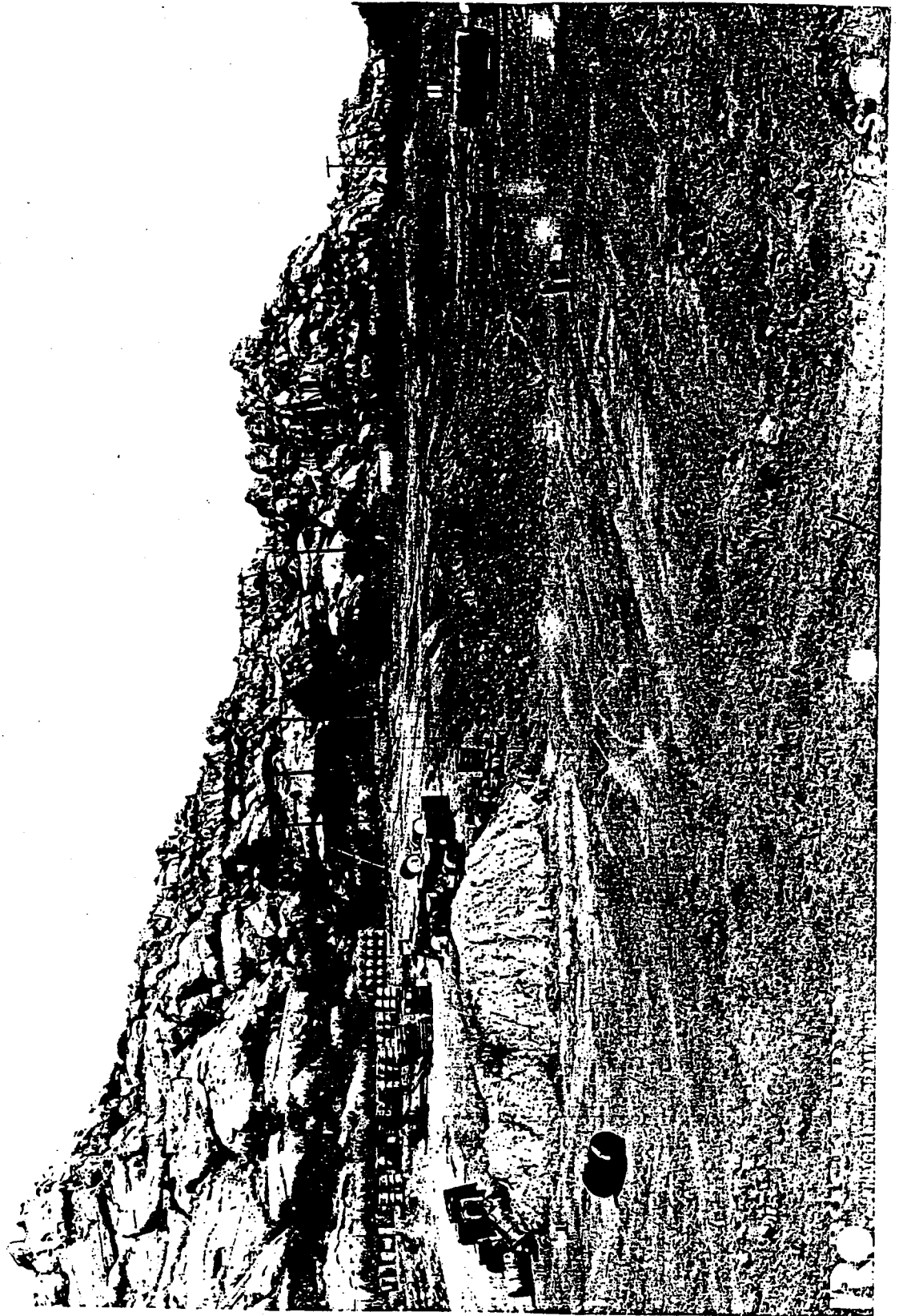
Ex. 34 - 5194

GURICAN  
000410



Ex. 34 - 5195

GURICAN  
000111



Ex. 34 - 5196

GURICAN  
000112

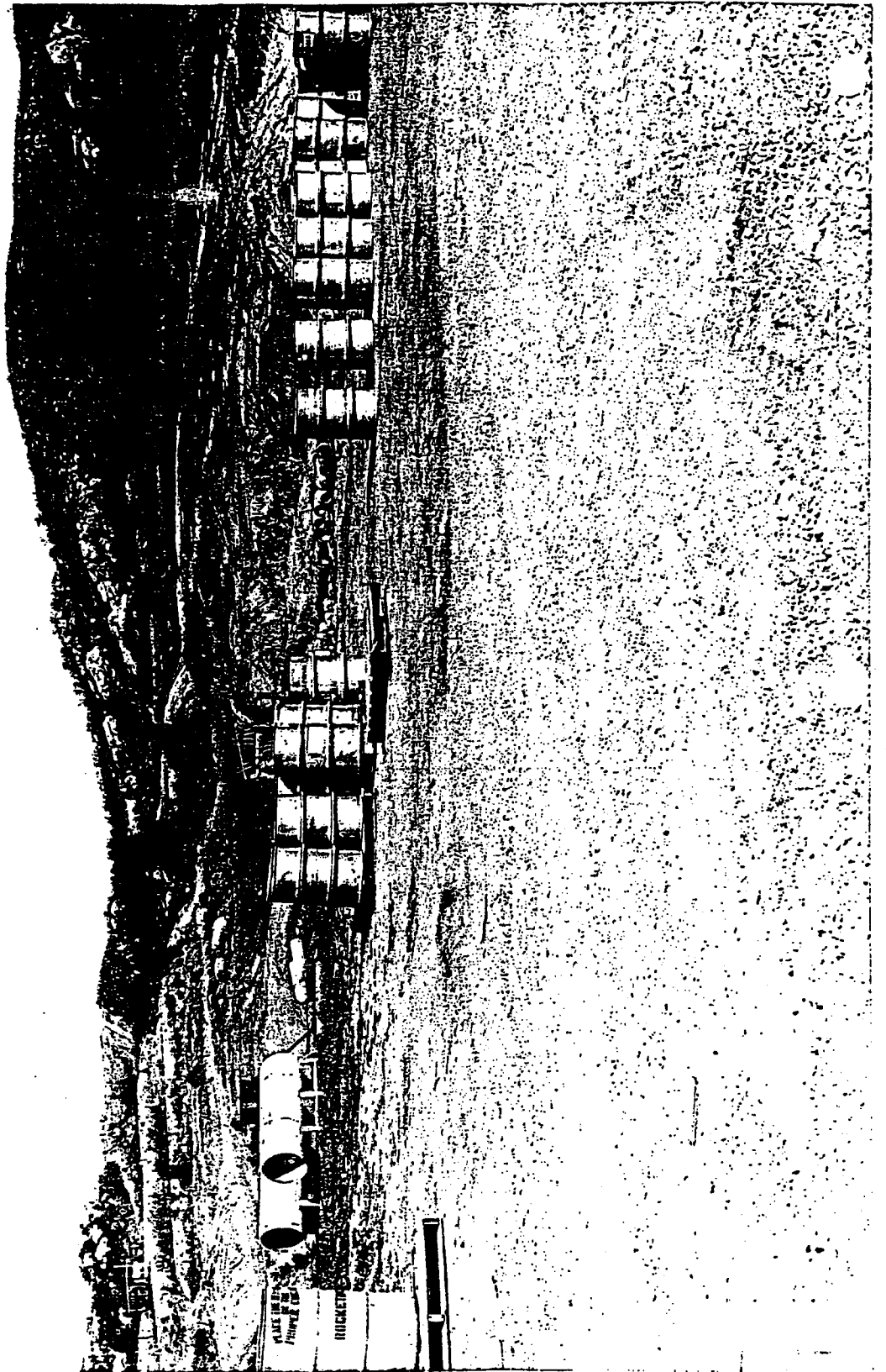


ROCKETDYNE  
DIVISION OF NORTHROP CORPORATION  
PHOTOGRAPHIC DEPARTMENT  
12878-3721/60-S-13

Ex. 34 - 5197

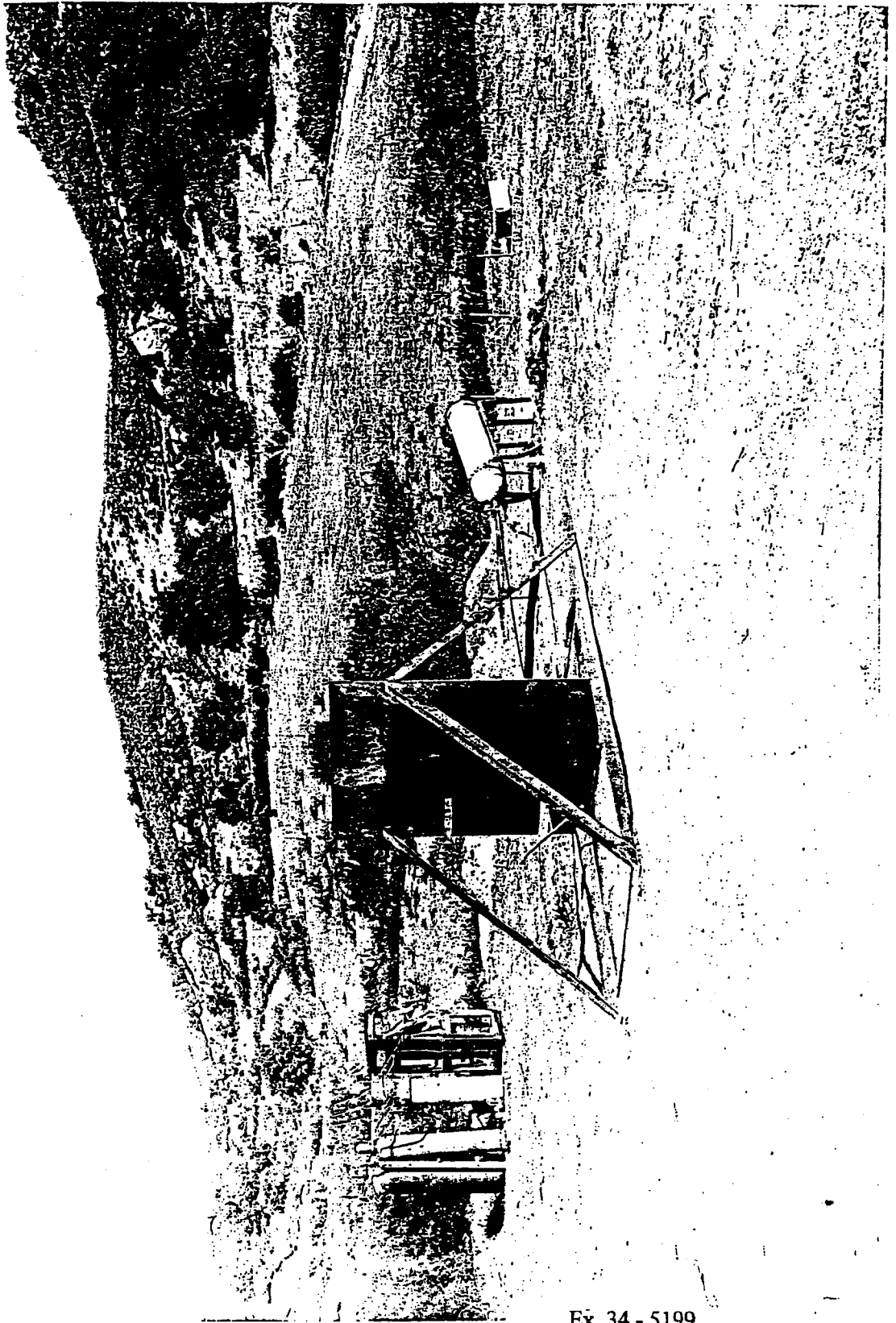
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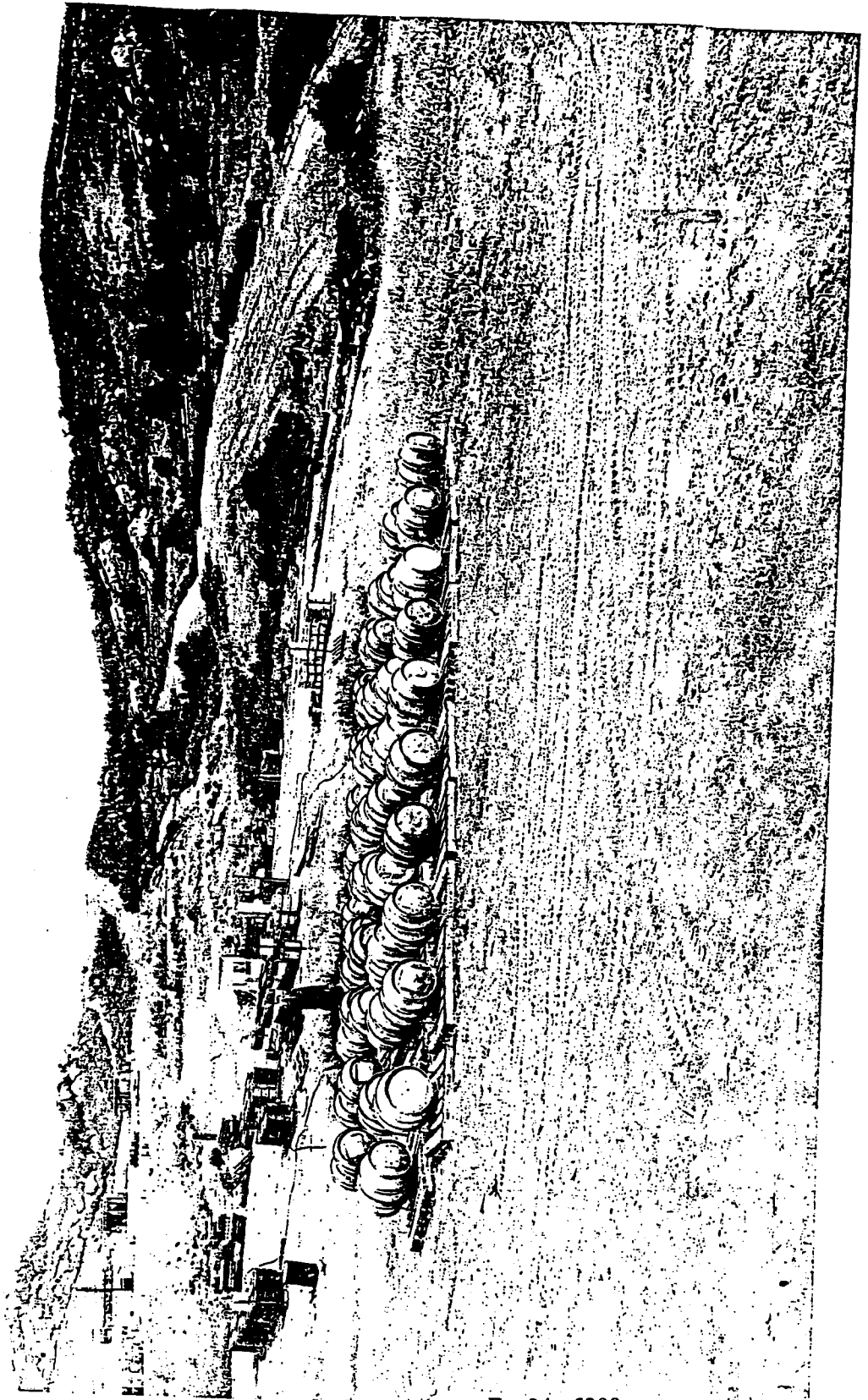
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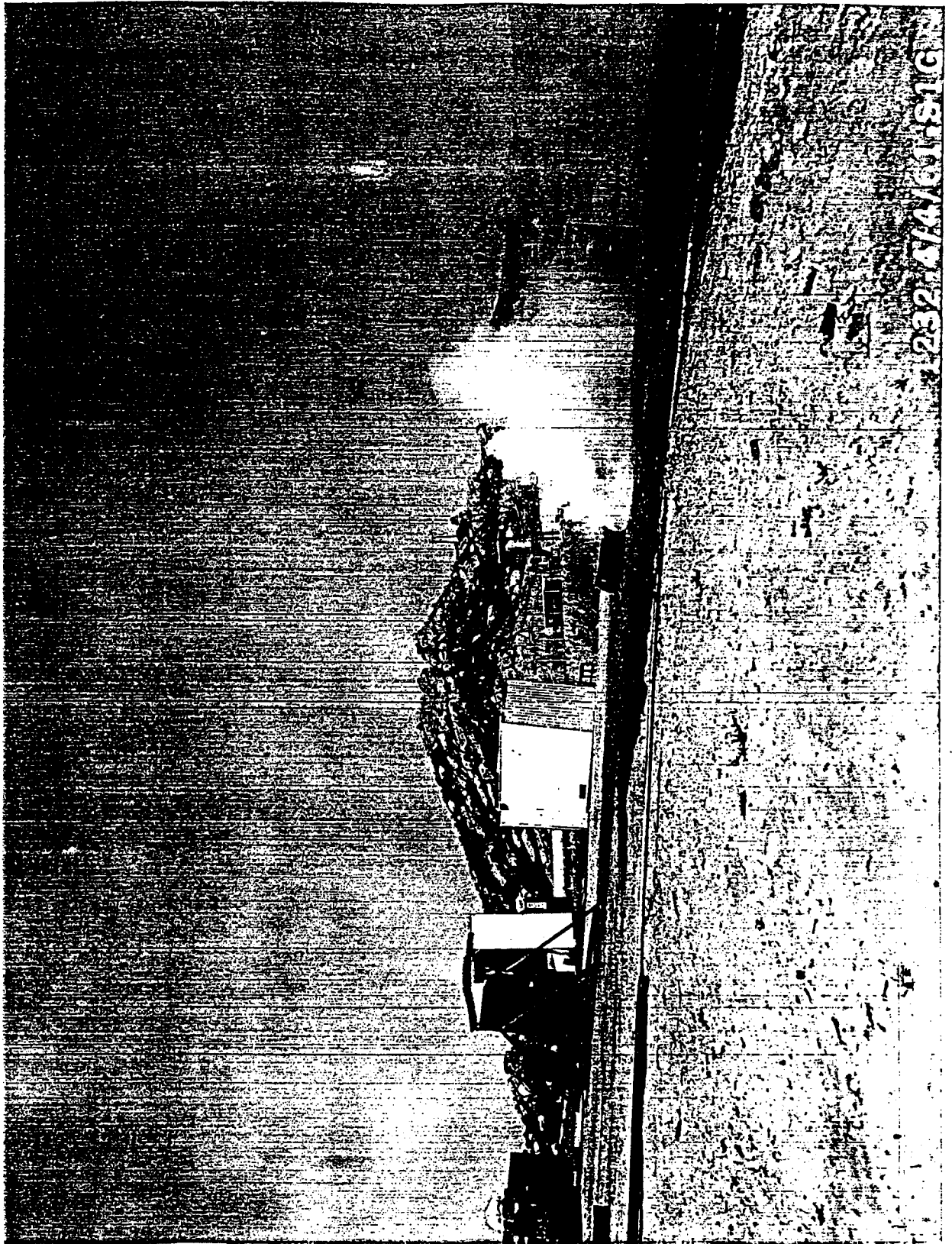
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GURICAN  
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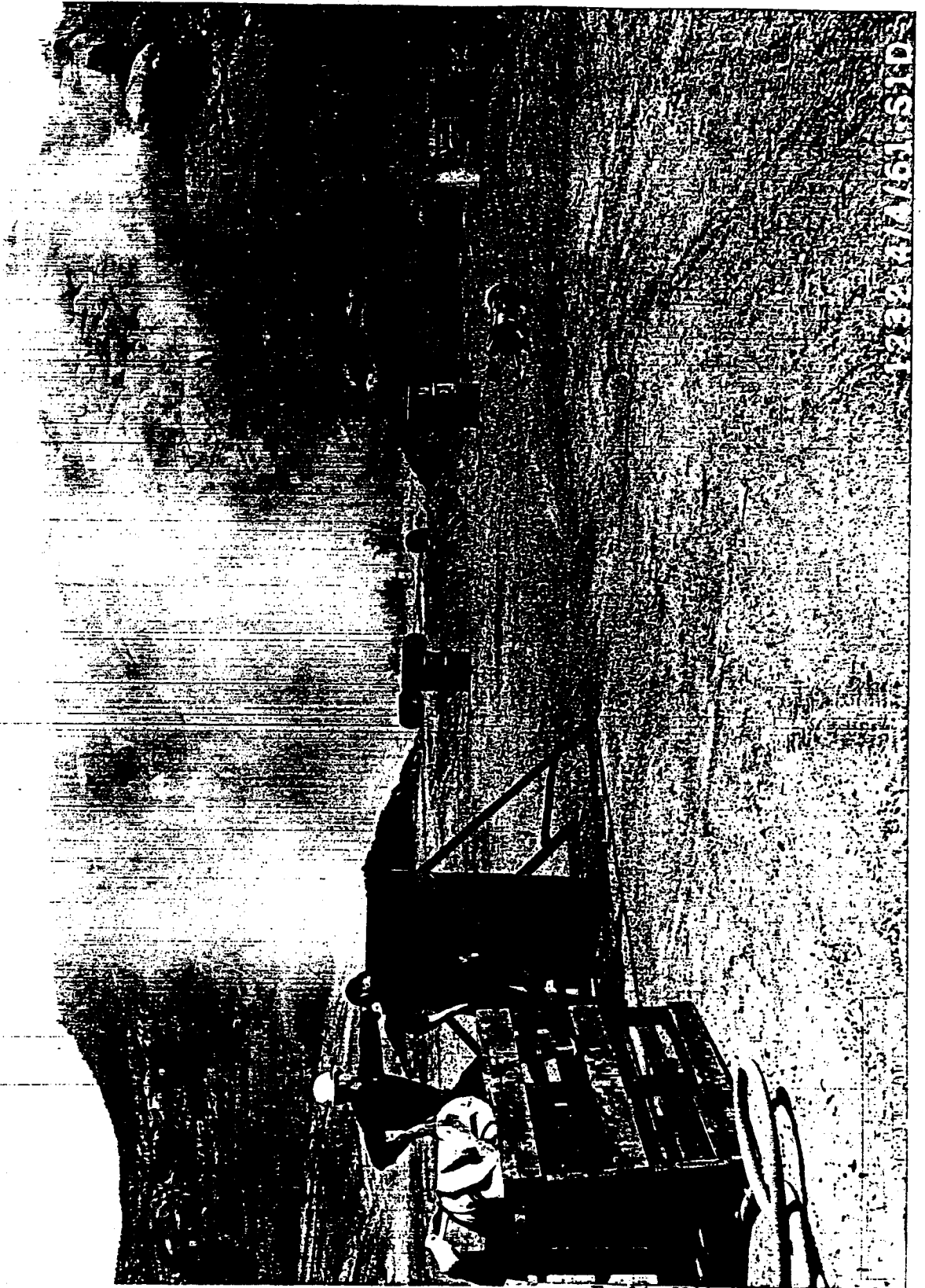
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GURICAN  
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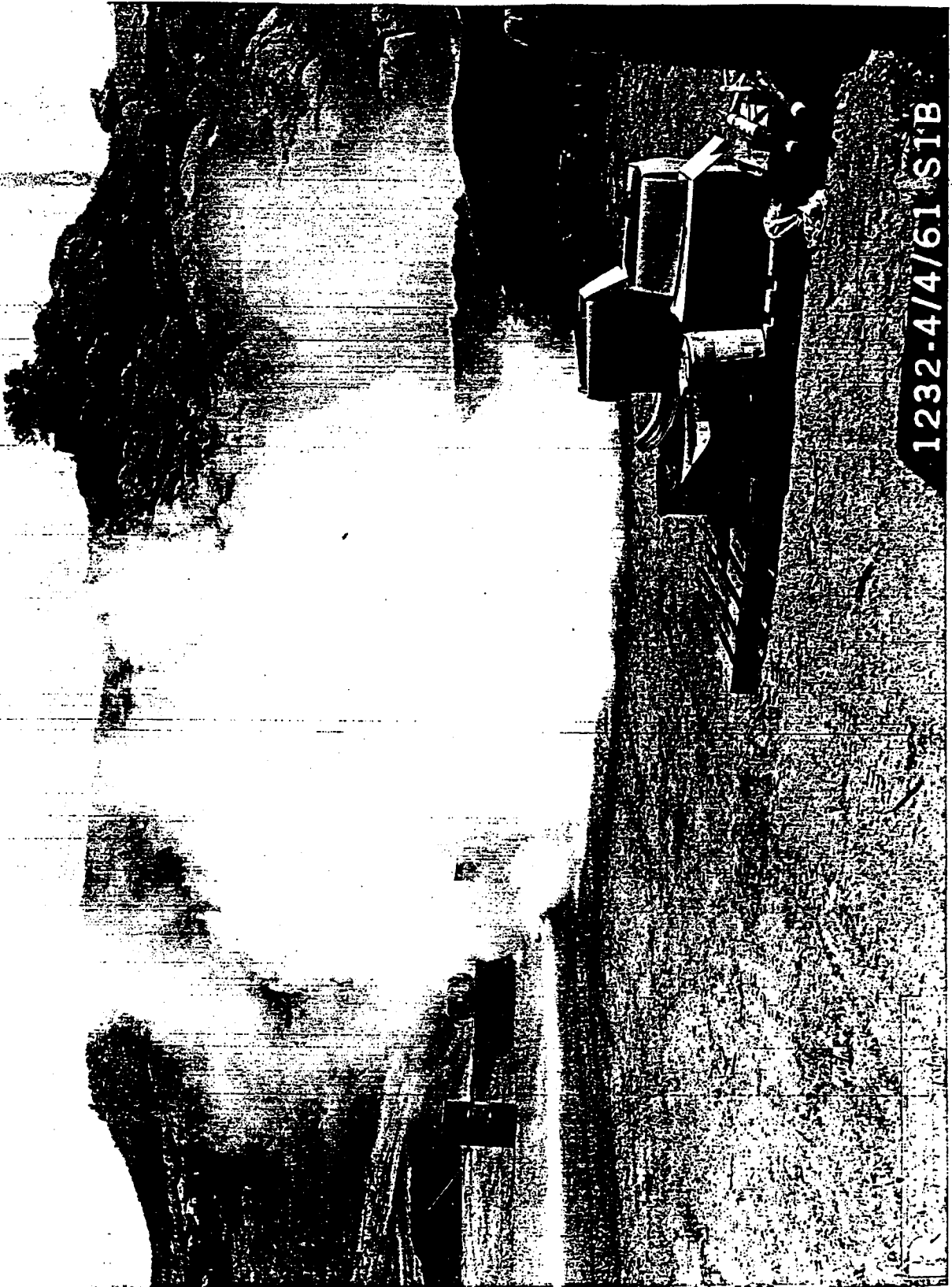
Ex. 34 - 5201

GURICAN  
000117



Ex. 34 - 5202

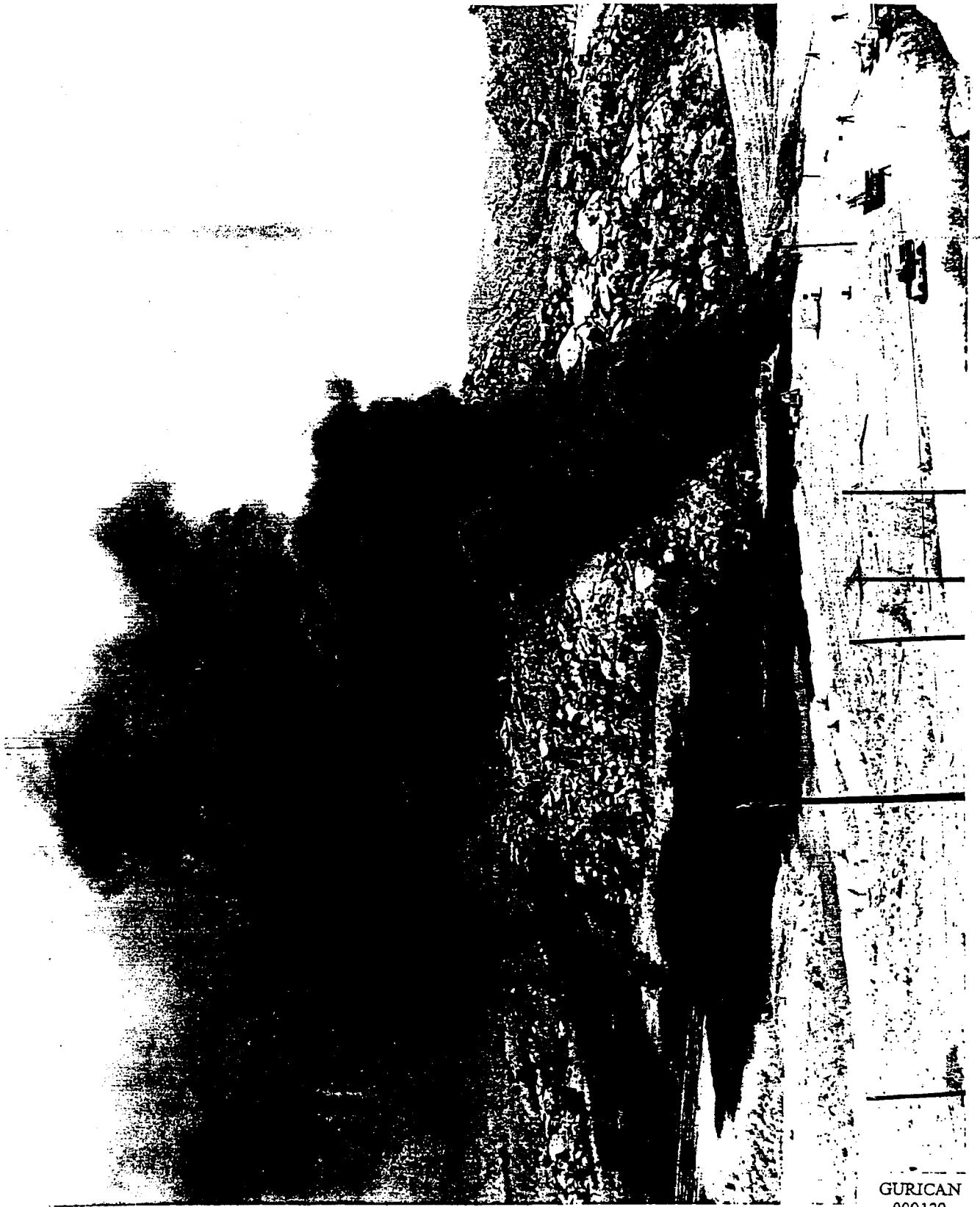
GURICAN  
000118



1232-4/4/61 S1B

Ex. 34 - 5203

GURICAN  
000119



Ex. 34 - 5204

GURICAN  
000120



Ex. 34 - 5205

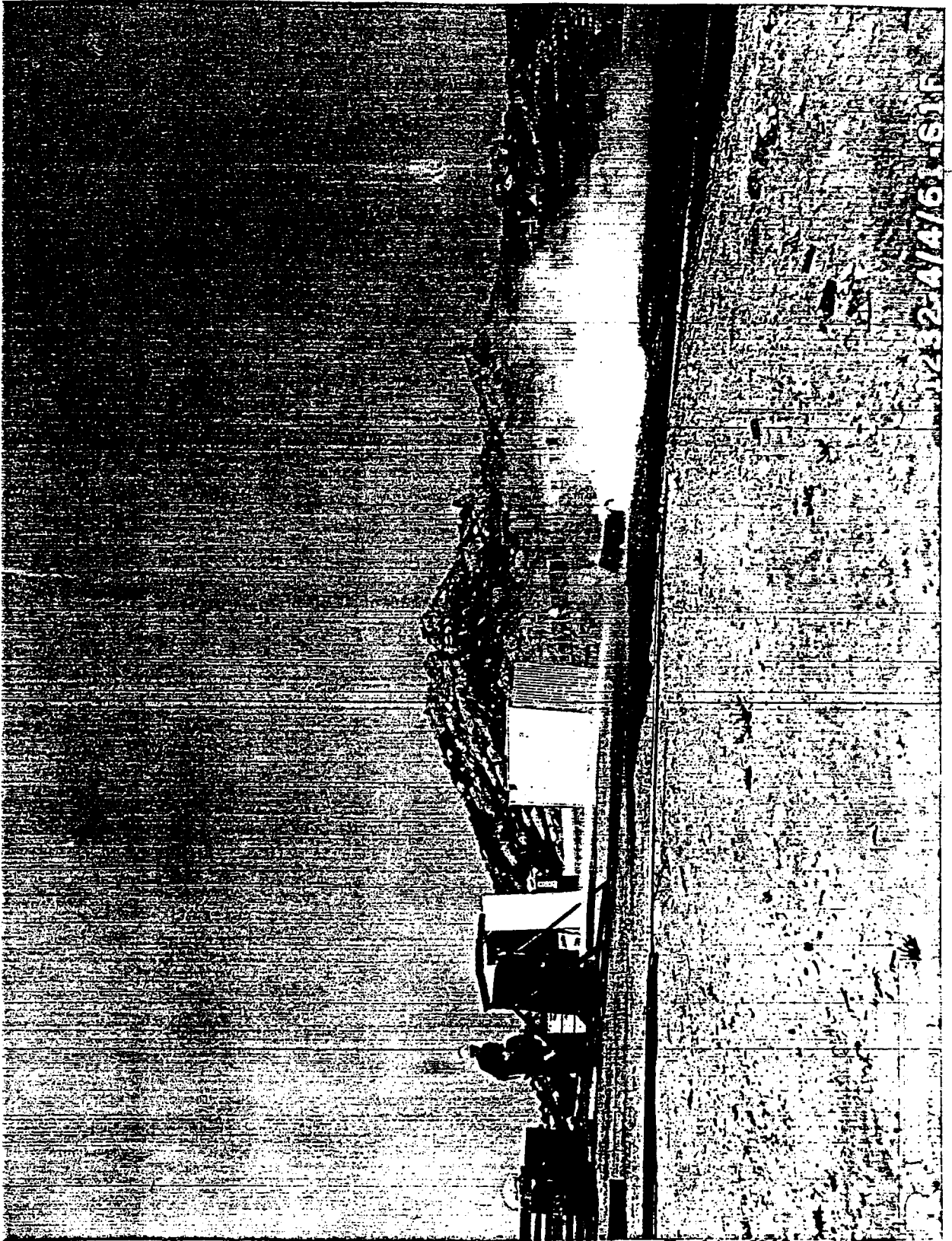
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Ex. 34 - 5206

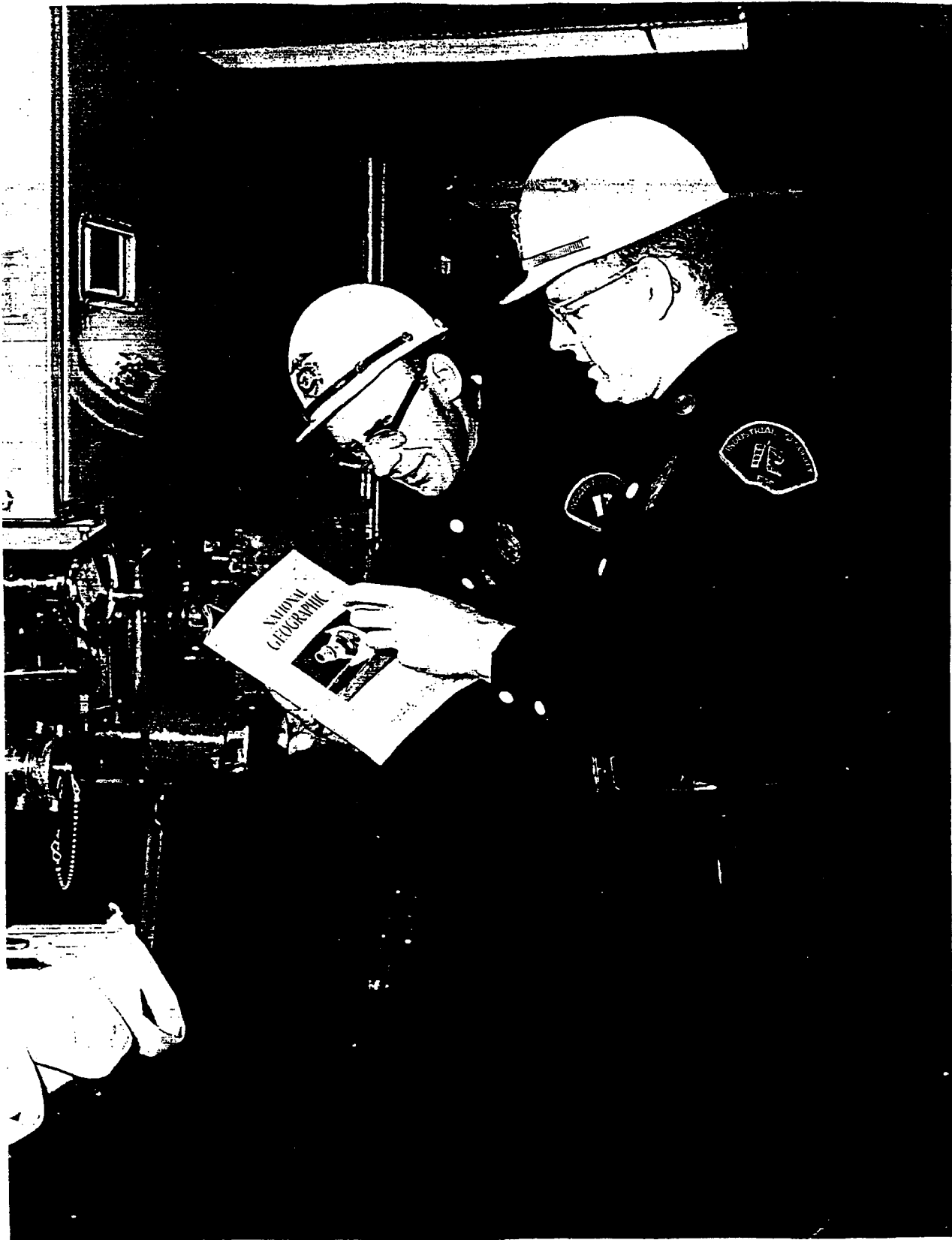
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1232-4/4/61-61R

Ex. 34 - 5207

GURICAN  
000123



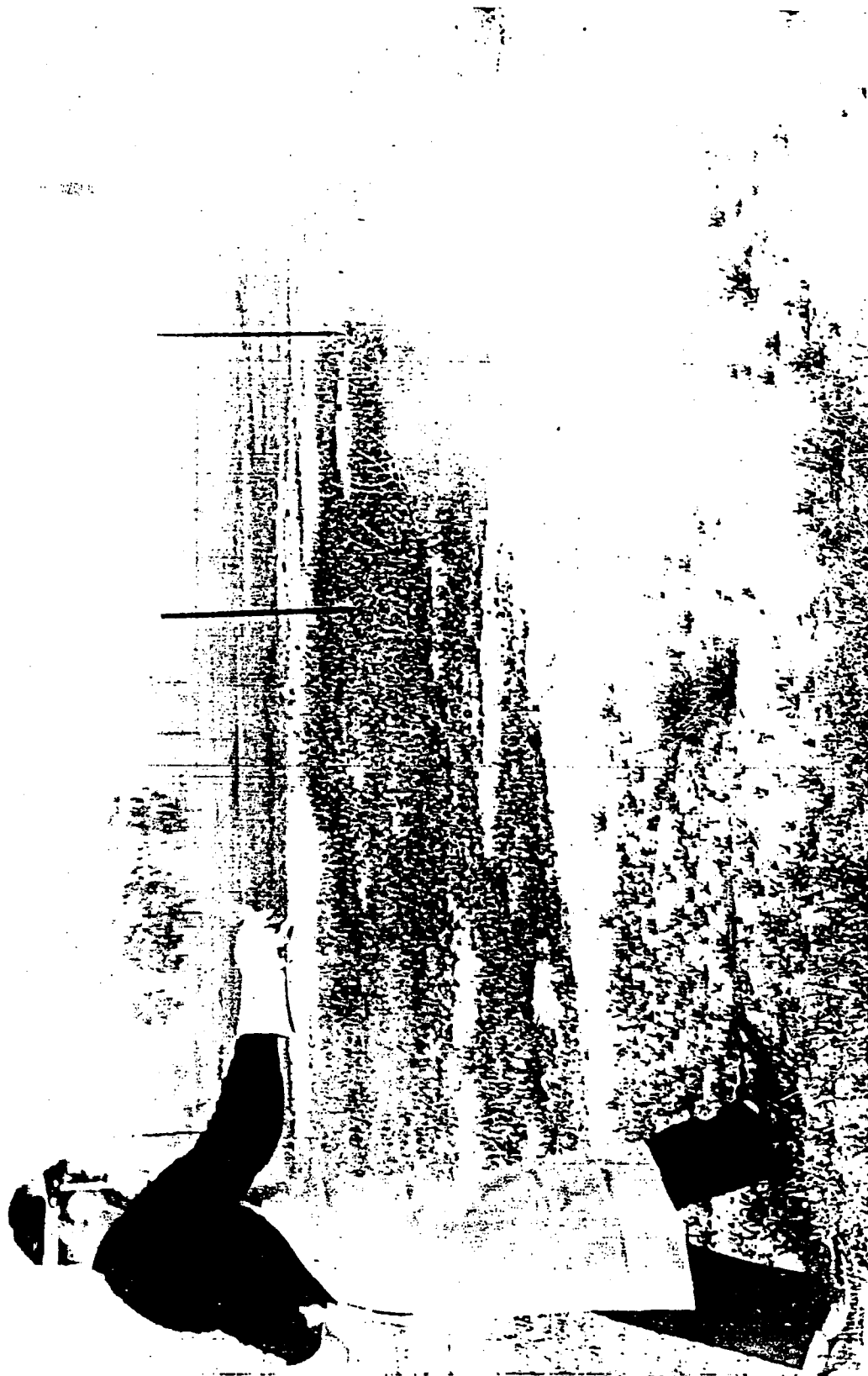
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GURICAN  
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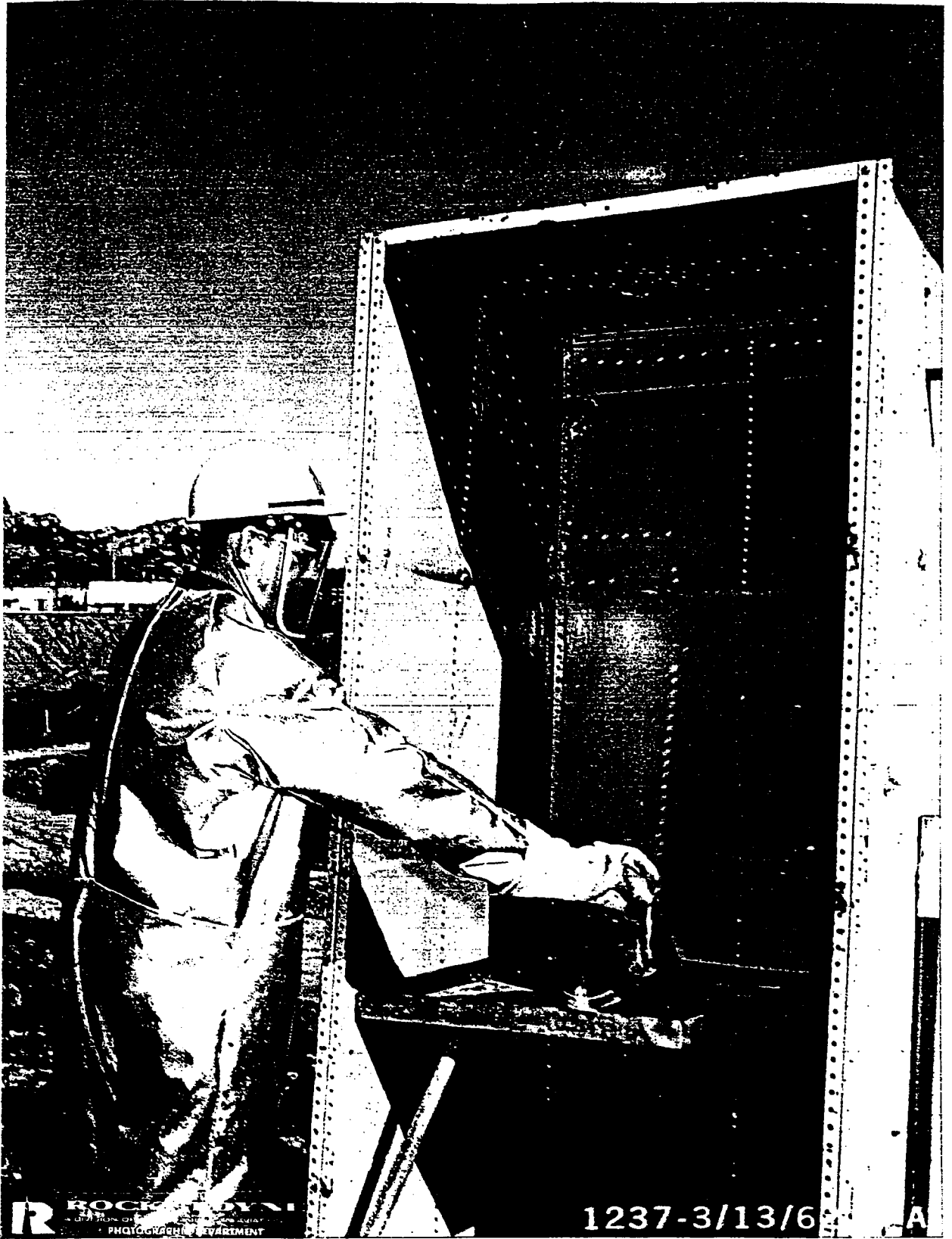
Ex. 34 - 5209

GURICAN  
000125



Ex. 34 - 5210

GURICAN  
000126



**R ROCKAWAY**  
PHOTOGRAPHIC EQUIPMENT

1237-3/13/68 A

Ex. 34 - 5211

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000127



Ex. 34 - 5212

GURICAN  
000128



GURICAN  
000129

Ex. 34 - 5213





GURICAN  
000130

Ex. 34 - 5214



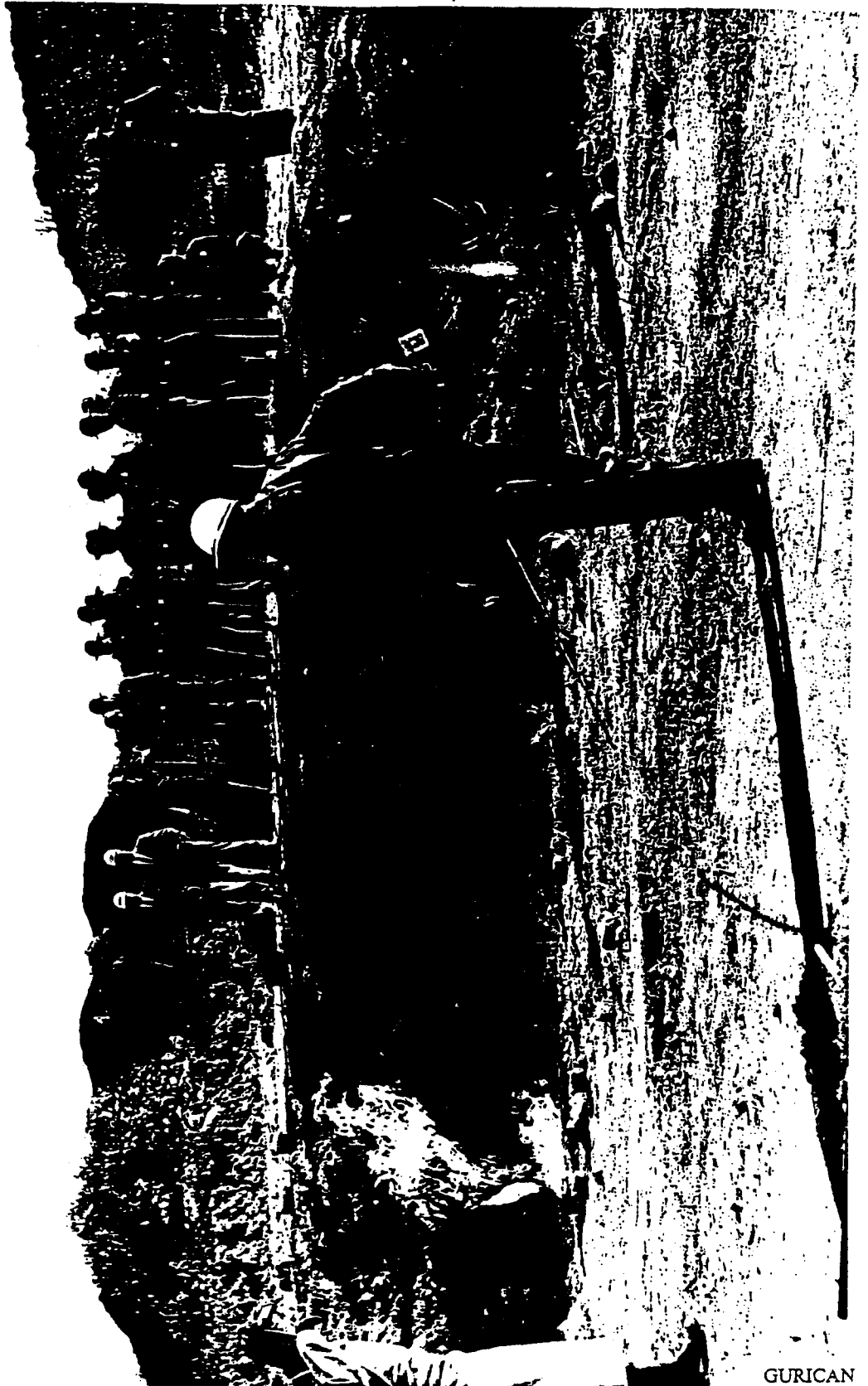
Ex. 34 - 5215

GURICAN  
000131



Ex. 34 - 5216

GURICAN  
000132



GURICAN  
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Ex. 34 - 5217



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Ex. 34 - 5218



GURICAN  
000135

Ex. 34 - 5219



Ex. 34 - 5220

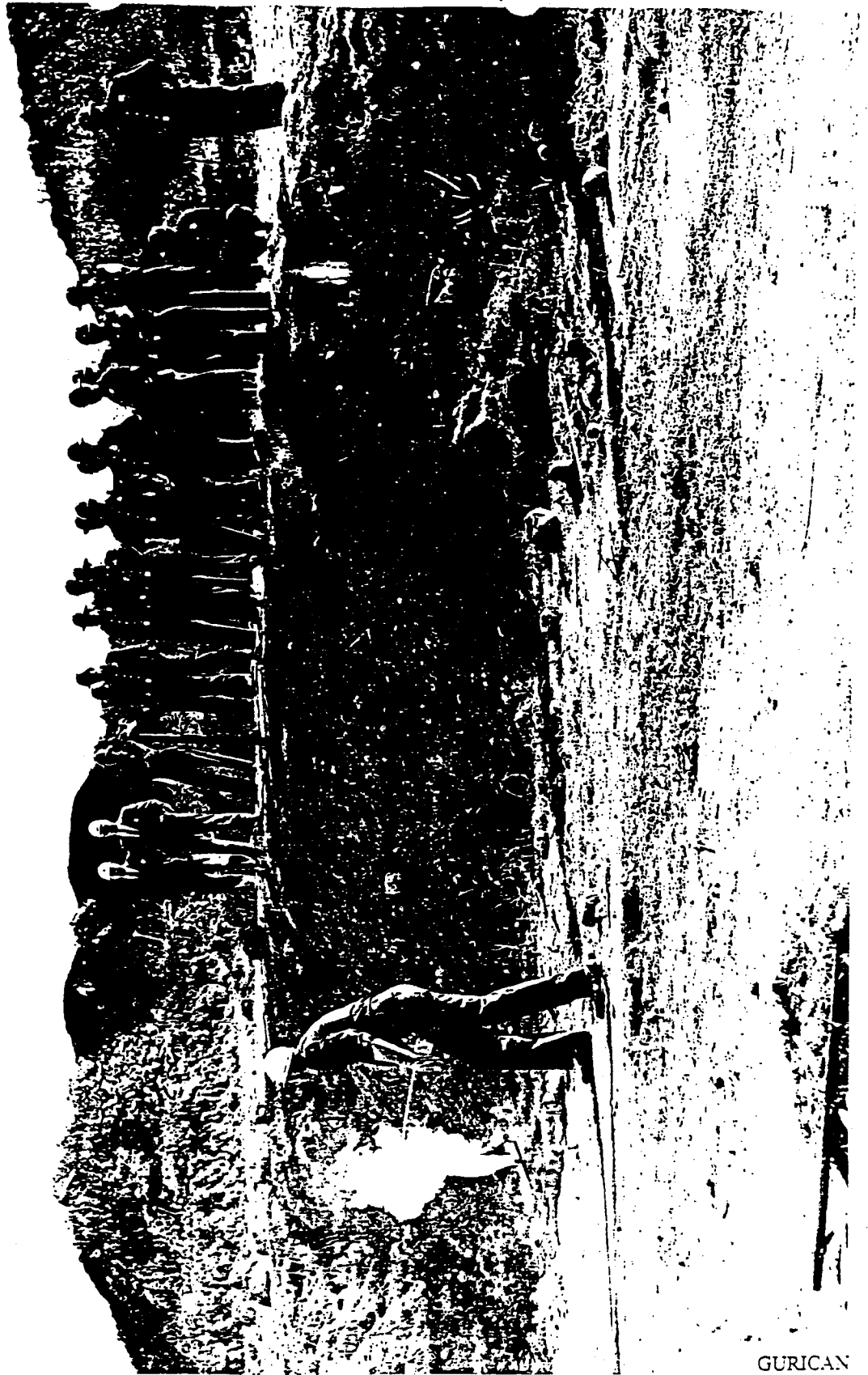
GURICAN  
000136



GURICAN  
000131

Ex. 34 - 5215





Ex. 34 - 5216

GURICAN  
000132



GURICAN  
000133

Ex. 34 - 5217



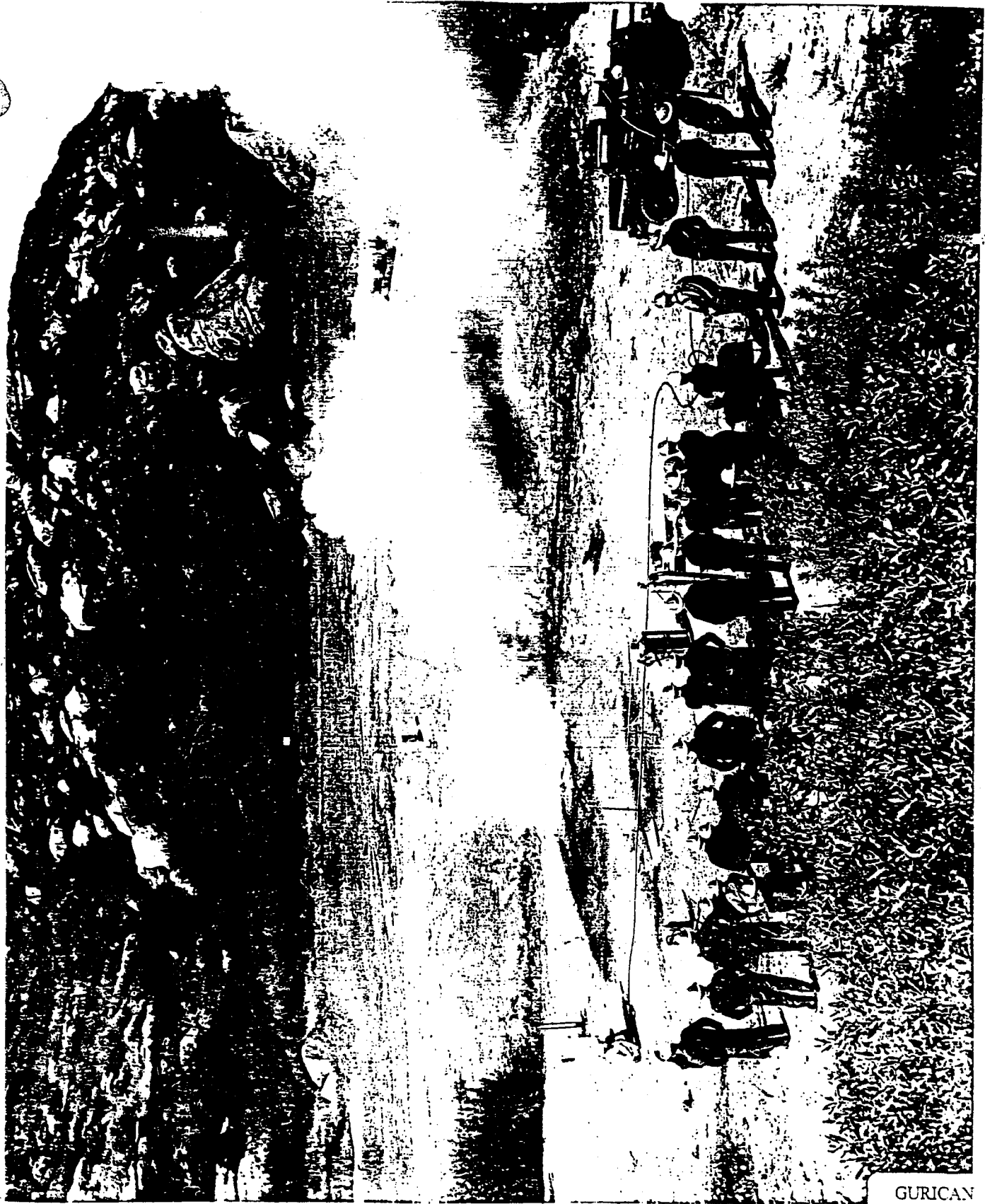
GURICAN  
000134

Ex. 34 - 5218



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000135

Ex. 34 - 5219



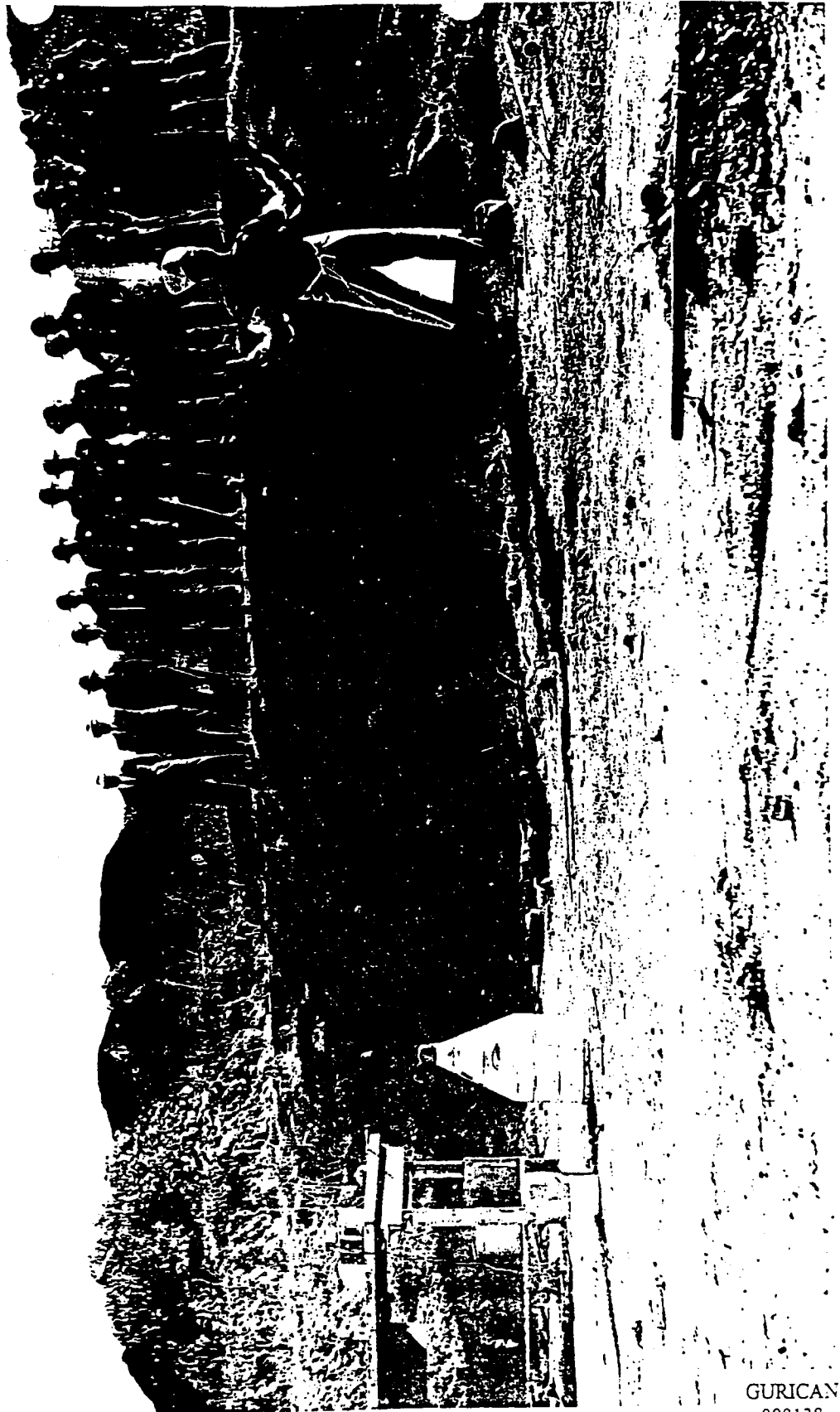
Ex. 34 - 5220

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000136



GURICAN  
000137

Ex. 34 - 5221



GURICAN  
000138

Ex. 34 - 5222



GURICAN  
000139

Ex. 34 - 5223





Ex. 34 - 5224

GURICAN  
0001-40



Ex. 34 - 5225

GURICAN  
000141

Tom Kelly  
USEPA H-3-1  
75 Hothorne St  
SF CA 94105

GURICAN  
000142

redi-letter

carbonless

869  
DUP

FROM Joe Gurican Jr.

Nami Kadachu

Dept Environmental Health

P.O. Box 1749

School of Public Health Science

Paso Robles Ca. 93447

SUBJECT

DATE 9/11/95

MESSAGE

Per our phone conversation please find  
in closed information on my father  
chemical exposure at Rockaldine San Luis  
Barrut and other places a plant.

If you have any questions please don't  
hesitate to call me at 805-437-4405

Joe Gurican Jr.

P.S. I would like a copy of the DOE UCLA  
report when completed

SIGNED

NO REPLY NECESSARY

REPLY REQUESTED - USE REV

GURICAN  
000143

REDIFORM 45 468  
POLY PAK (50 SETS) 4P468  
carbonless

*redi-letter*

**carb<sup>o</sup>nless**

676  
DUP

FROM

\_\_\_\_\_  
\_\_\_\_\_  
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SUBJECT

DATE

**MESSAGE**

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SIGNED

ORM. 45 468  
(50 SETS) 4P468  
*arbonless*

NO REPLY NECESSARY

REPLY REQUESTED - USE

GURICAN  
000144

*Gurican*

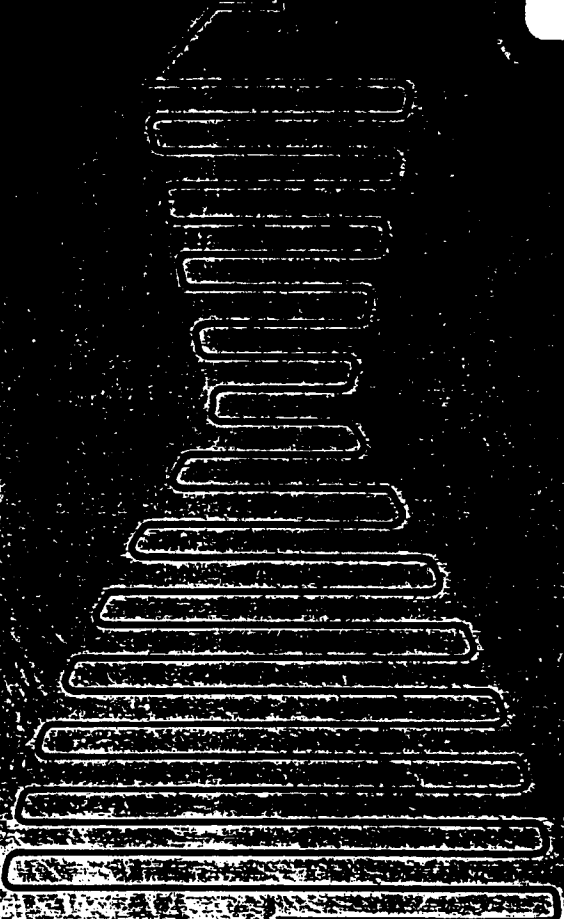
ROCKETDYNE

SPECIAL DEVICES

CAPABILITIES

OCTOBER, 1960

98



**ROCKETDYNE**

A DIVISION OF NORTH AMERICAN AVIATION, INC.

CANOGA PARK, CALIFORNIA

Ex. 34 - 5229

GURICAN  
000145

*Amman*

ROCKETDYNE  
SPECIAL DEVICES  
CAPABILITIES  
OCTOBER, 1960

98

Ex. 34 - 5230

GURICAN  
000146

## RESEARCH DEPARTMENT FACILITIES

The programs described herein were conducted by personnel of the Research Department at the Propulsion Field Laboratory located at a remote site in the Santa Susana Mountains near Canoga Park, California. This 2000-acre complex is the Free World's largest rocket development and testing installation and is the site of the extensive facilities of the Research Department. The research activities center around the recently constructed Research Center which contains approximately 20,000 sq. ft. of office space, and laboratories for chemical, optical, acoustic, combustion and instrumentation research. Additional facilities are used for research in heat transfer, fluid transport, ion propulsion, solid and liquid propellants and explosive forming.

A portion of the facilities at the Propulsion Field Laboratory are shown in the Figure. The research center and laboratories are the first buildings on the right-hand side of the picture.

The following facilities are utilized by the Research Department:

### Research Center

Office Space (20,000 sq. ft.)  
Chemical & Physical Laboratories (4,800 sq. ft.)

### Chemical Engineering Laboratories

Hazardous Chemical Laboratories (1,000 sq. ft.)  
Test Bays (6) - (9 x 9 ft. sq.)

### Experimental Chemistry Laboratory

(900 sq. ft. + 390 sq. ft. sheltered area)

### Solid Propellant Research Facility

Propellant Formulation Laboratory (1,600 sq. ft.)  
Propellant Mixing Bays (2) - (12 x 16 ft.)  
Physical Properties Laboratory (650 sq. ft.)  
Polymer Laboratory (650 sq. ft.)  
Igniter Development and Fabrication (1500 sq. ft.)  
Pressed Charge Building (400 sq. ft.)  
Igniter Test Bays (4) - (10 x 10 ft.)  
Continuous Processing Building (800 sq. ft.)  
Polymer Pilot Plant (800 sq. ft.)

Ex. 34 - 5231

GURICAN  
000147



Solid Propellant Test Facility

Free Flight Tunnel (110 ft. long)  
Test Firing Bays (2) - (10 x 10 ft.)  
Shops and Control Center (1400 sq. ft.)  
Round Ready Storage Building (360 sq. ft.)  
Storage Magazines - Solid Propellants (200 sq. ft.)  
Igniter (320 sq. ft.)

Propulsion Research Area (Liquid Propellant)

Test Stands            4 - 20,000 lb. thrust  
                          1 - 30,000 lb. thrust  
                          1 - 5,000 lb. thrust  
                          2 - 1,000 lb. thrust  
                          1 - 500 lb. thrust

Shops and Control Center

Propellant Handling and Test Equipment

Fluid Transport Research Area (Pump and Turbine Work)

Labs and Shop (2000 sq. ft.)

Heat Transfer Facility

Test Bays (4) - (10 x 15 ft.)  
Shop and Control Center (1000 sq. ft.)

Electrical Propulsion Lab (1600 sq. ft.)

Instrumentation Laboratories (500 sq. ft.)

Explosive Forming Facility

Firing Pits (5) - Assorted Sizes  
Shop and Metallurgical Laboratory (2000 sq. ft.)  
Firing Bays (2) - ( 6 x 8 ft. + attached 200 sq. ft. shop)  
Explosives and Initiator Magazines (Storage and Ready)

CAPABILITIES  
 RESEARCH DEPARTMENT  
 (Propulsion Field Laboratory  
 Canoga Park, Calif.)

I TYPES OF PROJECTS

<u>CHEMISTRY</u>	<u>PHYSICAL SCIENCES</u>	<u>LIQUID PROPULSION</u>	<u>SOLID PROPULSION</u>
Performance Calculations Synthesis Kinetics Analysis	Combustion Mechanisms & Stability Heat Transfer Electrical Propulsion	Advanced Liquid Propulsion Research Experimental Instrumentation Research Design	Propellant Formulations Solid Propellant Systems Polymers Propellant Processing Explosive Forming
			<u>SPECIAL DEVICES</u>

II NUMBER OF RESEARCH PERSONNEL

Professional				Total
50	30	38	31	149
Non-Professional				
<u>16</u> 66	<u>21</u> 51	<u>31</u> 69	<u>45</u> 76	<u>113</u> 262

III TYPES OF PROFESSIONAL PERSONNEL

Chemists	51
Physicists	8
Chemical Engineers	42
Mechanical Engineers	22
Aeronautical Engineers	3
Electrical Engineers	13
Mathematicians	7
Metallurgists	1
Miscellaneous	<u>2</u>
	149

Ex. 34 - 5233

Environmental Test Equipment

Within Research

High Temperature Cabinet (to 400°F)  
Low Temperature Cabinet (to -100°F)  
Humidity Test Chamber Capable of Programmed  
Temperature (-20°F to 200°F) and Humidity (20% to 95%)  
Altitude Chambers (2 ft.<sup>3</sup> and 45 ft.<sup>3</sup>)

Within Rockettype and Available to Research

Fungus Test Cabinet  
Sand and Dust Test Chamber  
Salt Spray Test Chamber  
Jolt and Joggle Test  
Vibration

Ex. 34 - 5234

GURICAN  
000150

## PYROTECHNIC IGNITERS

Rocketdyne's slogan is: "First with power for outer space". The majority of the satellites in orbit from the free world were powered by Rocketdyne booster engines. In order to provide the high degree of reliability necessary to carry out its slogan, Rocketdyne has designed, developed, and fabricated tens of thousands of pyrotechnic igniters for its main chamber, gas generator, vernier engines, and solid propellant armament rockets.

Rocketdyne igniters have been service qualified for use in every major liquid propellant ballistic rocket now in routine production for the United States Air Force and Army.\* Rocketdyne igniters have successfully passed MIL specifications demonstrating resistance to sand, dust, rain, fungus, etc., by using a hermetically sealed metal barrier between the pyrotechnic charges and climatic conditions. Igniters for solid propellant armament rockets, now shelf items for the United States Air Force, have demonstrated their reliability after six years of surveillance testing.

The pyrotechnics used in Rocketdyne igniters for liquid propellant engines utilize a rubber-epoxy copolymer binder to provide both high grain strength and resistance to temperature shock. Their ability to distribute ignition energy through the combustion chamber is achieved by incorporating fine metal powders in a high heat output composition. The pyrotechnics used in solid propellant motors are pelletized metal and oxidizer enclosed in consumable metal cases.

The reliability of Rocketdyne pyrotechnic igniters for liquid propellant engines is 99.9% and for solid propellant motors is 99.99%, based on over ten thousand tests in both cases. These igniters are classified by the Bureau of Explosives as Electric Squibs, Class "C", or Class "B", per I.C.C. regulations.

A fusible link circuit in Rocketdyne igniters provides a signal that ignition has occurred and also serves as a sequencing monitor. Other features available in pyrotechnic igniters are:

- Ability to ignite at altitude
- Ability to ignite main-stage propellant flow
- Squibless igniters ignited by the hot gases of APU systems

Rocketdyne has extensive facilities, equipment, and technical know-how to develop squib and base charge pyrotechnics, or apply developed pyrotechnics for commercial as well as military ordnance requirements.

Ex. 34 - 5235

Atlas, Thor, Jupiter and Redstone

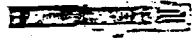
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# PYROTECHNIC IGNITERS

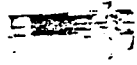
## GAS GENERATOR IGNITERS



P/N 650717  
GGI TYPE **XX**  
ATLAS MA-2 B MA-3



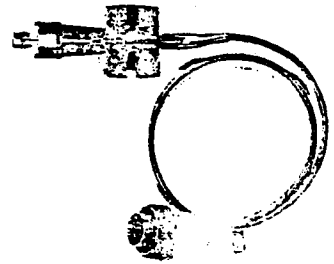
P/N 651133  
GGI TYPE **XXI**  
ATLAS MA-3  
WILL REPLACE  
650717  
LONGER BURNING



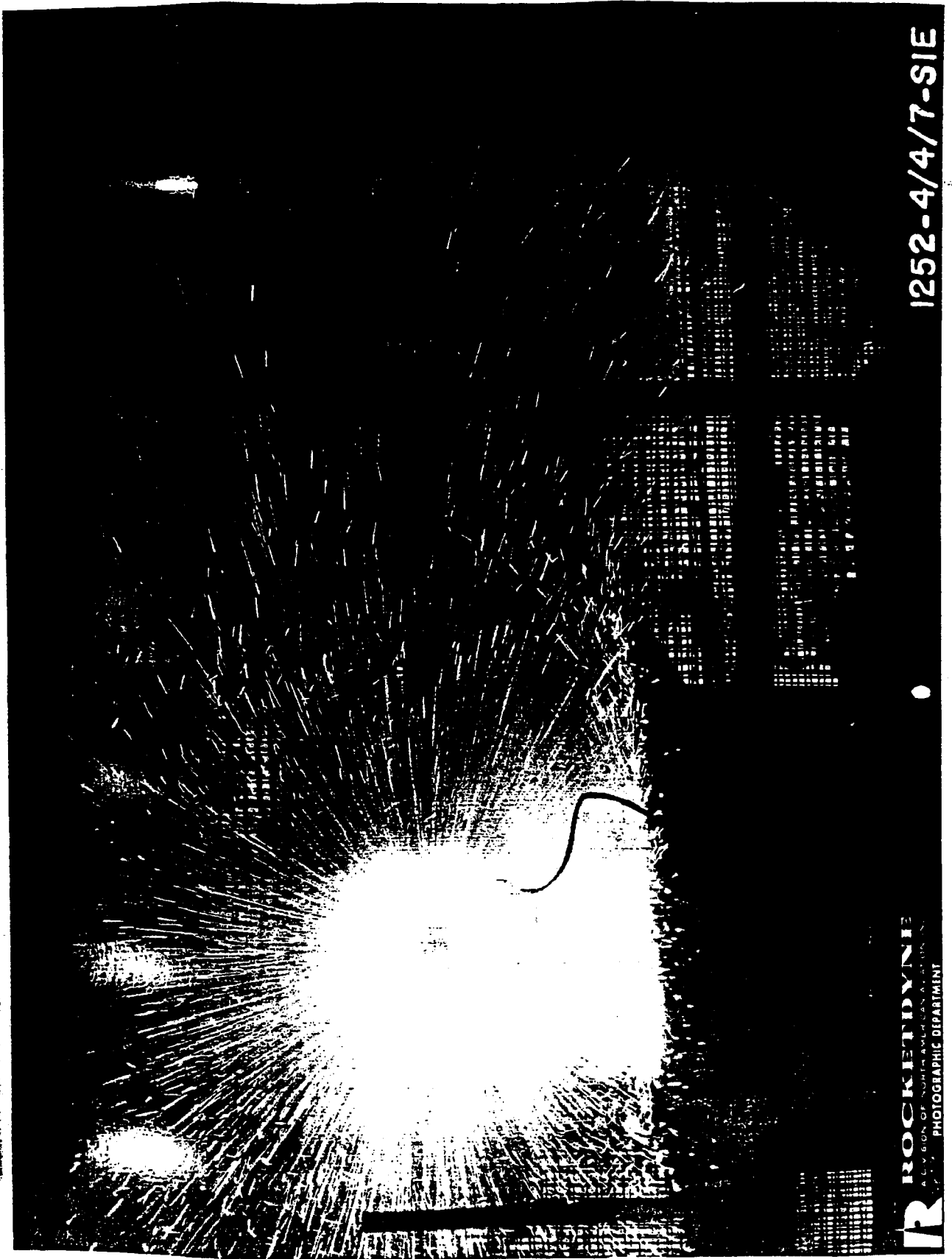
P/N 650900  
SQUIBLESS GGI  
H-1 ENGINE  
IGNITED BY  
TURBINE STARTER  
HOT GASES



P/N 650291  
IMVI TYPE **XX**  
VERNIER ENGINE IGNITER  
ATLAS MA-2  
THOR MB-3-1



P/N 650580  
ROFI TYPE **XX**  
MAIN THRUST  
CHAMBER IGNITER  
ATLAS MA-2 THOR,  
JUPITER



1252-4/4/7-SIE

**R** ROCKEYDYNE  
A DIVISION OF NORTH AMERICAN AVIATION  
PHOTOGRAPHIC DEPARTMENT

Ex. 34 - 5237

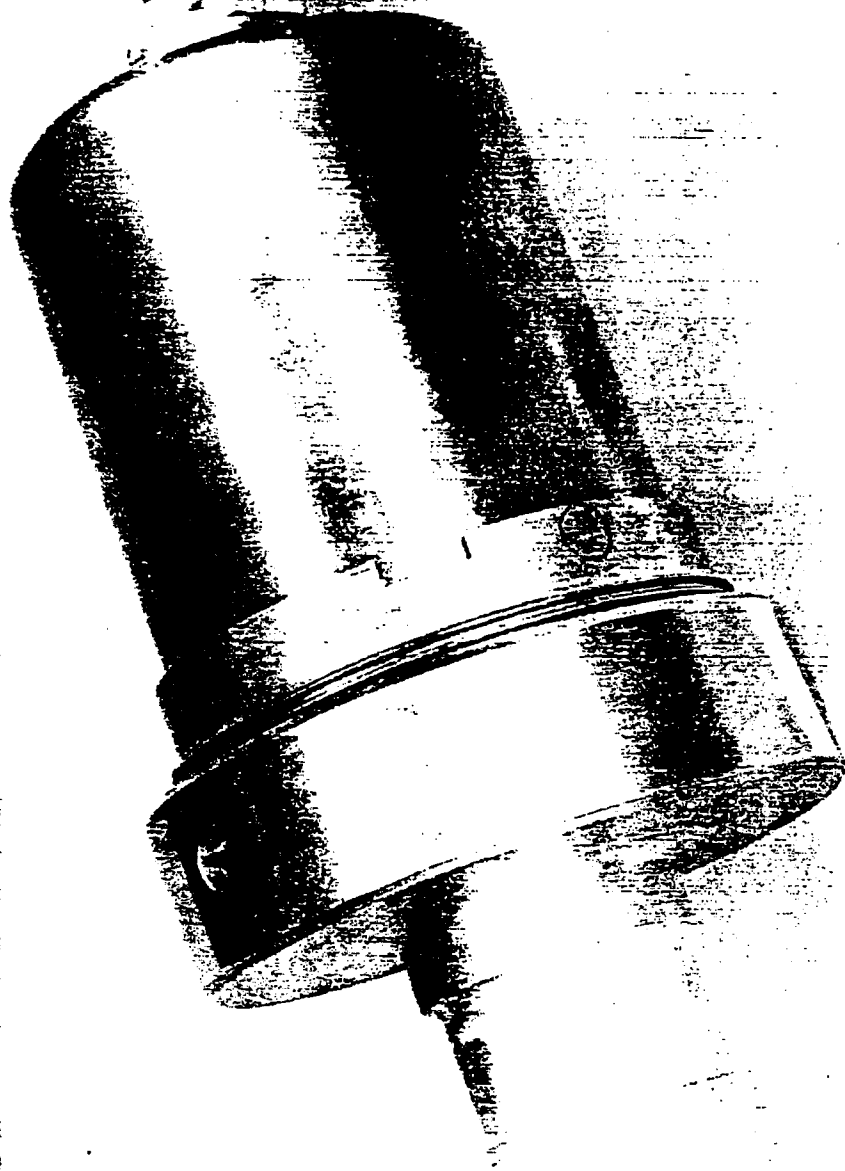
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G.G.I.  
650293

1252-12/2/8.SIC

Ex. 34 - 5238

GURICAN  
000154



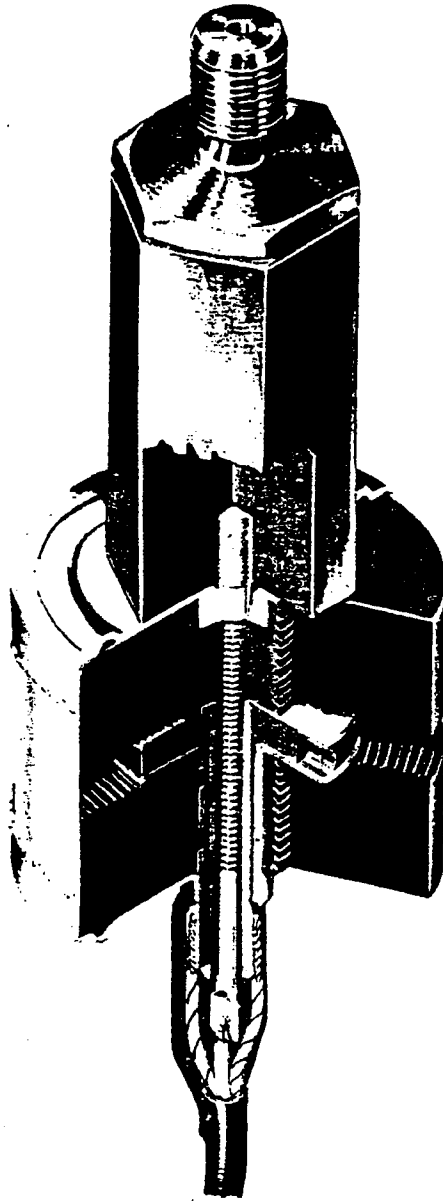
PI PUMPER

Ex. 34 - 5239

GURJAN  
000155



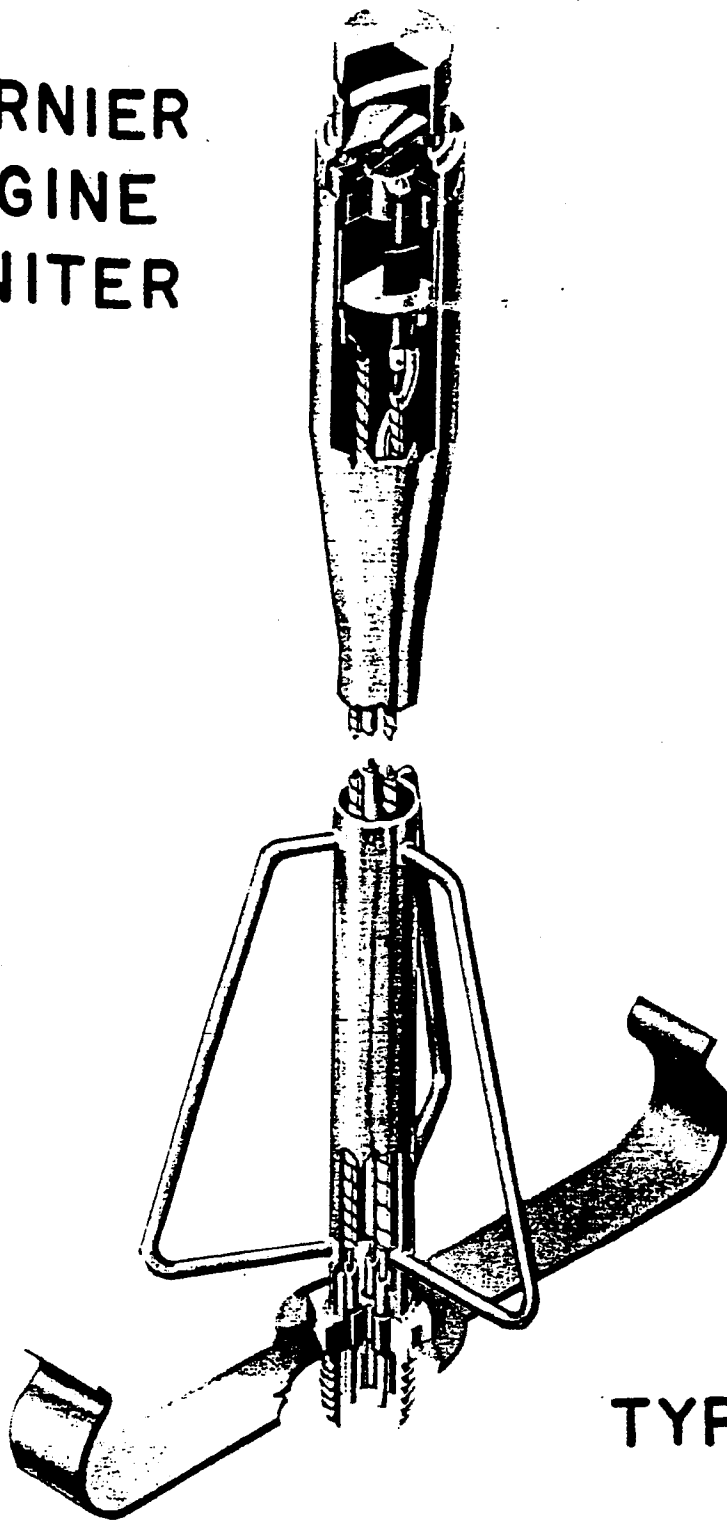
# THRUST CHAMBER IGNITER



Ex. 34 - 5240

GLRICAN  
000156

**VERNIER  
ENGINE  
IGNITER**

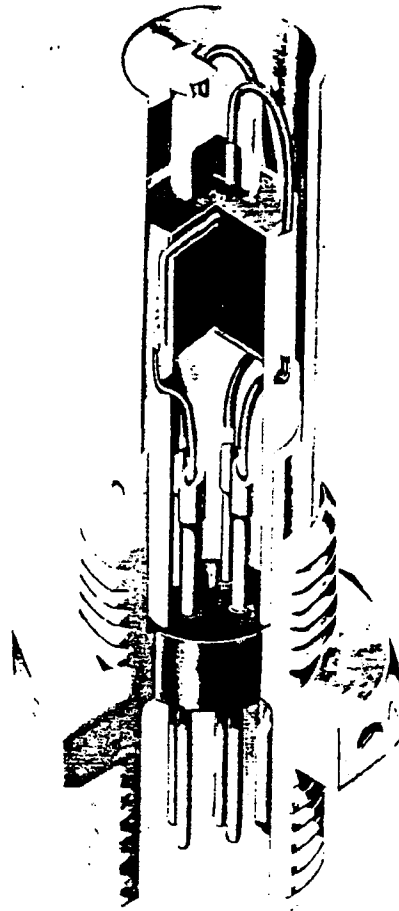


**TYPE V**

Ex. 34 - 5241

GURICAN  
000157

# GAS GENERATOR IGNITER



**TYPE IV**

Ex. 34 - 5242

PLAN  
4-11-53