

MESA SCHOOL BUS TESTINGIntroduction

On April 2, 3, 6 and 7, 1987, inspection and testing of nineteen Mesa Unified School District buses were conducted. The testing included sixteen Blue Bird buses and three Thomas buses. Testing and inspection were general in nature and designed to evaluate the overall operating condition and adequacy of the vehicles' air brake systems.

Procedure

The air brake inspection procedure included the inspection of fifteen Blue Bird buses and three Thomas buses. The inspection was conducted pursuant to procedures set forth in the Code of Federal Regulations, Transportation, Part 570.57, Air Brake Systems and Air Over-Hydraulic Subsystems, and Part 570.59, Surface Brake Systems (Attachment 1).

Each wheel's rotor and brake pads were measured and checked for compliance with recommended material thicknesses. Each wheel's disc brake was checked for any structural damage or cracking. The complete air brake system (hoses, actuators, connectors and reservoirs) was checked for damage or leakage.

The test procedure was conducted in accordance with the Society of Automotive Engineers (SAE) recommended practice, SAE J-1250, In-Service Brake Performance Brake Test Procedure - Vehicles Over 4,500 Kilograms. (Attachment 2)

Stopping distance was measured under two conditions, (1) during a panic stop from 20 mph and (2) during an application of the maxi-brake at 5 mph. Tests were conducted on sixteen Blue Bird buses and three Thomas buses. A final test was conducted on a fully loaded, 8,400 lb. Blue Bird bus.

Discussion

The Blue Bird buses are equipped with Kelsey Hayes air disc brake systems at all four wheels. The Thomas buses are equipped with Rockwell air disc brake assemblies. The brake systems on both bus types are configured roughly the same with the exception of the disc brake assemblies.

The test and inspection of the Blue Bird buses were requested after a service difficulty report by a bus operator and an observed failure of a brake pad.

The inspection procedure revealed isolated cases of severe brake pad wear on several of the Blue Bird buses. Two of the buses, B-614 and B-616, had sustained excessive pad wear causing metal to metal rubbing of the rotor and pad backing plate. The mileage on B-614 and B-616 was 10,934.4 miles and 16,626.7 miles, respectively. Two other buses, B-507 and B-613, has sufficient brake pad wear to warrant pad replacement. The metal to metal condition of the brakes is a potentially serious problem because of the rapid wear rate and decreased braking effectiveness when hot. Photographs of the available brake pads and rotors are included in Attachment 3.

There were many more minor discrepancies observed during the inspection. For example, torn dust covers, a missing cotter key and a loose adjustment nut. All of these deficiencies were noted and pointed out to the service personnel.

Results of the inspection are included in Attachment 4.

The road tests indicate that all buses performed above the minimum Federal stopping distance standard. In general, the buses performed significantly better than the standard with no appreciable differences noted between the Blue Bird and Thomas buses.

The fully loaded Blue Bird bus also performed within the minimum Federal stopping distance standard.

The results of the road test are in Attachment 5. Results of the road test performed on the fully loaded bus is in Attachment 6.

Conclusion/Recommendations

Road testing of the two bus types does not reveal any appreciable difference between the vehicles' ability to stop.

Maxi-brakes on both bus types are comparable and provide sufficient brake force to retard bus speed to a stop and hold once stopped.

The brake wear observed on buses B-614 and B-616 was excessive and should not occur. A reasonable explanation for the cause of this excessive wear on relatively low mileage brakes should be solicited in writing from the manufacture.

As long as brake material remains within the factory recommended thickness, the brake function should be satisfactory.

A more rigorous, routine inspection procedure needs to be performed on the buses' brake systems by the service personnel. This procedure is necessary to assure that the complete brake assemblies are maintained. At the very least, inspection should include the brake rotor and the brake pad thickness, actuator and piston dust covers, and all hoses and fittings.

Because there appears to be some problem associated with brake pad wear, inspection of all brake pads should be conducted every 3,000 miles. This inspection schedule could be extended if the incidences of extreme brake pad wear decrease. If the incidences decrease, then inspection of the pads should be conducted at the manufacturer's recommended time intervals.

The Blue Bird bus pedal may be difficult to use for some drivers. Because of the pedal actuation configuration, it was observed that a wooden wedge on the brake pedal may make it easier to use. The addition of the wedge may promote a more positive engagement of the brake pedal depending upon the bus driver.

The varying bus operator driving styles may account for some of the inconsistent brake pad wear. In general, a defensive driver will tend to produce less brake wear and, in all, fewer accidents. Bus drivers should be instructed in defensive driving techniques.


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Date

ATTACHMENT 1

vacuum, then shut off the engine and apply the brakes with a 50-pound force on the brake pedal. Note the brake application and check for low-vacuum indicator activation.

(ii) For a combination vehicle equipped with breakaway protection and no reservoir on the towing vehicle supply line, close the supply line shut-off valve and disconnect the supply line. Apply a 50-pound force to the brake pedal on the towing vehicle and release. Trailer brakes should remain in the applied position.

(d) *Vacuum system hoses, tubes and connections.* Vacuum hoses, tubes and connections shall be in place and properly supported. Vacuum hoses shall not be collapsed, cracked or abraded.

(1) *Inspection procedure.* With the engine running, examine hoses and tubes for the conditions indicated and note broken or missing clamps.

§ 570.57 Air brake system and air-over-hydraulic brake subsystem.

The following requirements apply to vehicles with air brake and air-over-hydraulic brake systems. Trailer(s) must be coupled to a truck or truck-tractor for the purpose of this inspection, except as noted.

(a) *Air brake system integrity.* The air brake system shall demonstrate integrity by meeting the following requirements:

(1) With the vehicle in a stationary position, compressed air reserve shall be sufficient to permit one full service brake application, after the engine is stopped and with the system fully charged, without lowering reservoir pressure more than 20 percent below the initial reading.

(2) The air brake system compressor shall increase the air pressure in the reservoir(s) from the level developed after the test prescribed in § 570.57(a)(1) to the initial pressure noted before the full brake application, with the engine running at the manufacturer's maximum recommended number of revolutions per minute with the compressor governor in the cut-off position, in not more than 30 seconds for vehicles manufactured prior to March 1, 1975. For vehicles manufactured on or after March 1,

1975, the time allowed for air pressure buildup shall not exceed 45 seconds.

(3) The warning device (visual or audible) connected to the brake system air pressure source shall be activated when air pressure is lowered to an activating level that is not less than 50 psi. For vehicles manufactured to conform to Federal Motor Vehicle Safety Standard No. 121, the low-pressure indicator shall be activated when air pressure is lowered to an activating level that is not less than 60 psi.

(4) The governor cut-in pressure shall be not lower than 80 psi, and the cut-out pressure shall be not higher than 135 psi, unless other values are recommended by the vehicle manufacturer.

(5) Air brake pressure shall not drop more than 2 psi in 1 minute for single vehicles or more than 3 psi in 1 minute for combination vehicles, with the engine stopped and service brakes released. There may be an additional 1 psi drop per minute for each additional towed vehicle.

(6) With the reservoir(s) fully charged, air pressure shall not drop more than 3 psi in 1 minute for single vehicles or more than 4 psi in 1 minute for combination vehicles, with the engine stopped and service brakes fully applied. There may be an additional 1 psi drop per minute for each additional towed vehicle.

(7) The compressor drive belt shall not be badly worn or frayed and belt-tension shall be sufficient to prevent slippage.

Inspection procedure. With the air system charged, open the drain cocks in the service and supply reservoir on the truck or truck-tractor. Note the pressure at which the visual or audible warning device connected to the low-pressure indicator is activated. Close the drain cocks, and, with the trailer(s) uncoupled, check air pressure buildup at the manufacturer's recommended engine speed. Observe the time required to raise the air pressure from 85 to 100 psi. Continue running the engine until the governor cuts out and note the pressure. Reduce engine speed to idle, couple the trailer(s), if applicable, and make a series of brake applications. Note the

pressure at which the governor cuts in. Increased engine speed to fast idle and charge the system to its governed pressure. Stop the engine and record the pressure drop in psi per minute with brakes released and with brakes fully applied.

(b) *Air brake system hoses, tubes and connections.* Air system tubes, hoses and connections shall not be restricted, cracked or improperly supported, and the air hose shall not be abraded.

(1) *Inspection procedure.* Stop the engine and examine air hoses, tubes and connections visually for conditions specified.

(c) *Air-over-hydraulic brake subsystem integrity.* The air-over-hydraulic brake subsystem shall demonstrate integrity by meeting the following requirements:

(1) The air brake system compressor shall increase the air pressure in the reservoir(s) from the level developed after the test prescribed in § 570.57(a)(1) to the initial pressure noted before the full brake application, with the engine running at the manufacturer's recommended number of revolutions per minute and the compressor governor in the cut-out position, in not more than 30 seconds for vehicles manufactured prior to March 1, 1975. For vehicles manufactured on or after March 1, 1975, the time for air pressure build up shall not exceed 45 seconds.

(2) The warning device (visual or audible) connected to the brake system air pressure source shall be activated when the air pressure is lowered to not less than 50 psi.

(3) The governor cut-in pressure shall be not lower than 80 psi, and the cut-out pressure shall not be higher than 135 psi, unless other values are recommended by the vehicle manufacturer.

(4) Air brake pressure shall not drop more than 2 psi in 1 minute for single vehicles or more than 3 psi in 1 minute for combination vehicles, with the engine stopped and service brakes released. Allow a 1-psi drop per minute for each additional towed vehicle.

(5) With the reservoir(s) fully charged, air pressure shall not drop more than 3 psi in 1 minute for single vehicles or more than 4 psi in 1 minute

for combination vehicles, with the engine stopped and service brakes fully applied. Allow a 1-psi pressure drop in 1 minute for each additional towed vehicle.

(6) The compressor drive belt shall not be badly worn or frayed and belt tension shall be sufficient to prevent slippage.

Inspection procedure. With the air system charged, open the drain cocks in the service and supply reservoir on the truck or truck-tractor. Note the pressure at which the visual or audible warning device connected to the low pressure indicator is activated. Close the drain cocks and, with the trailers uncoupled, check air pressure buildup at the manufacturer's recommended engine speed. Observe the time required to raise the air pressure from 85 to 100 psi. Continue running the engine until the governor cuts out and note the pressure. Reduce engine speed to idle, couple trailers, and make a series of brake applications. Note the pressure at which the governor cuts in. Increase engine speed to fast idle and charge the system to its governed pressure. Stop the engine and record the pressure drop in psi per minute with brakes released and with brakes fully applied.

(d) *Air-over-hydraulic brake subsystem hoses, master cylinder, tubes and connections.* System tubes, hoses and connections shall not be cracked or improperly supported, the air and hydraulic hoses shall not be abraded and the master cylinder shall not show signs of leakage.

(1) *Inspection procedure.* Stop the engine and examine air and hydraulic brake hoses, brake master cylinder, tubes and connections visually for conditions specified.

[39 FR 26027, July 16, 1974, as amended at 40 FR 5160, Feb. 4, 1975; 41 FR 13924, Apr. 1, 1976]

§ 570.58 Electric brake system.

(a) *Electric brake system integrity.* The average brake amperage value shall be not more than 20 percent above, and not less than 30 percent below, the brake manufacturer's maximum current rating. In progressing from zero to maximum, the ammeter

Indication shall show no fluctuation evidencing a short circuit or other interruption of current.

(1) *Inspection procedure.* Insert a low range (0 to 25 amperes for most 2- and 4-brake systems and 0 to 40 amperes for a 6-brake system) d.c. ammeter into the brake circuit between the controller and the brakes. With the controller in the "off" position, the ammeter should read zero. Gradually apply the controller to the "full on" position for a brief period (not to exceed 1 minute) and observe the maximum ammeter reading. Gradually return the controller to "full off" and observe return to zero amperes. Divide the maximum ammeter reading by the number of brakes and determine the brake amperage value.

(b) *Electric brake wiring condition.* Electric brake wiring shall not be frayed. Wiring clips or brackets shall not be broken or missing. Terminal connections shall be clean. Conductor wire gauge shall not be below the brake manufacturer's minimum recommendation.

(1) *Inspection procedure.* Examine visually for conditions specified.

§ 570.59 Service brake system.

(a) *Service brake performance.* Compliance with any one of the following performance criteria will satisfy the requirements of this section. Verify that tire inflation pressure is within the limits recommended by the vehicle manufacturer before conducting either of the following tests.

(1) *Roller-type or drive-on platform tests.* The force applied by the brake on a front wheel or a rear wheel shall not differ by more than 25 percent from the force applied by the brake on the other front wheel or the other rear wheel respectively.

(1) *Inspection procedure.* The vehicle shall be tested on a drive-on platform, or a roller-type brake analyzer with the capability of measuring equalization. The test shall be conducted in accordance with the test equipment manufacturer's specifications. Note the brake force variance.

(2) *Road test.* The service brake system shall stop single unit vehicles,

except truck-tractors, in a distance of not more than 35 feet, or combination vehicles and truck-tractors in a distance of not more than 40 feet, from a speed of 20 mph, without leaving a 12-foot-wide lane.

(1) *Inspection procedure.* The road test shall be conducted on a level (not to exceed plus or minus 1 percent grade), dry, smooth, hard-surfaced road that is free from loose material, oil or grease. The service brakes shall be applied at a vehicle speed of 20 mph and the vehicle shall be brought to a stop as specified. Measure the distance required to stop.

NOTE. Inspect for paragraphs (b), (c) and (d) of this section on vehicles equipped with brake inspection ports or access openings, and when removal of wheel is not required.

(b) *Disc and drum condition.* If the drum is embossed with a maximum safe diameter dimension or the rotor is embossed with a minimum safe thickness dimension, the drum or disc shall be within the appropriate specifications. These dimensions will generally be found on motor vehicles manufactured since January 1, 1971, and may be found on vehicles manufactured for several years prior to that time. If the drums and discs are not embossed, they shall be within the manufacturer's specifications.

(1) *Inspection procedure.* Examine visually for the condition indicated, measuring as necessary.

(c) *Friction materials.* On each brake, the thickness of the lining or pad shall not be less than one thirty-second of an inch over the fastener, or one-sixteenth of an inch over the brake shoe on bonded linings or pads. Brake linings and pads shall not have cracks or breaks that extend to rivet holes except minor cracks that do not impair attachment. The wire in wire-backed lining shall not be visible on the friction surface. Drum brake linings shall be securely attached to brake shoes. Disc brake pads shall be securely attached to shoe plates.

(1) *Inspection procedure.* Examine visually for the conditions indicated, and measure the height of the rubbing

surface of the lining over the fastener heads. Measure bonded lining thickness over the surface at the thinnest point on the lining or pad.

(d) *Structural and mechanical parts.* Backing plates, brake spiders and caliper assemblies shall not be deformed or cracked. System parts shall not be broken, misaligned, missing, binding, or show evidence of severe wear. Automatic adjusters and other parts shall be assembled and installed correctly.

(1) *Inspection procedure.* Examine visually for conditions indicated.

§ 570.60 Steering system.

(a) *System play.* Lash or free play in the steering system shall not exceed the values shown in Table 2.

(1) *Inspection procedure.* With the engine on and the steering axle wheels in the straight ahead position, turn the steering wheel in one direction until there is a perceptible movement of the wheel. If a point on the steering wheel rim moves more than the value shown in Table 1 before perceptible return movement of the wheel under observation, there is excessive lash or free play in the steering system.

TABLE 2. STEERING WHEEL FREE PLAY VALUES

Steering wheel diameter (inches)	Lash (inches)
16 or less	2
18	2 1/4
20	2 1/2
22	2 3/4

(b) *Linkage play.* Free play in the steering linkage shall not exceed the values shown in Table 3.

(1) *Inspection procedure.* Elevate the front end of the vehicle to load the ball joints, if the vehicle is so equipped. Insure that wheel bearings are correctly adjusted. Grasp the front and rear of a tire and attempt to turn the tire and wheel assemble left and right. If the free movement at the front or rear tread of the tire exceeds the applicable value shown in Table 3, there is excessive steering linkage play.

TABLE 3. FRONT WHEEL STEERING LINKAGE FREE PLAY

Nominal bead diameter or rim size (inches)	Play (inches)
16 or less	1/4
16.01 through 18.00	3/8
18.01 or more	1/2

(c) *Free turning.* Steering wheels shall turn freely through the limit of travel in both directions.

(1) *Inspection procedure.* With the engine running on a vehicle with power steering, or the steerable wheels elevated on a vehicle without power steering, turn the steering wheel through the limit of travel in both directions. Feel for binding or jamming in the steering gear mechanism.

(d) *Alignment.* Toe-in or toe-out condition shall not be greater than 1.5 times the values listed in the vehicle manufacturer's service specification for alignment setting.

(1) *Inspection procedure.* Drive the vehicle over a sideslip indicator or measure with a tread gauge, and verify that the toe-in or toe-out is not greater than 1.5 times the values listed in the vehicle manufacturer's service specification.

(e) *Power steering system.* The power steering system shall not have cracked, frayed or slipping belts, chafed or abraded hoses, show signs of leakage or have insufficient fluid in the reservoir.

(1) *Inspection procedure.* Examine fluid reservoir, hoses and pump belts for the conditions indicated.

NOTE: Inspection of the suspension system must not precede the service brake performance test.

§ 570.61 Suspension system.

(a) *Suspension condition.* Ball joint seals shall not be cut or cracked, other than superficial surface cracks. Ball joints and kingpins shall not be bent or damaged. Stabilizer bars shall be connected. Springs shall not be broken and coil springs shall not be extended by spacers. Shock absorber mountings, shackles, and U-bolts shall be securely attached. Rubber bushings shall not be cracked, extruded out from or miss-

ATTACHMENT 2

7.4.2 Stubs required—1

7.4.2.1 Stub speed—40–20 mph (64–32 km/h)

7.4.2.2 Stub deceleration—sustained— 16 ft/s^2 (5 m/s^2)

7.4.2.3 Moderate apply rate (do not exceed 150 lb/667 N)

7.4.2.4 Abort stub if wheel slide occurs and discontinue test

7.5 Highway Stopping Test—to be conducted within the (12 ft/3.7 m wide test lane)

7.5.1 Stubs required—1

7.5.1.1 Initial speed—50–40 mph (80–64 km/h) or maximum practical speed attainable within the test area if less than 50 mph (80 km/h)

IN-SERVICE BRAKE PERFORMANCE TEST PROCEDURE—VEHICLES OVER 4500 kg (10 000 lb)—SAE J1250 FEB80

Report of the Brake Committee, approved February 1980.

1. *Scope*—This SAE Recommended Practice establishes a uniform practical series of sub-procedures for level road testing of the brake performance of vehicles with gross vehicle weight ratings over 4500 kg (10 000 lb).

2. *Purpose*—The purpose of this practice is to establish a uniform method for use by operators and law enforcement agencies, to evaluate the condition of the brake systems of vehicles with GVWRs and GCWRs over 4500 kg (10 000 lb) under any condition of loading. This practice sets forth several sub-procedures that can be selected as test conditions, equipment, and purposes of testing indicate.

3. *General*—This practice is written as a quick assessment procedure to uncover the most common or gross performance inadequacies in the braking system; however, not all performance and maintenance problems may be uncovered. Good vehicle maintenance and preventative maintenance programs are of utmost importance for vehicle safety. Because of the maximum speed limitations of the typical inspection site and the safety of the tester, speed and temperature fade problems, and worn components may not be uncovered.

4. *Equipment and Location*

4.1 *Instrumentation and Equipment*—The tests shall be run using a bumper or frame clamping fifth wheel capable of displaying vehicle speed and distance to stop triggered by initial brake control movement or force sensor.

4.2 *Test Area*—The test location shall be substantially straight, level (not to exceed 1% grade), dry, smooth, hard surface roadway of portland cement, concrete, or equivalent, that is free from loose material and approximately 60 m (200 ft) in length with an access adequate to permit a truck to enter at 32 km/h (20 mph). The test surface shall be marked with a 3.7 m (12 ft) wide lane by marking the test surface or using pylons.

It is recommended that the desired stopping distance be identified by surface markings or pylons as a guide for the driver.

5. *System Leak Check*—The following checks are to be made after the engine has been run a sufficient time to build up normal air pressure, boost pressure, or boost vacuum (1 min minimum).

5.1 Air and Air Assist Hydraulic Systems

5.1.1 With engine off and brakes unapplied, note for sounds or other evidence of air leakage.

5.1.2 With engine off, make a full pressure application and hold for 1 min. Record the drop in reservoir pressure(s) after initial application, and note any sound or other evidence of leakage.

5.2 *Straight Hydraulic and Power Assisted (Vacuum or Hydraulic) Systems*—Turn engine off and depress the brake pedal with a light pressure for 10 s and then press hard for 10 s. Note any change in pedal height while being held and sound or evidence of leakage.

6. *Stopping Ability Test*

6.1 *Pretest Check Out*—The tester shall examine briefly the vehicle, the load and its retention for conditions that might prove unsafe during the test such as load shift, poor steering, and brake pedal response. If the vehicle or load is judged unsafe, the test shall be delayed until the condition is rectified.

6.2 *Procedure*—The driver shall enter the test area as near as possible to

7.5.1.2 Sustained deceleration attainable not to exceed 20 ft/s^2 (6 m/s^2).

7.5.1.3 Pedal force—150 lb (667 N) maximum.

7.5.1.4 Brake apply rate—Maximum rate possible when maintaining deceleration control (not a spike) up to 20 ft/s^2 (6 m/s^2).

7.6 Repeat Testing

7.6.1 If the vehicle brake systems exhibit marginal performance with respect to the regulatory requirements, tests for 7.4 or 7.5 may be repeated.

8. *Report Form*—General Data and Report Form, Fig. 1.

SAE Recommended Practice

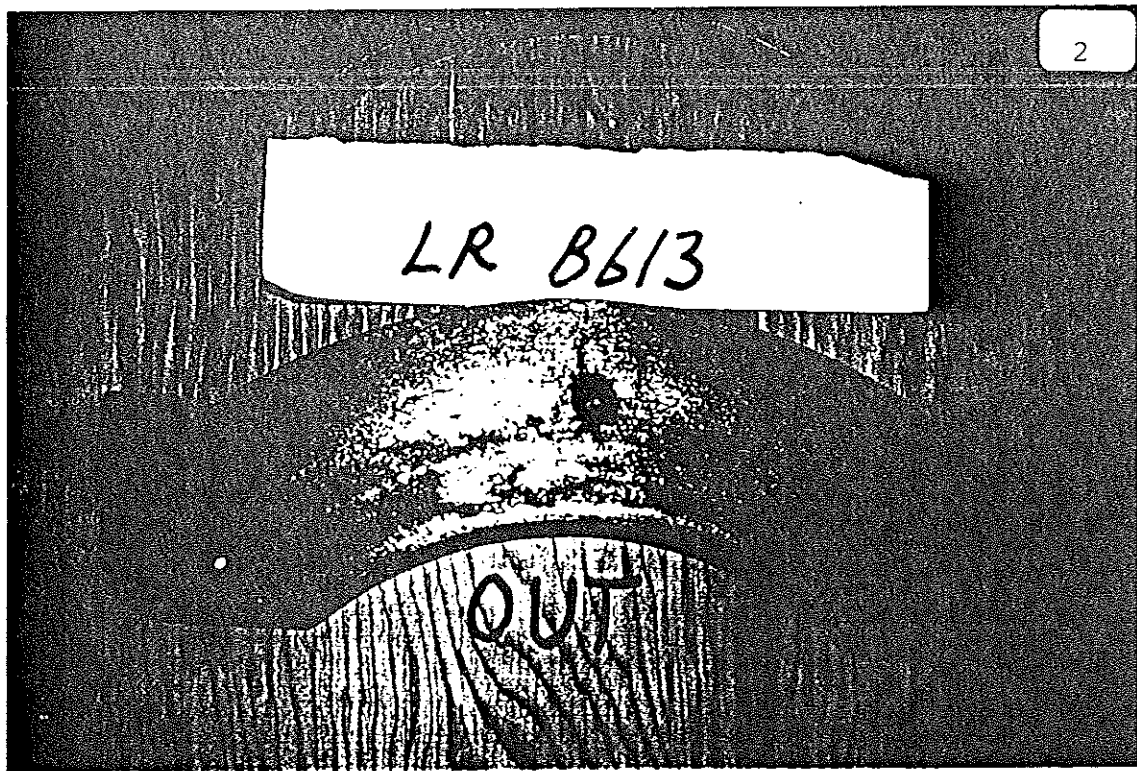
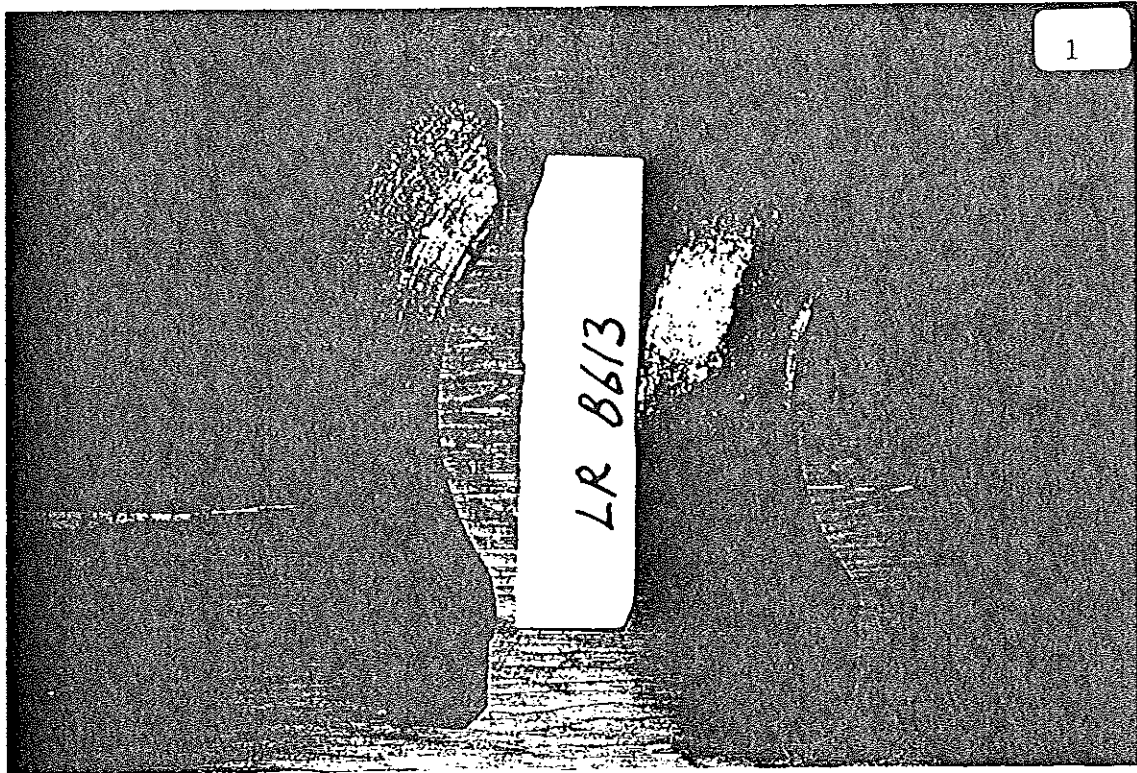
TEST DATA SHEET IN SERVICE BRAKE PERFORMANCE TEST (FOR VEHICLES OVER 4500 kg (10 000 lb))	
Date	_____
Time	_____
Vehicle Description	_____
	Odometer Reading _____
Owner/Operator	_____
Test Location	_____
Equipment Used	_____
<u>SYSTEM LEAK CHECK—AIR OR AIR BOOST HYDRAULIC</u>	
With engine off and brake unapplied—note for evidence of air leakage.	No leaks noted <input type="checkbox"/>
	Leaks noted <input type="checkbox"/>
With engine off make full application for 1 min.	
A. Initial Pressure _____	
B. Final Pressure _____	
C. Pressure Drop (A-B) _____	
<u>SYSTEM LEAK CHECK—HYDRAULIC AND POWER ASSIST HYDRAULIC</u>	
With engine off, press pedal—note movement.	
Pedal Firm <input type="checkbox"/>	Pedal Moved Towards Floor <input type="checkbox"/>
<u>TEST SAFETY CHECK</u>	
Briefly check vehicle and load for conditions unsafe for testing.	
Vehicle and Load OK _____, Unsafe _____, If unsafe, describe _____	
<u>STOP TEST</u>	
Make 32 km/h (20 mph) complete stop.	
Actual Initial Speed _____	Stop Distance _____
Stayed Within 3.7 m (12 ft) Lane	Yes <input type="checkbox"/> No <input type="checkbox"/>
Vehicle pull problem	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, describe _____	
<u>PARKING BRAKE SYSTEM CHECK</u>	
Make 8 km/h (5 mph) stop by actuating the parking brake control	
Actual Initial Speed _____	Stop Distance _____
	Tester _____

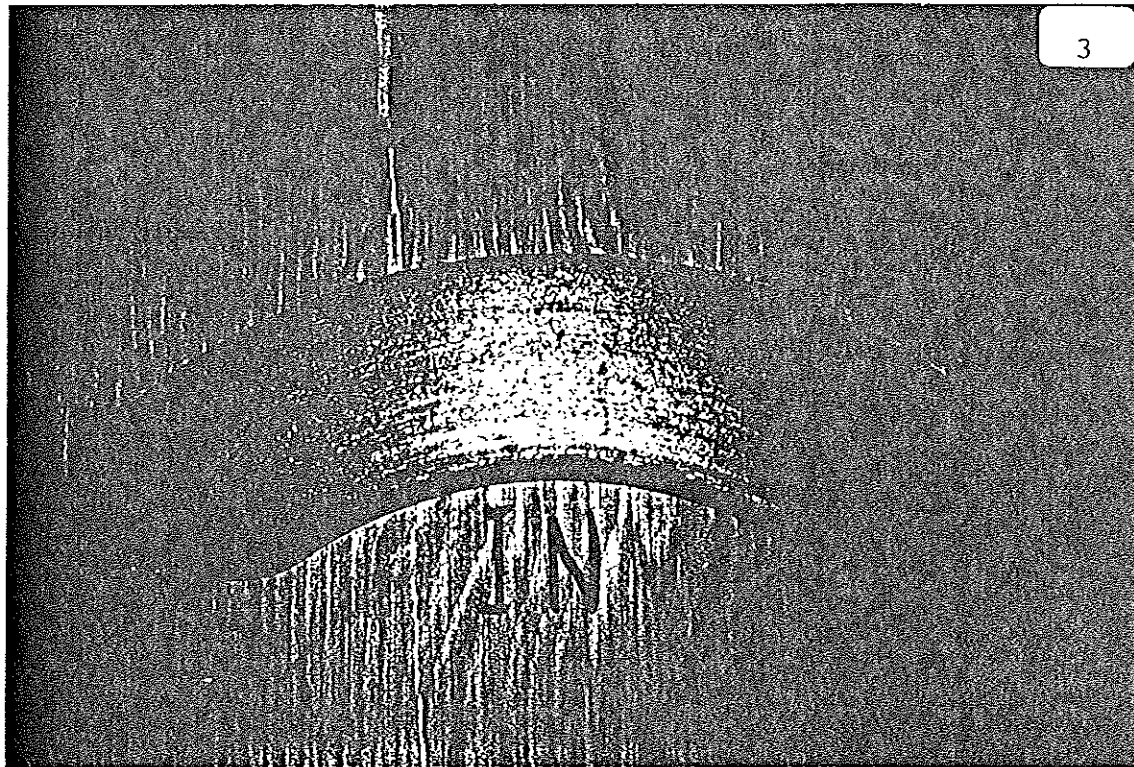
FIG. 1

driving procedure. The initial speed and the distance vehicle travels from initial brake pedal movement to stop shall be noted and recorded. Record any brake pull or instability, and whether or not stop was made within 3.7 m (12 ft) wide lane.

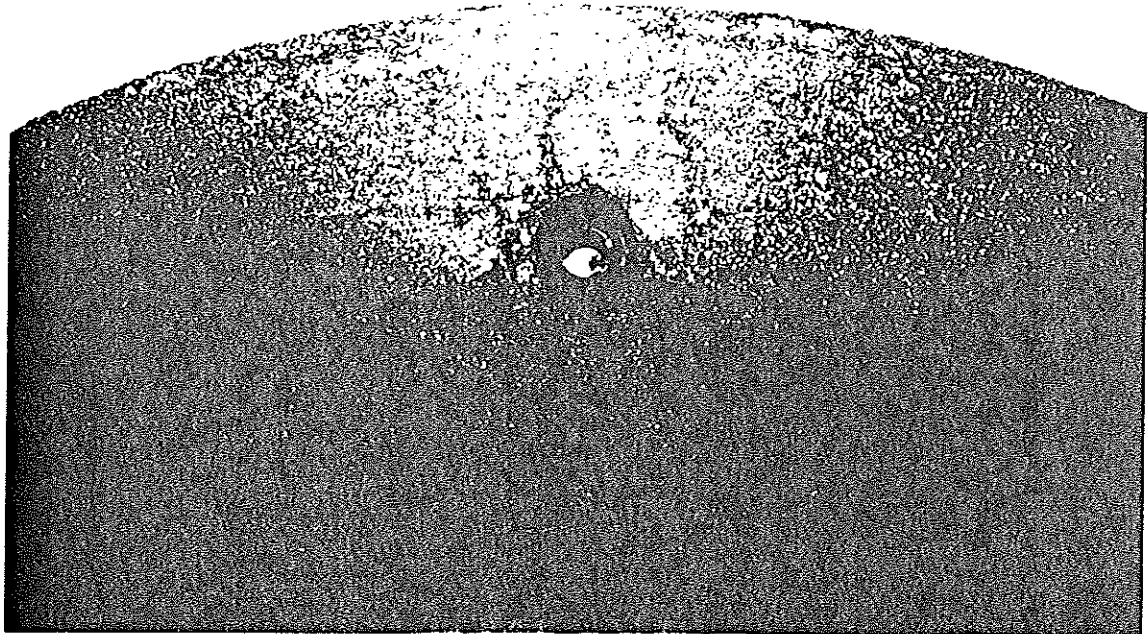
7. *Parking Brake System Check*

ATTACHMENT 3

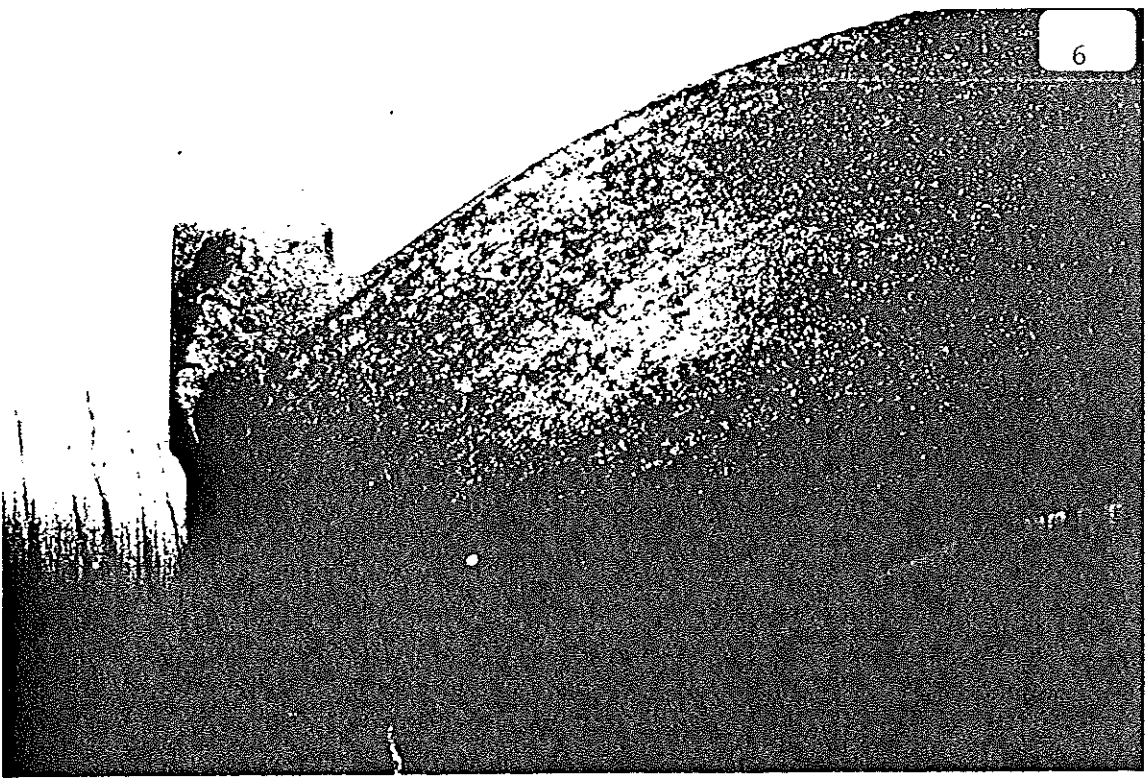


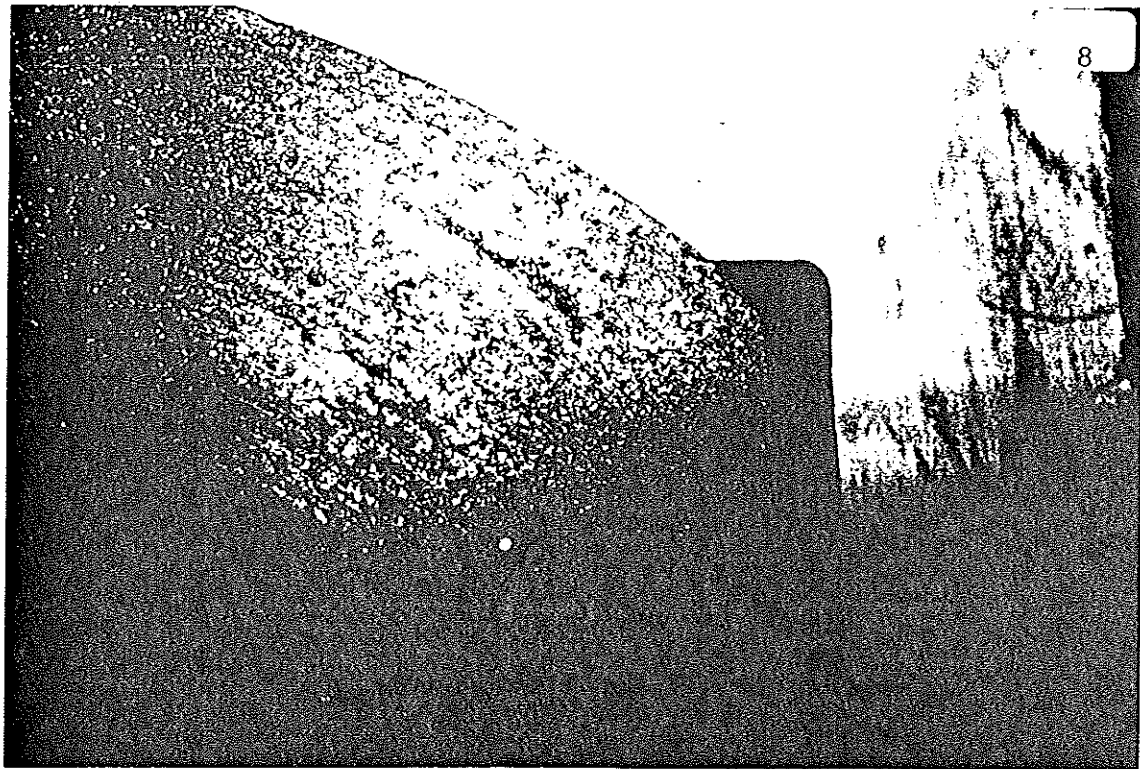
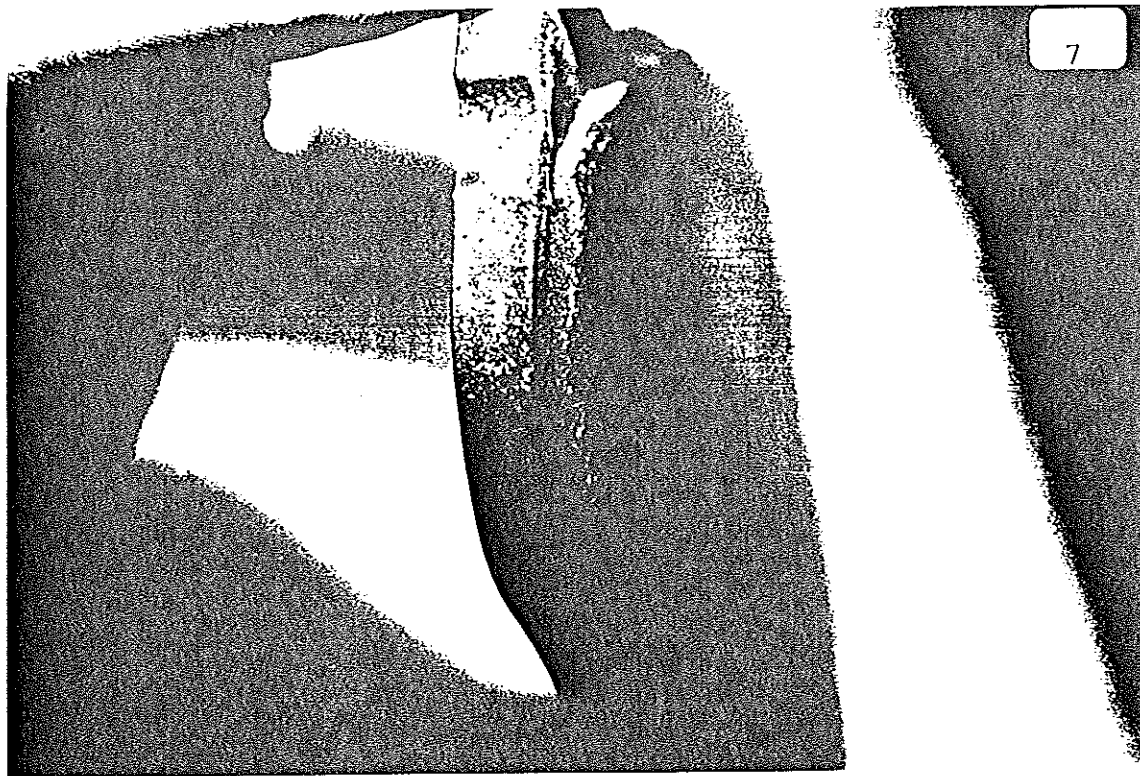


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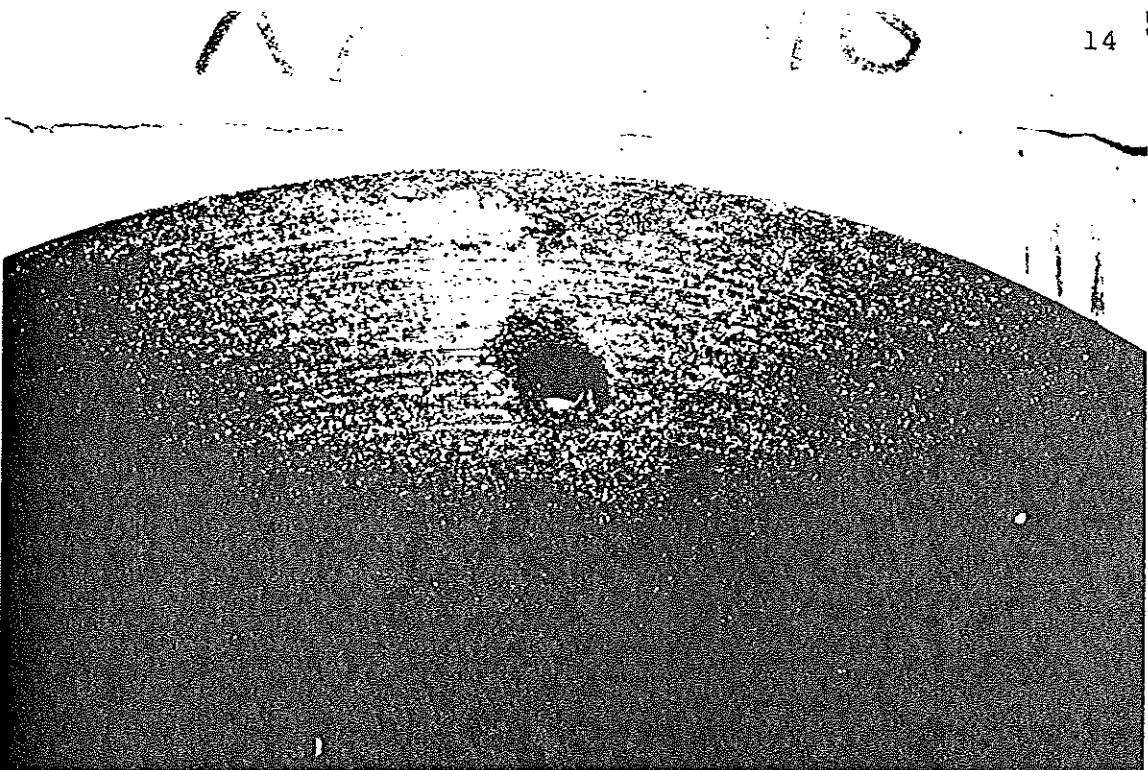
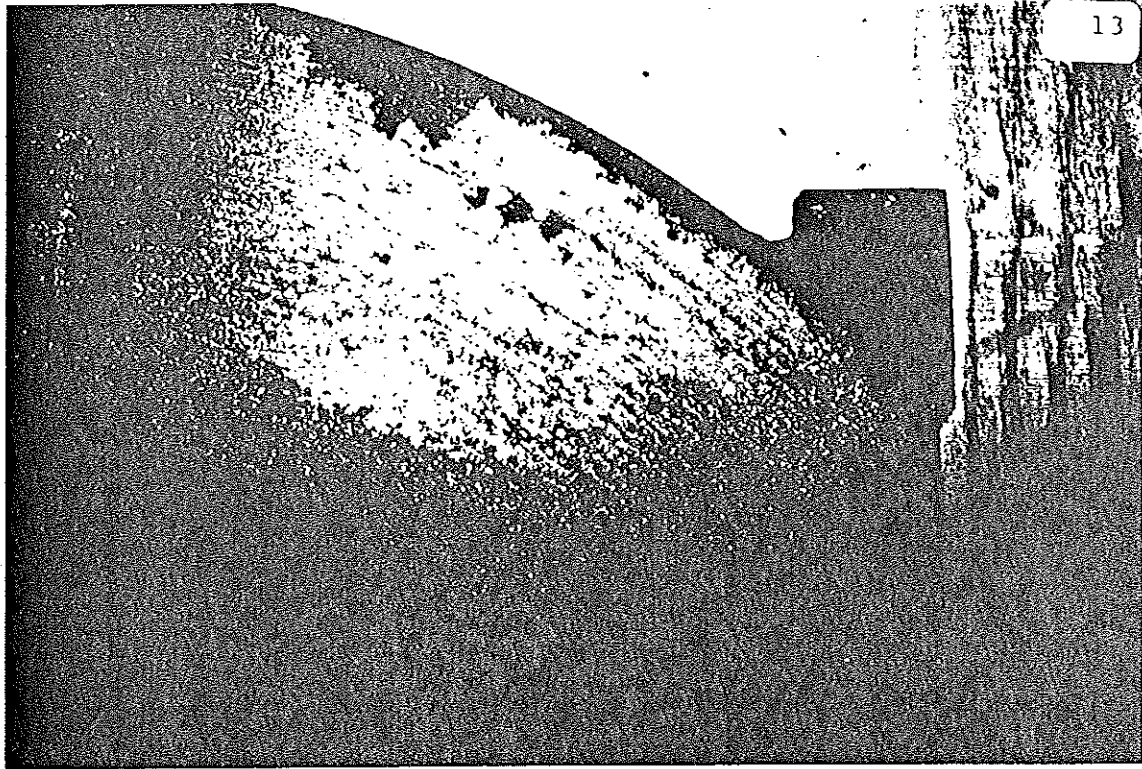
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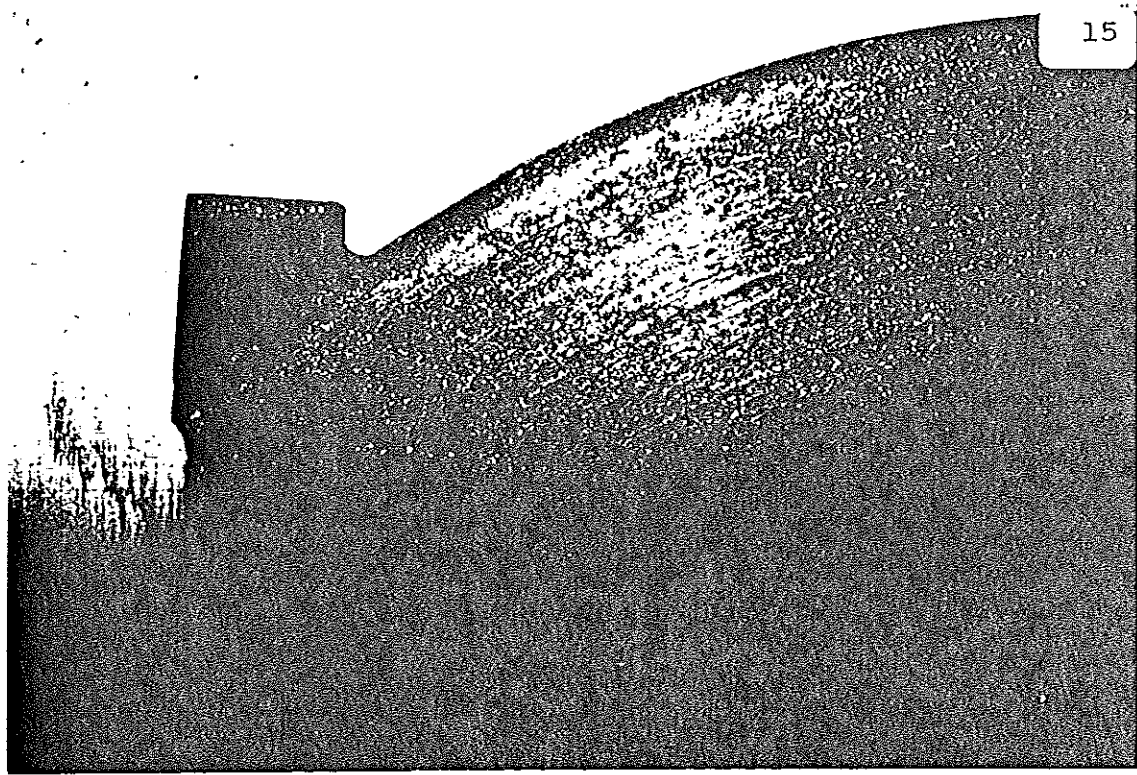
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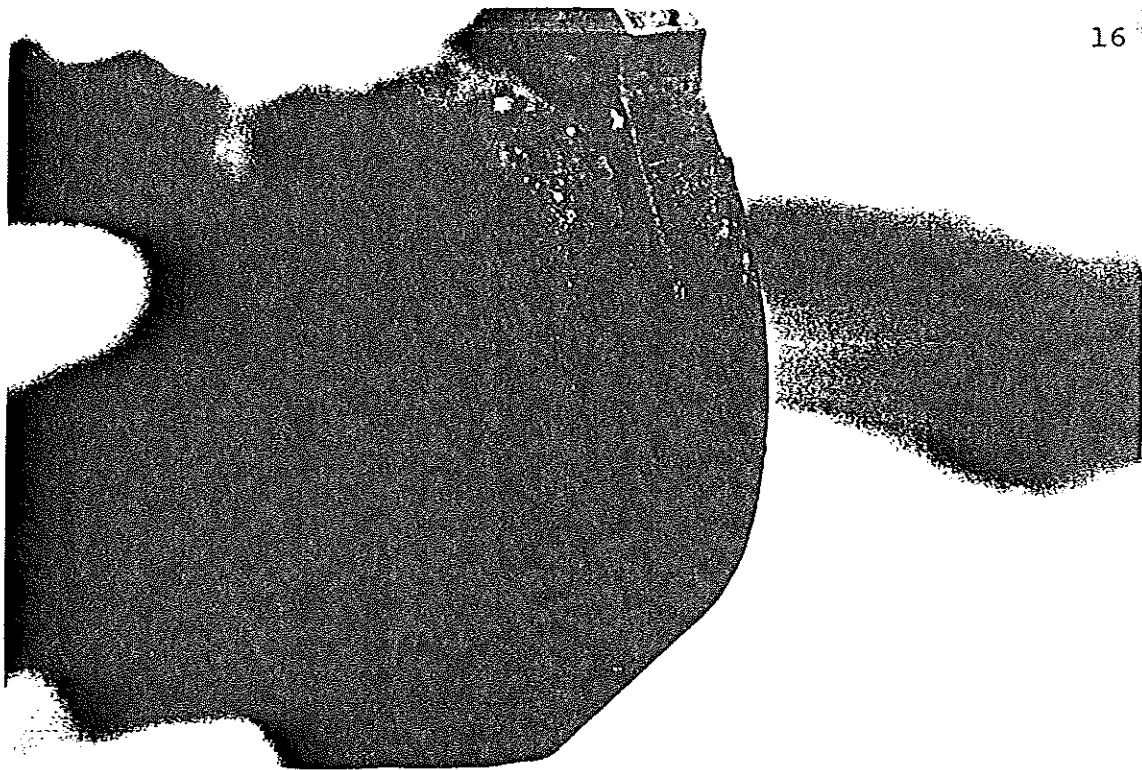
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RR B616

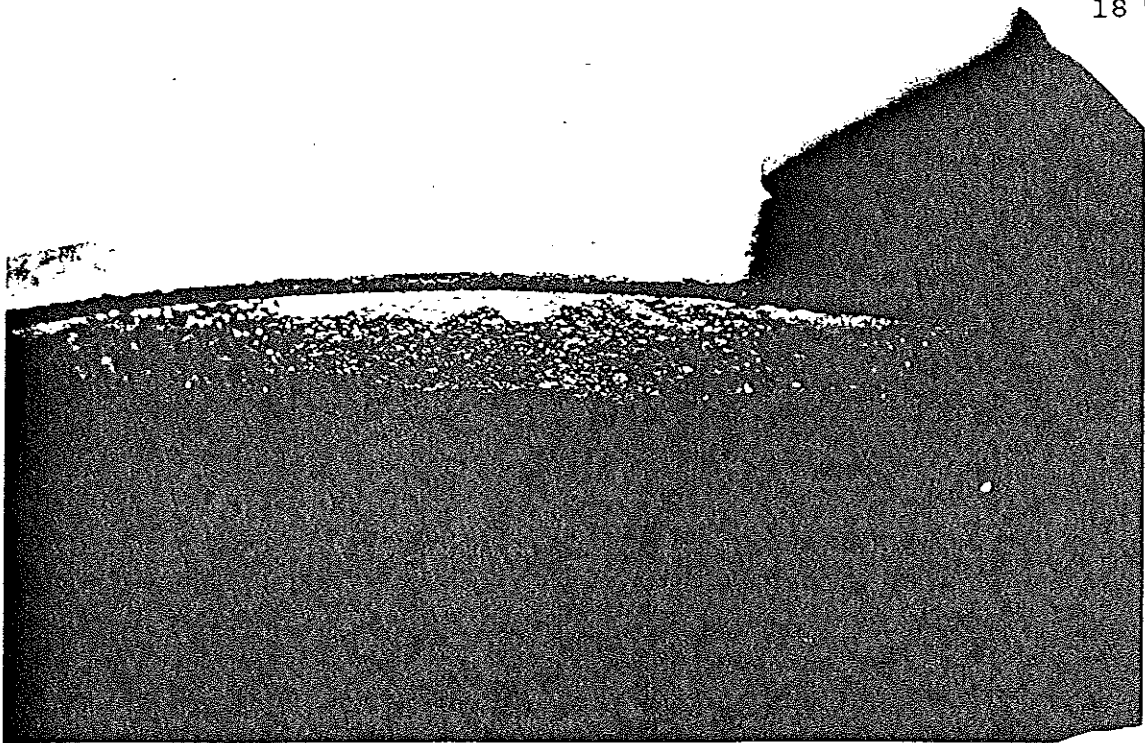
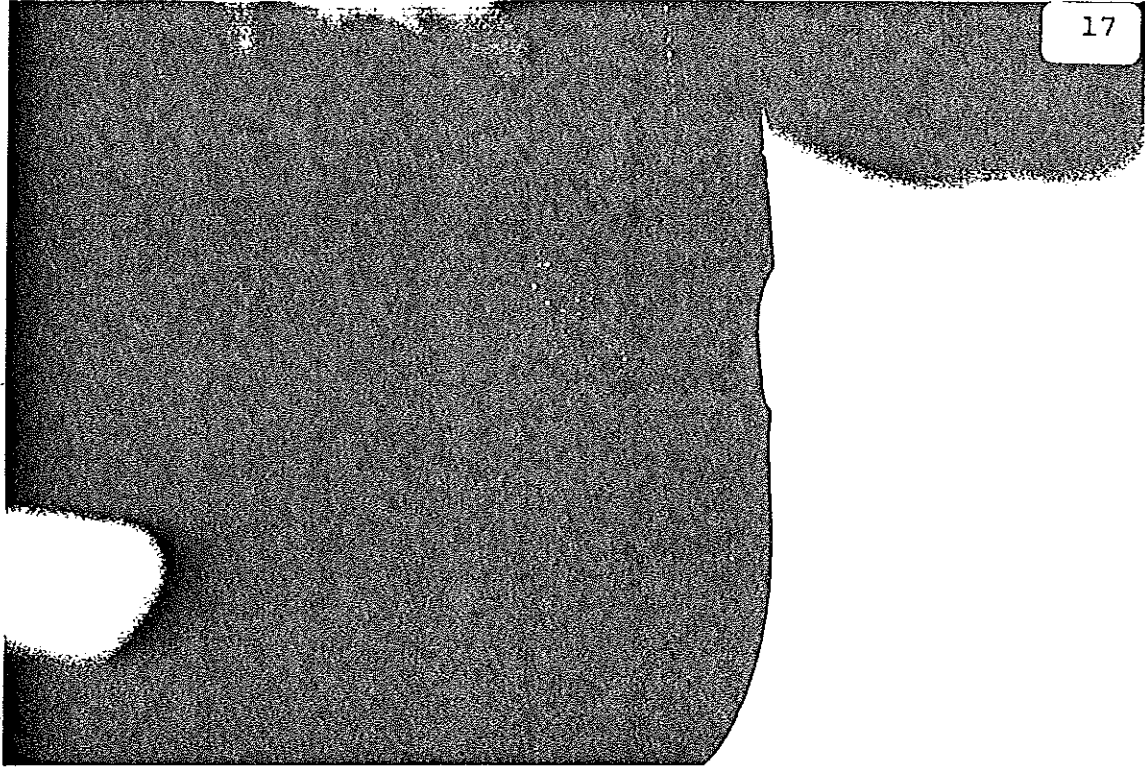


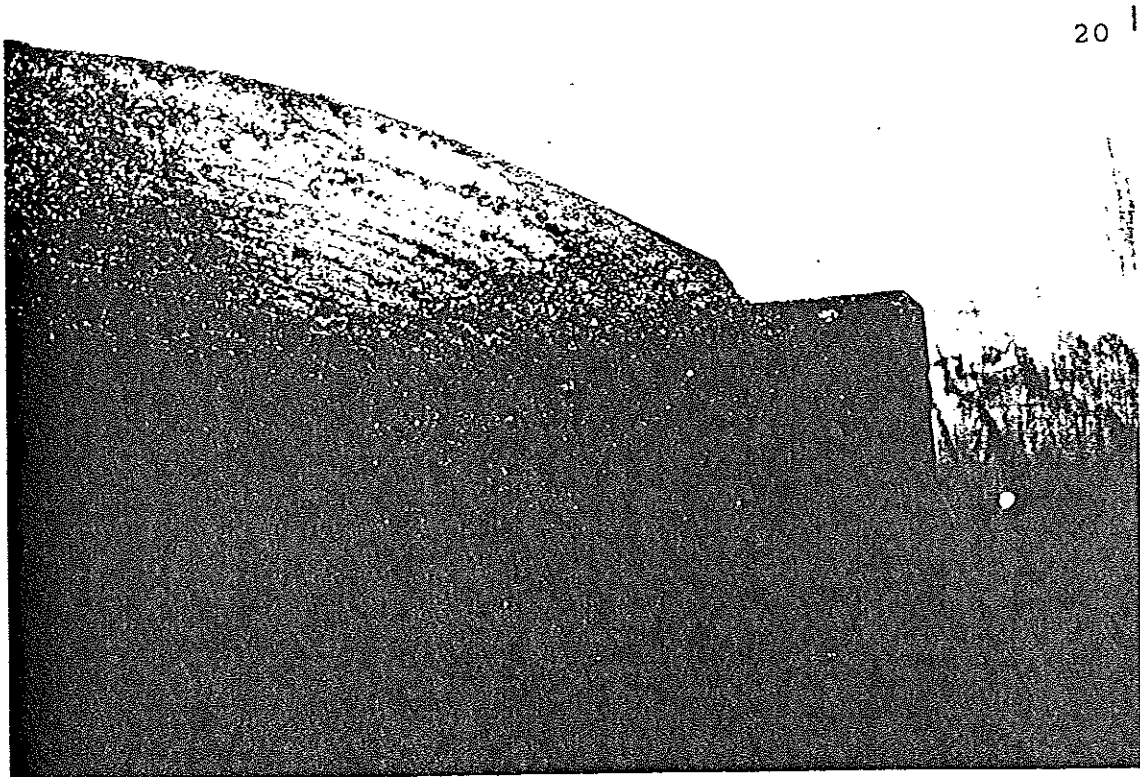
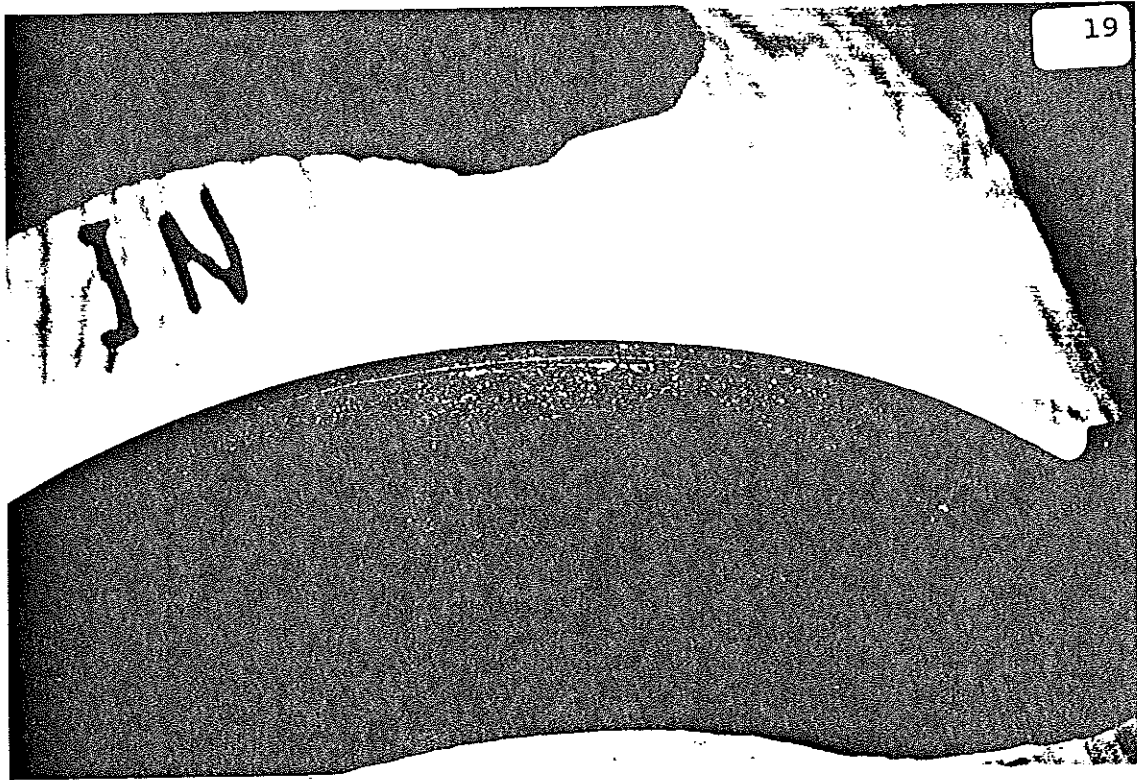


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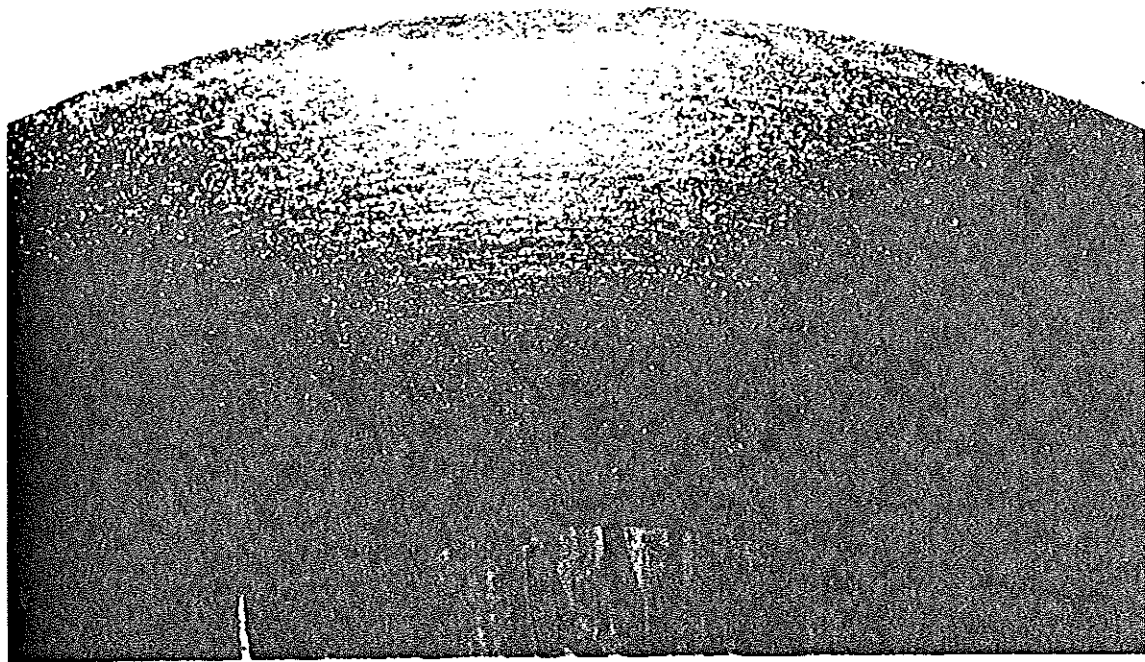


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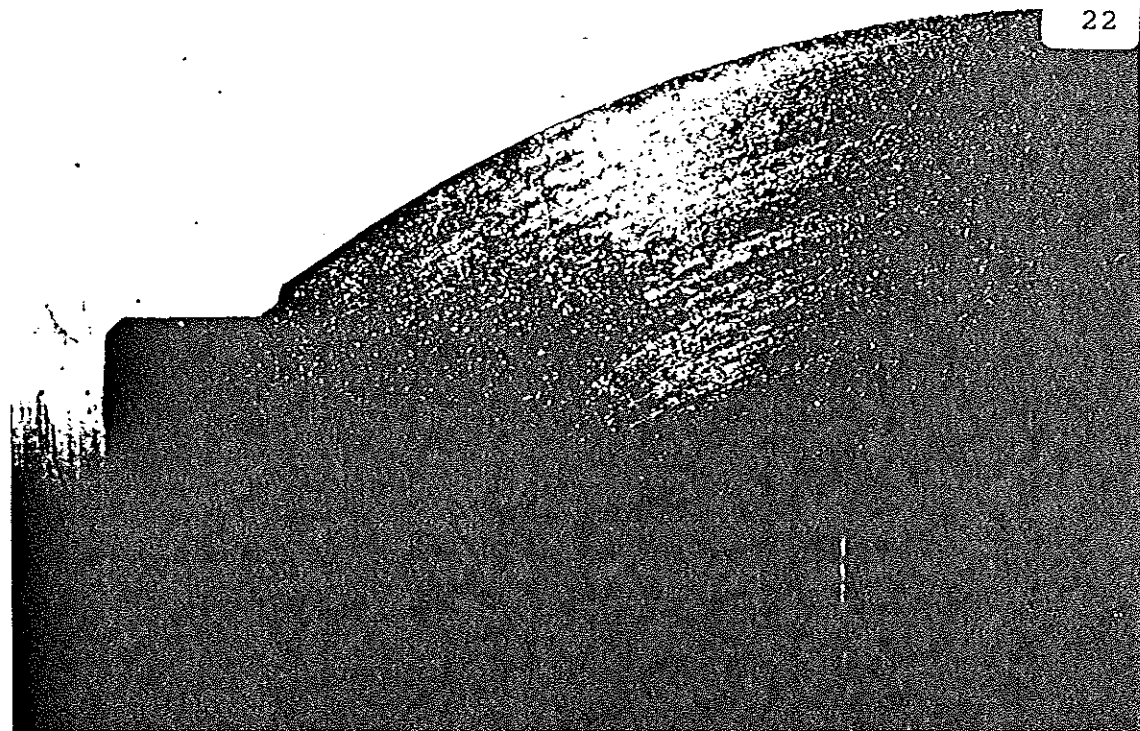


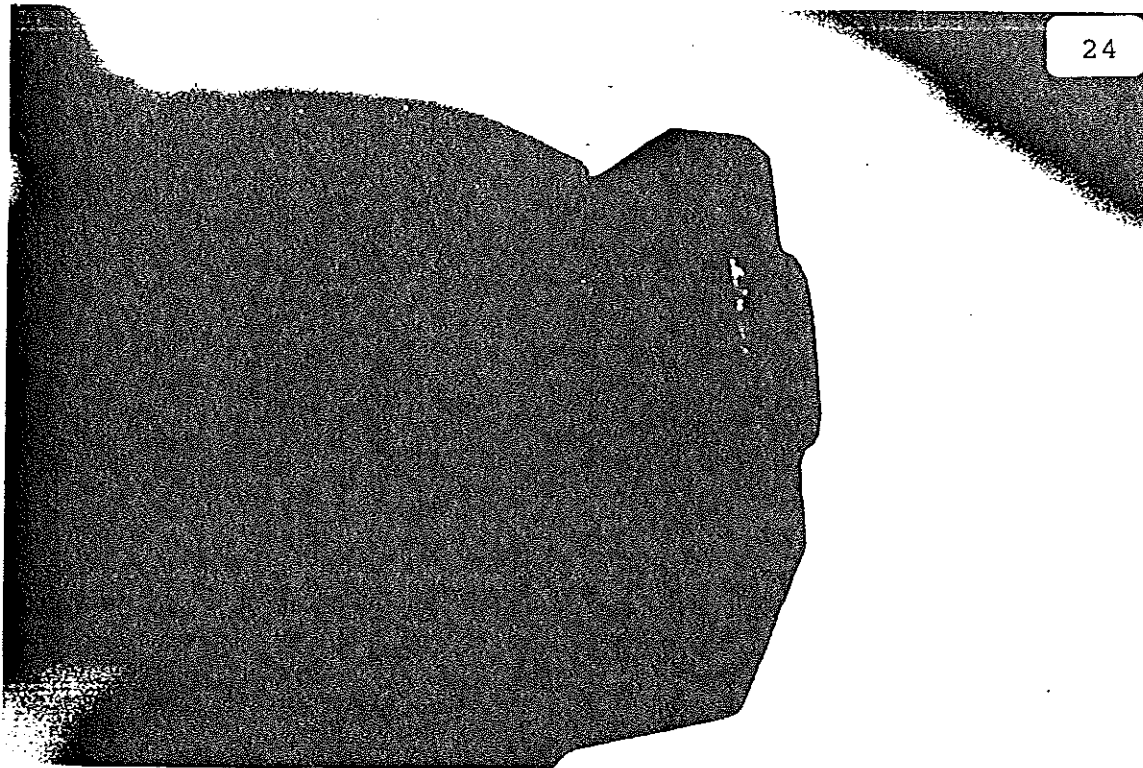
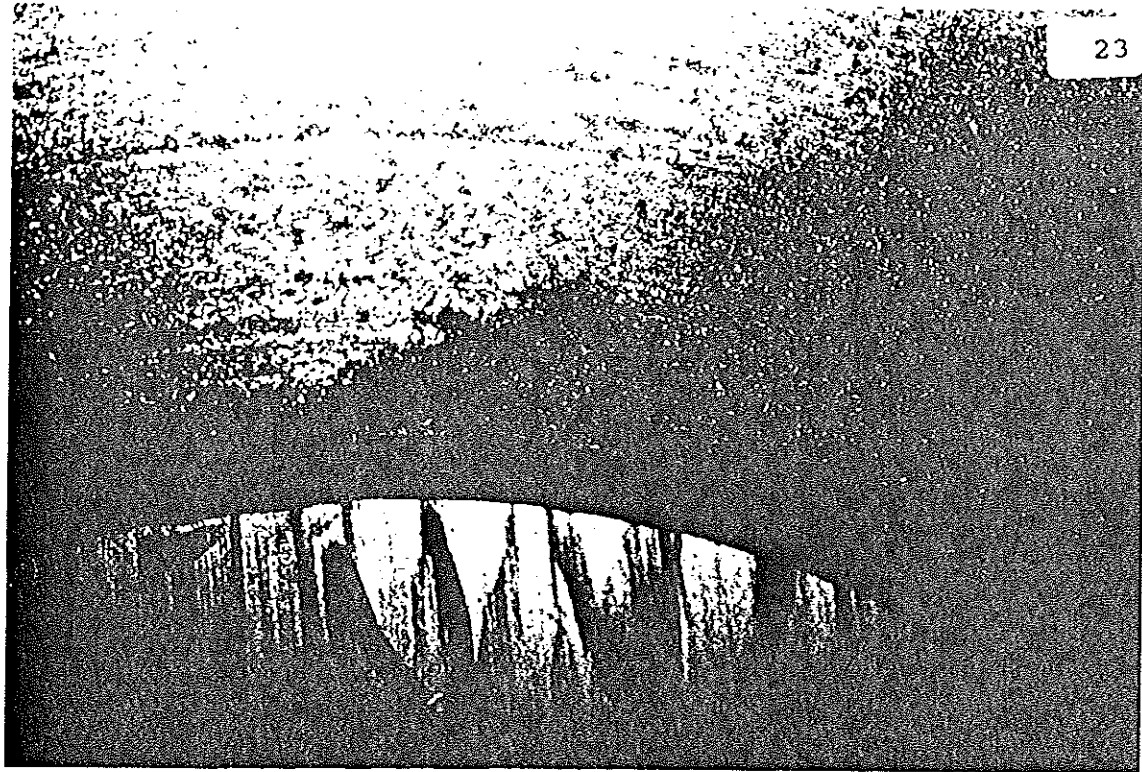


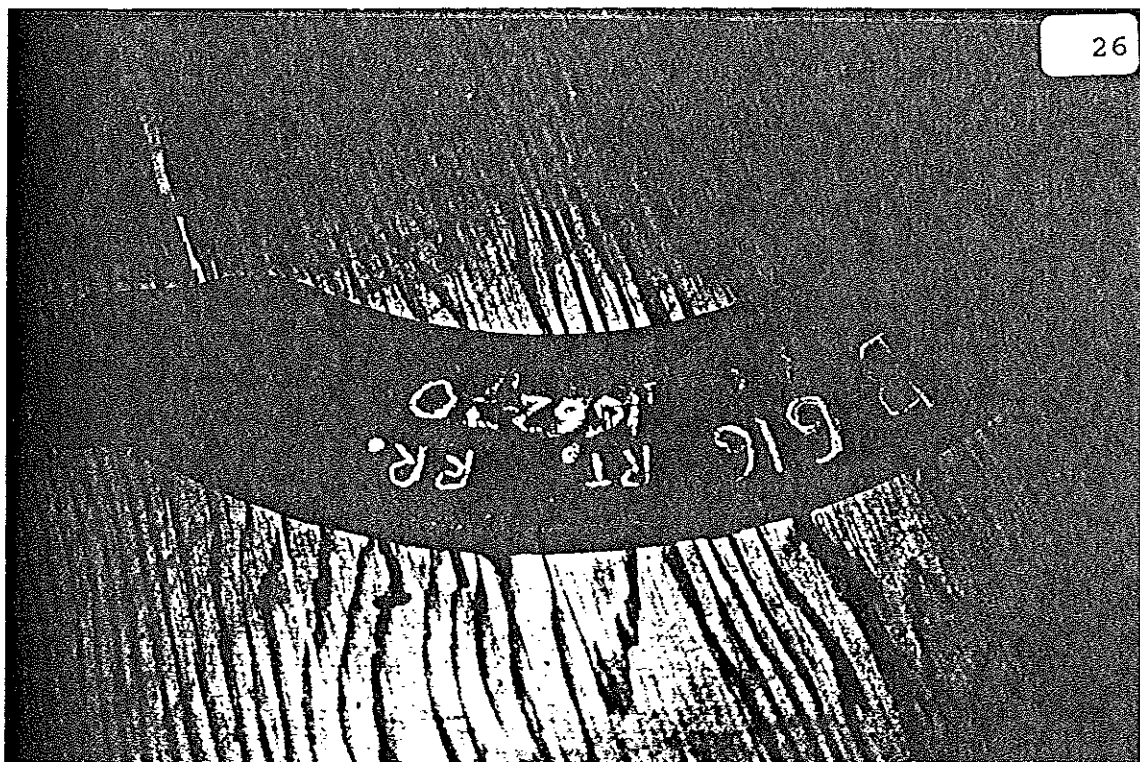
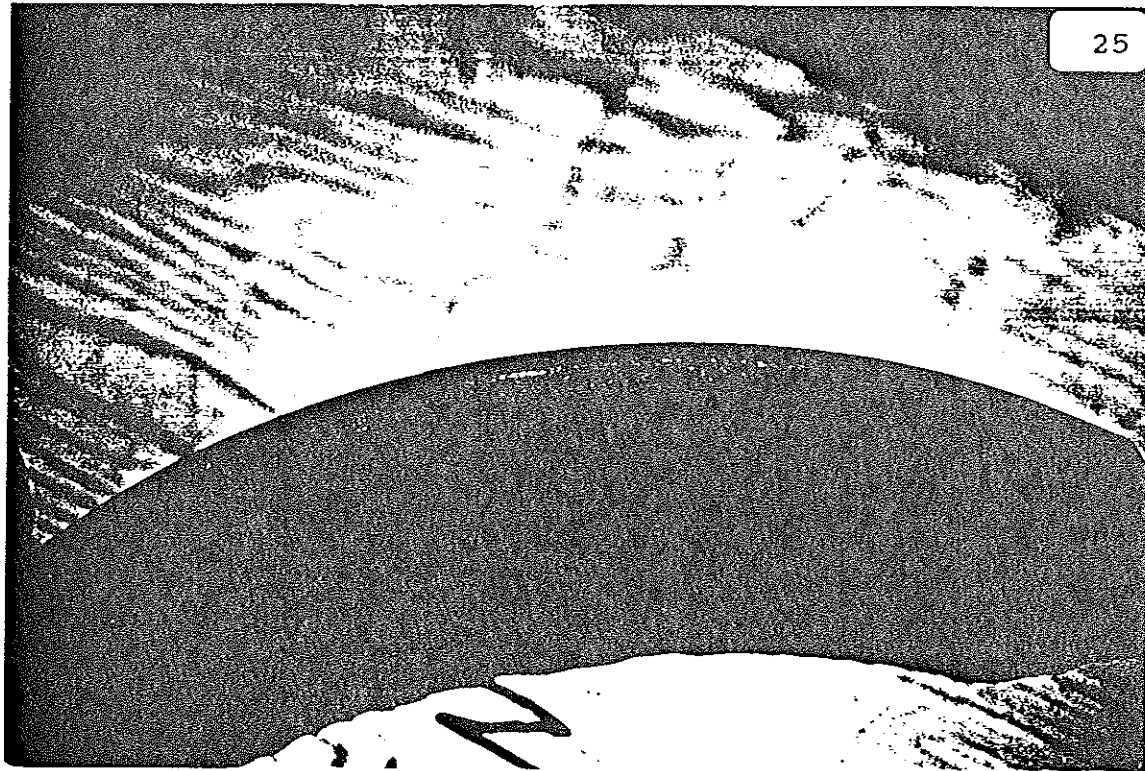
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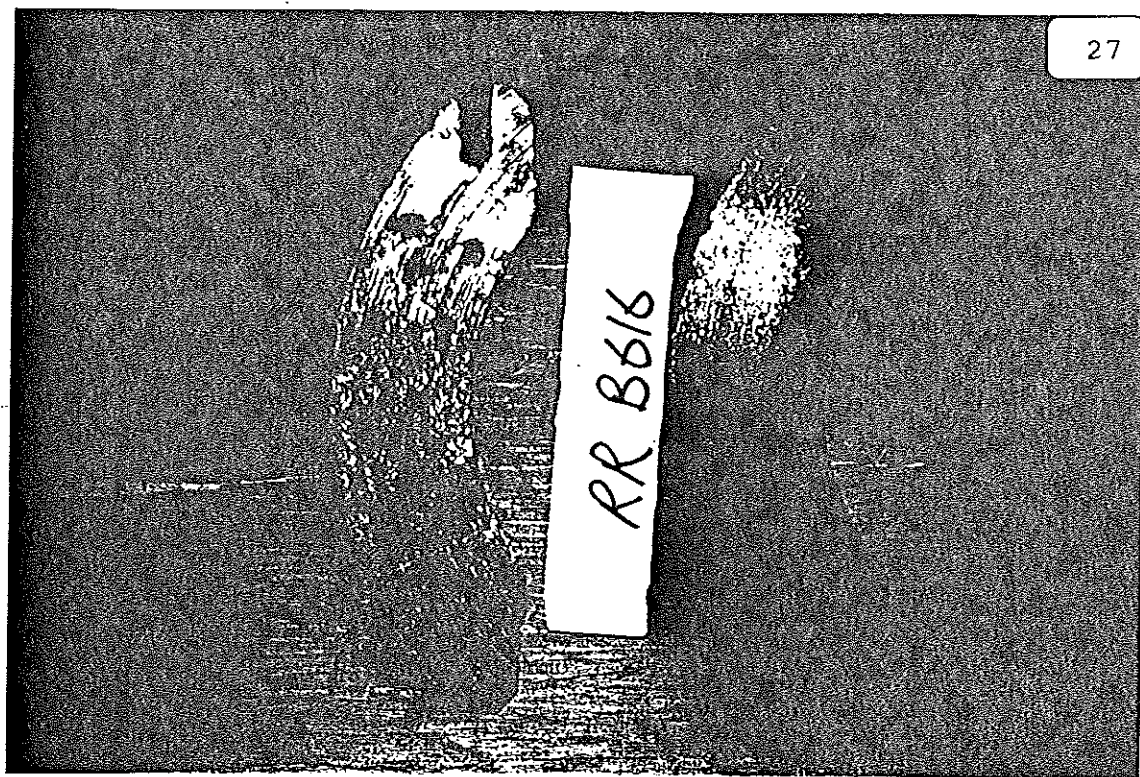
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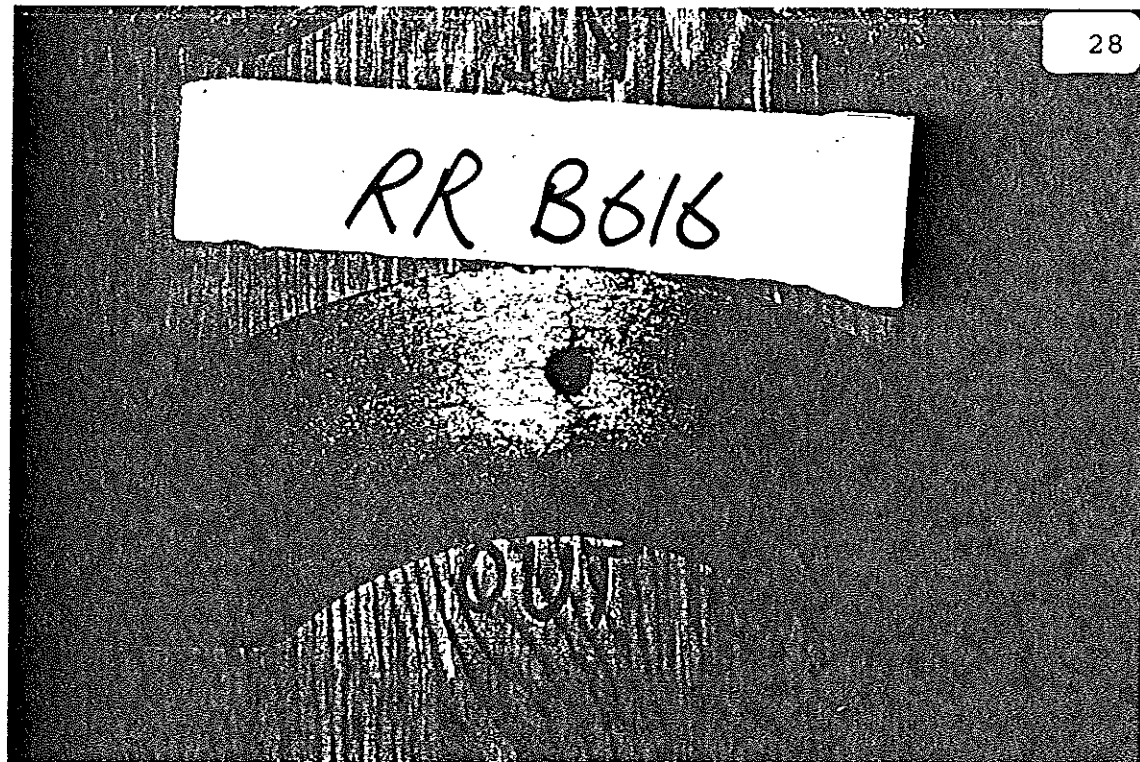


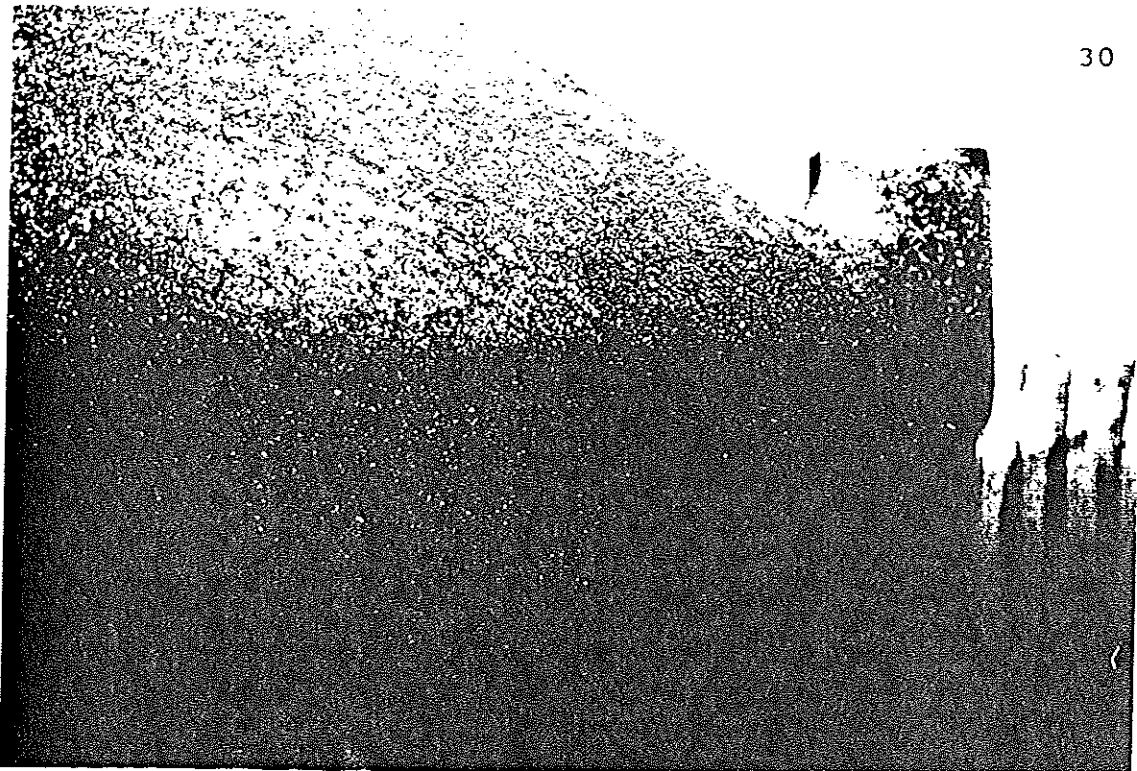


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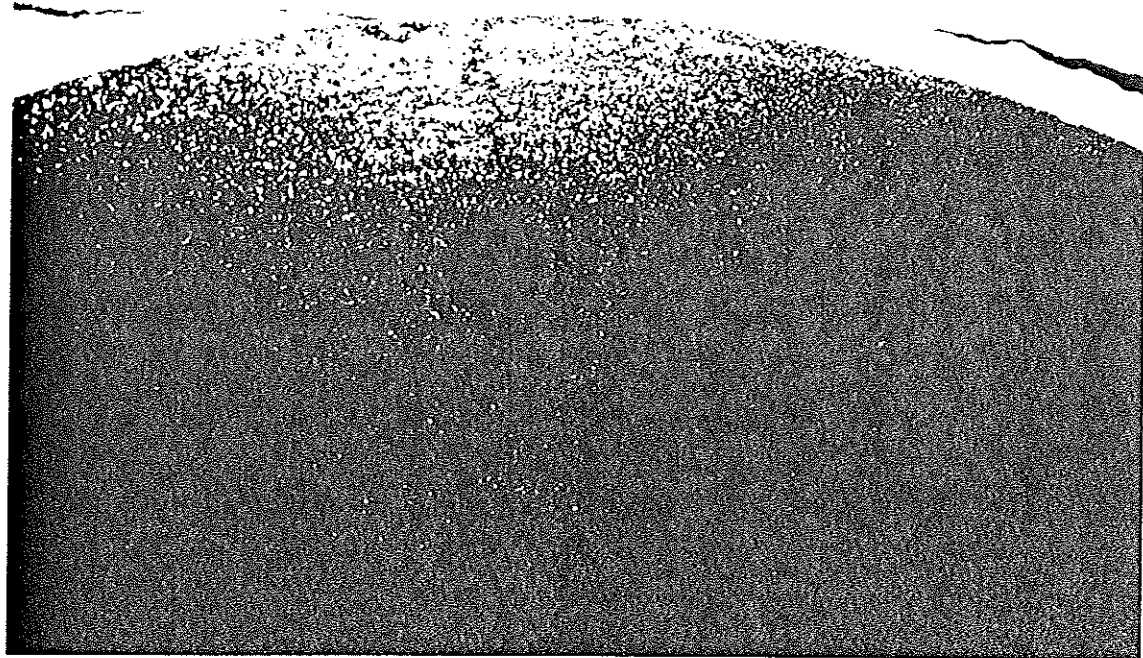


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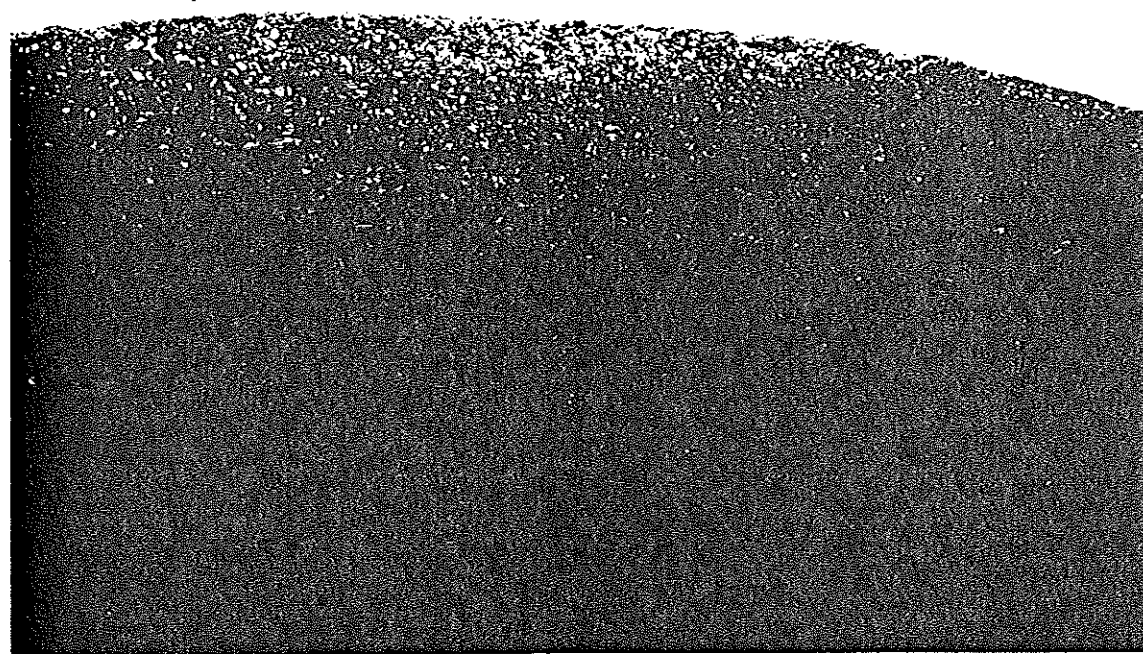


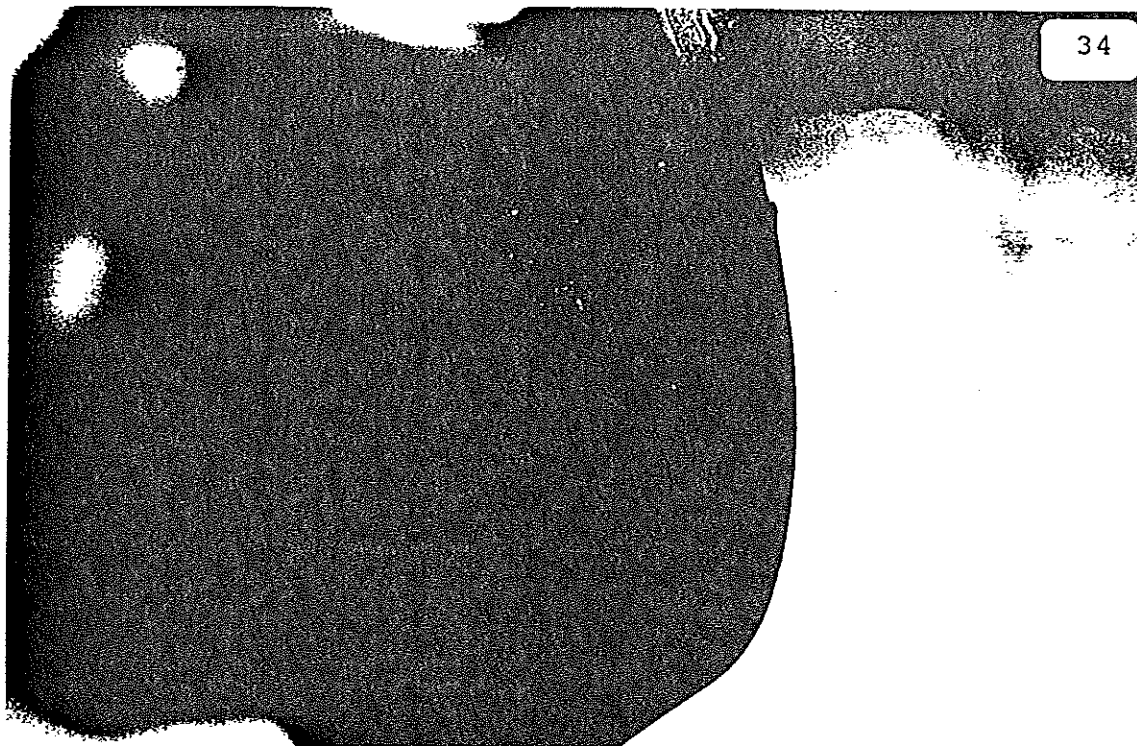
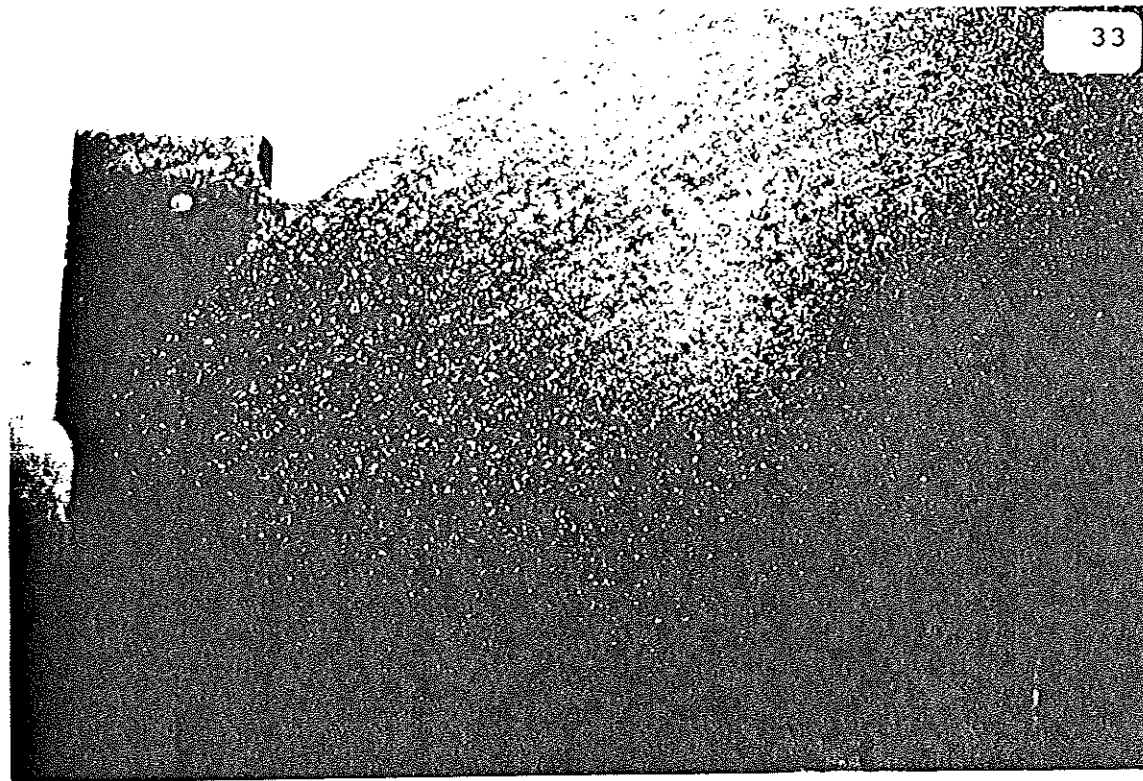


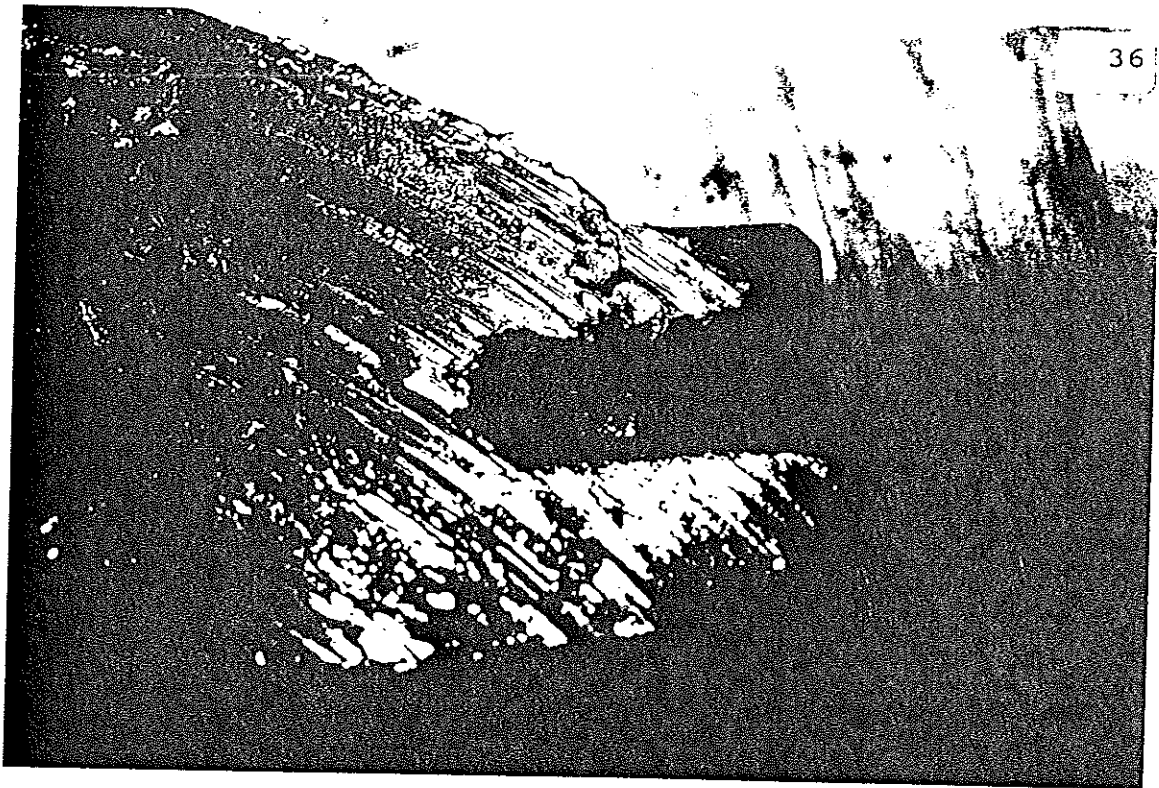
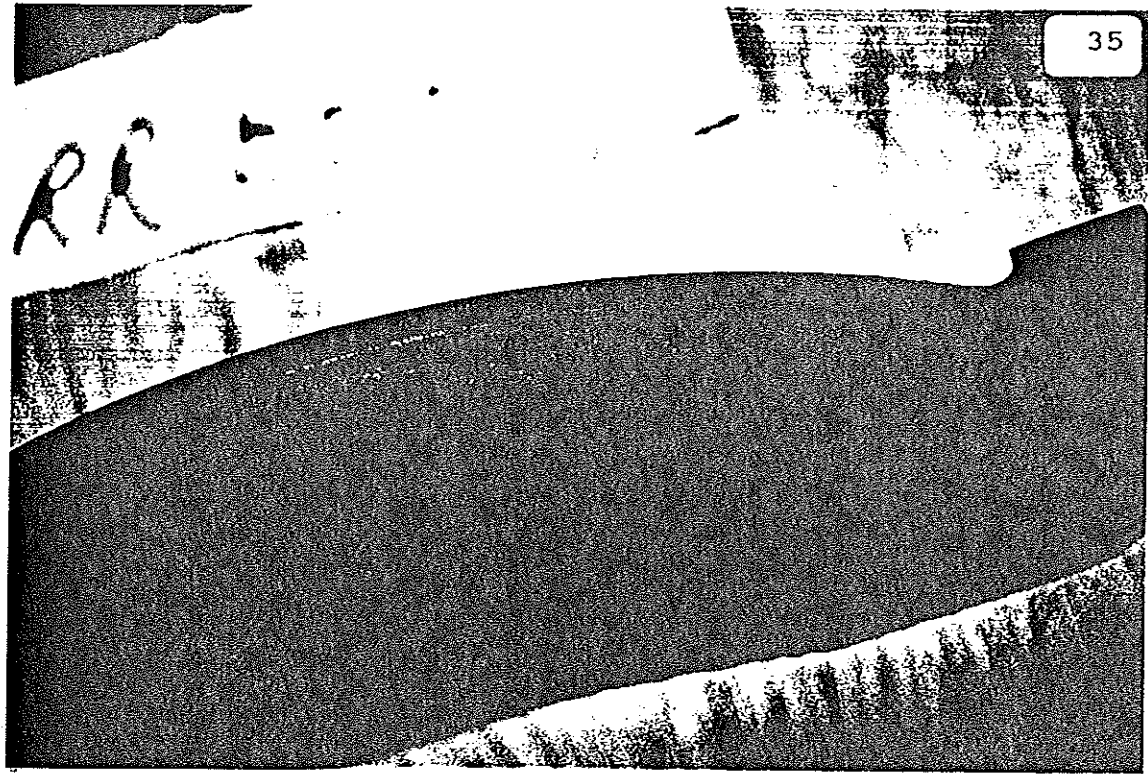
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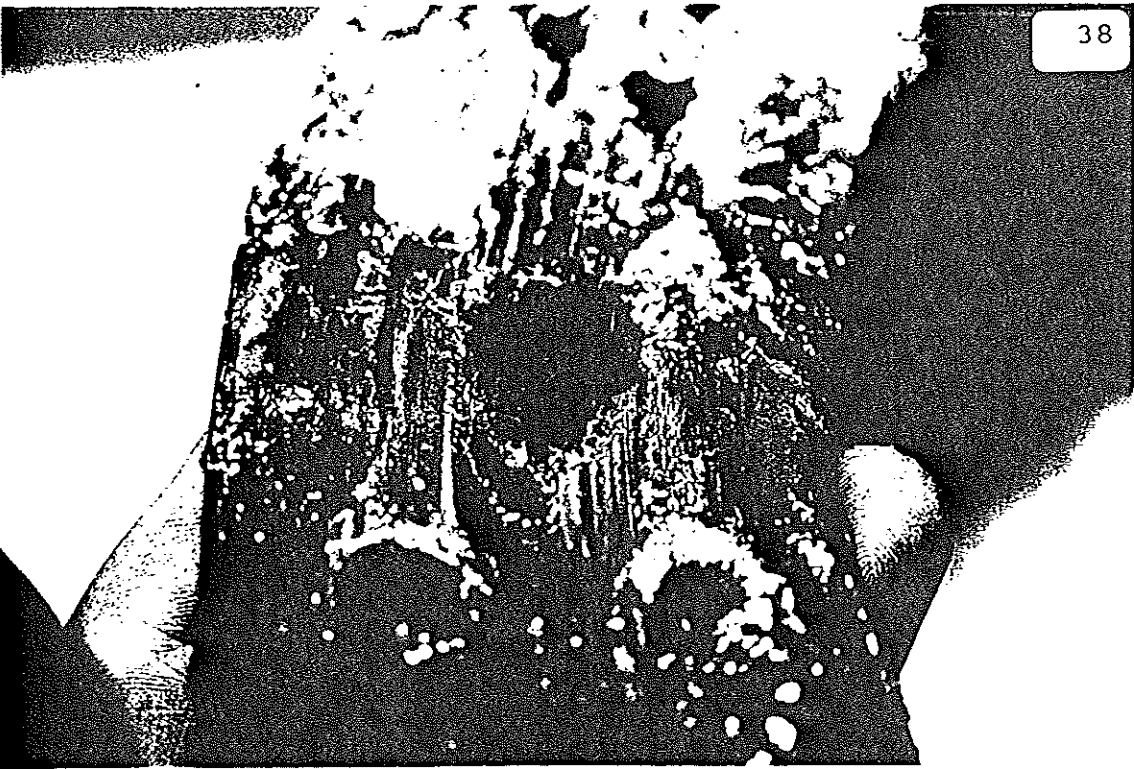


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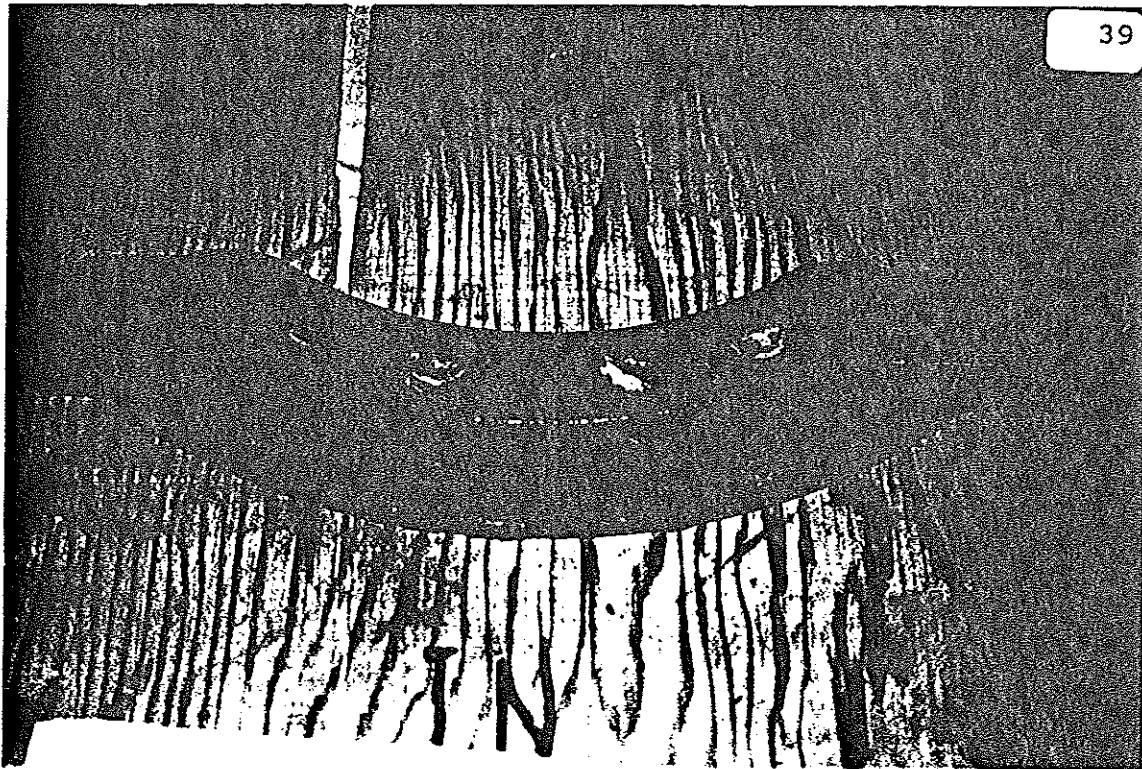




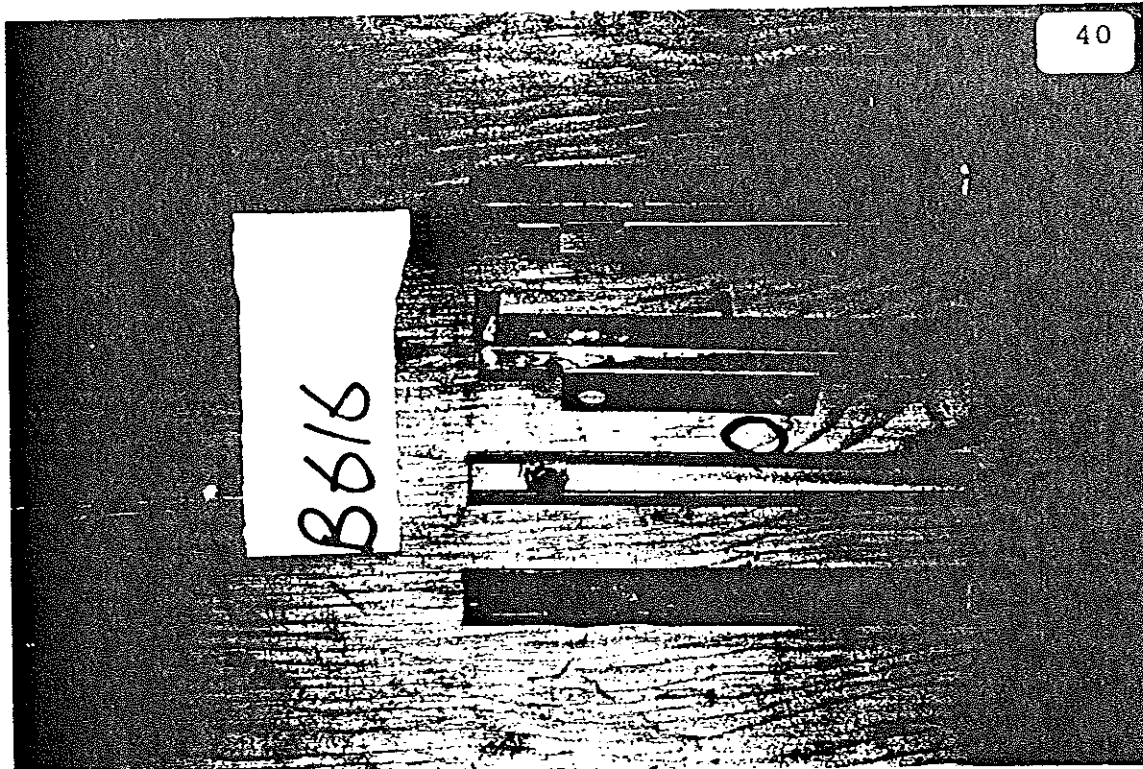




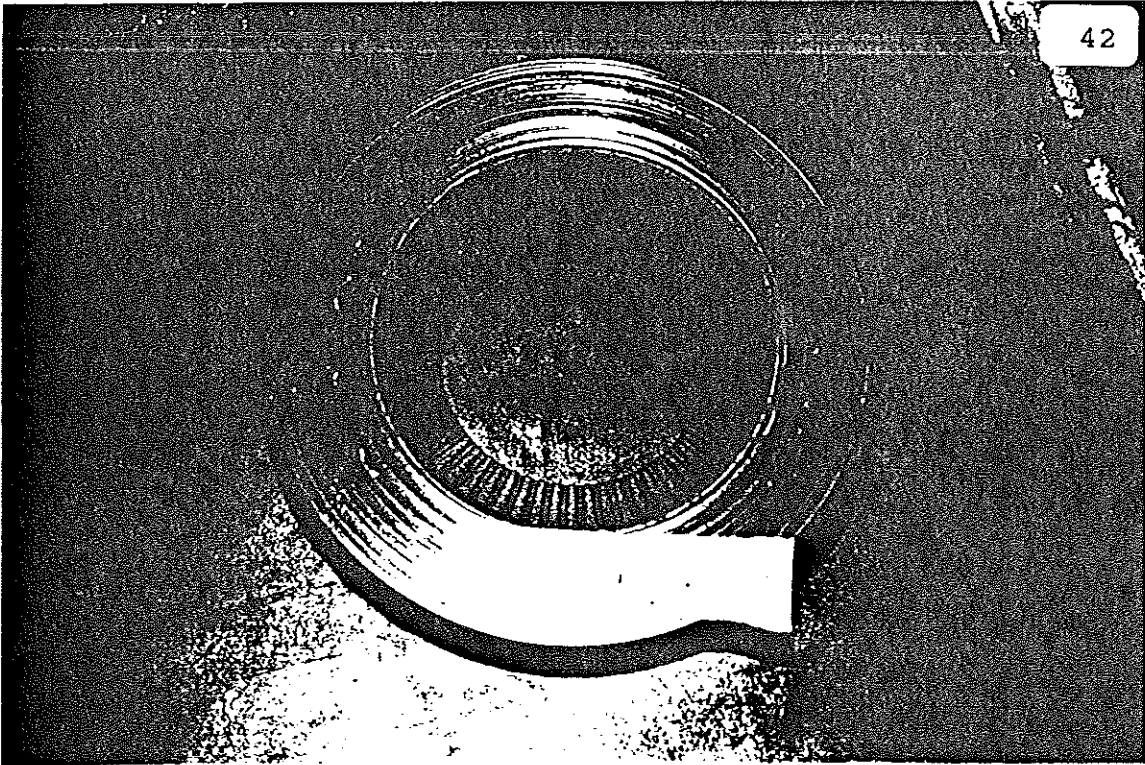
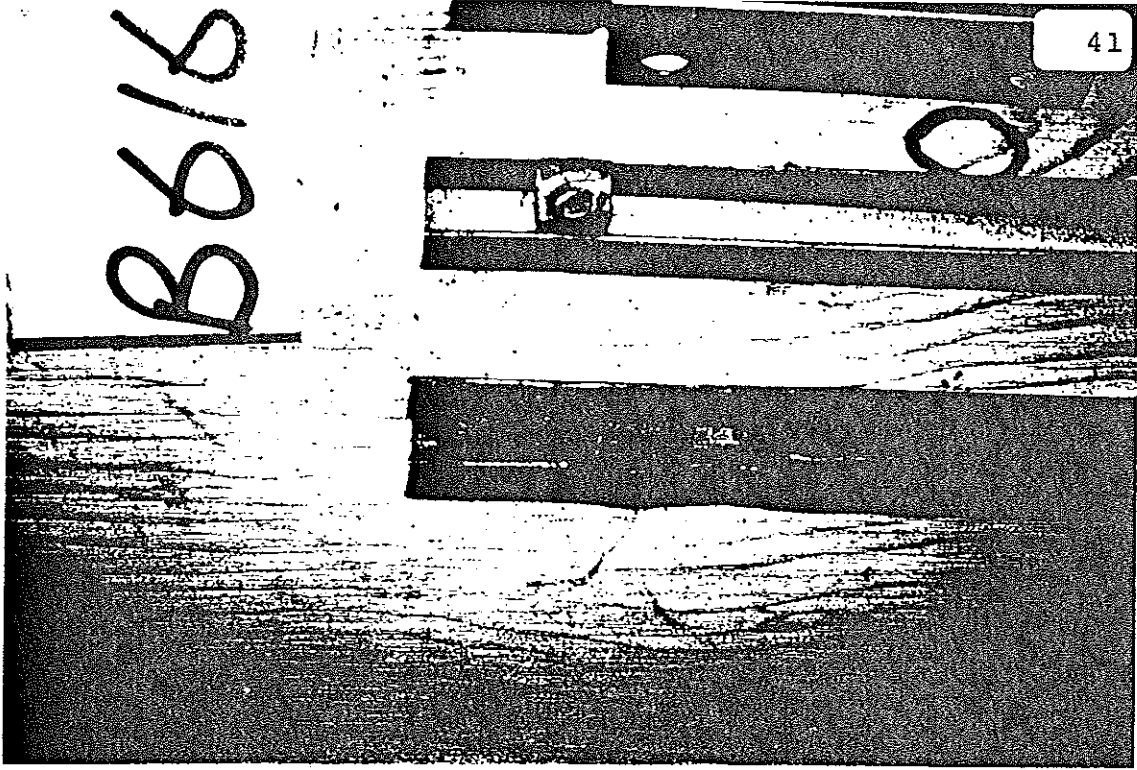
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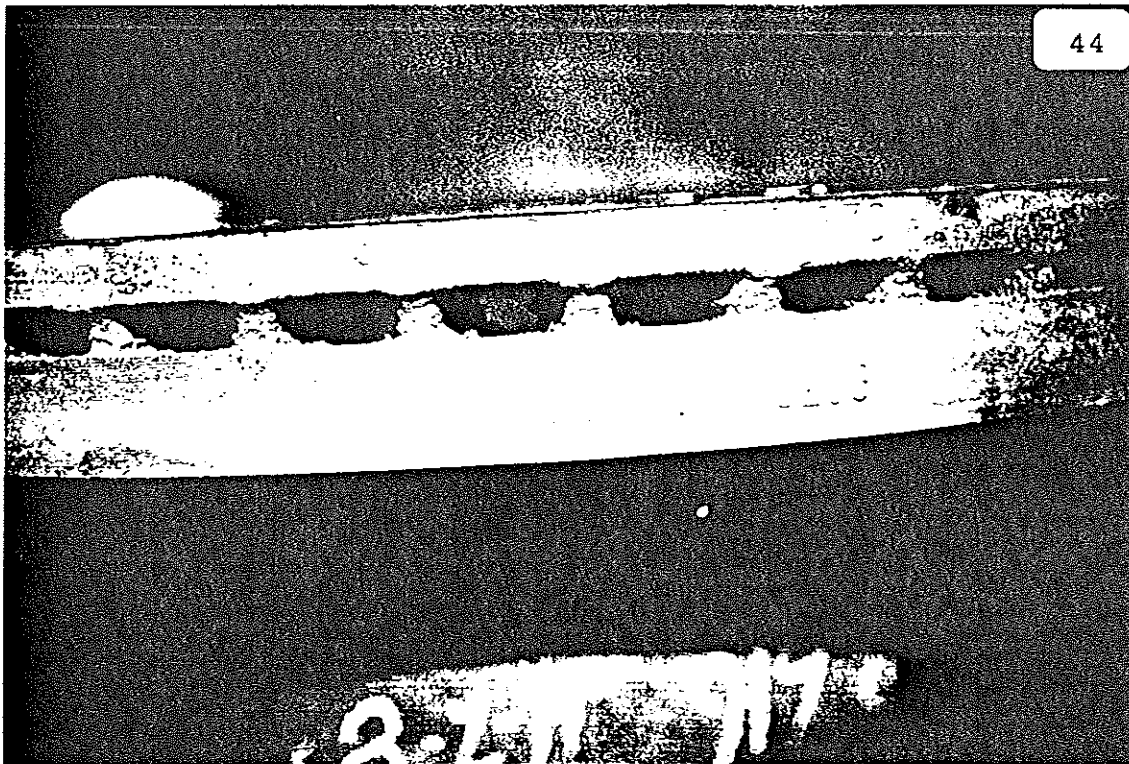
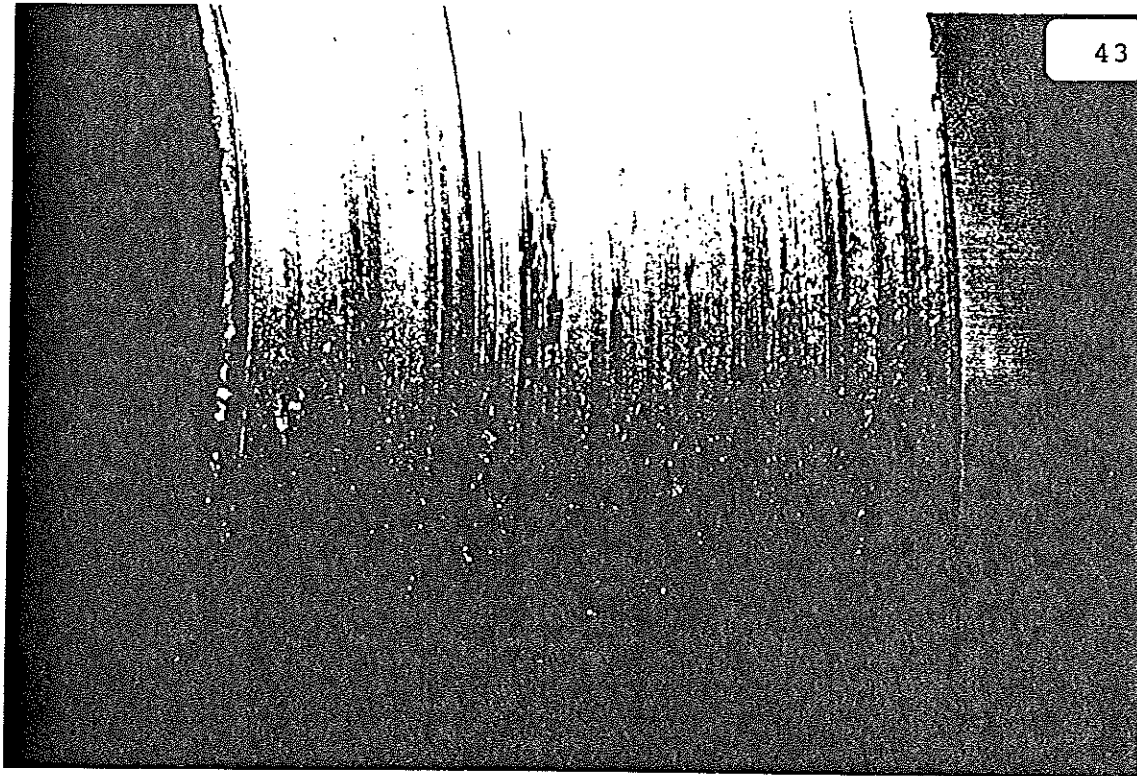


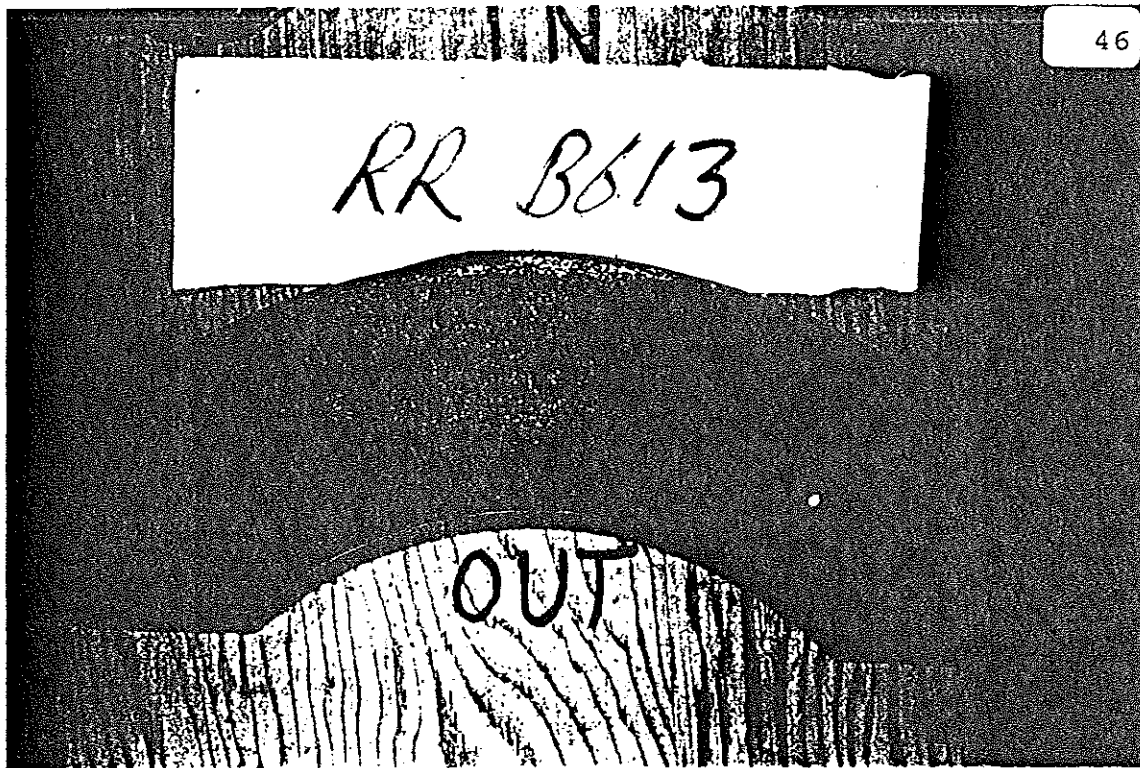
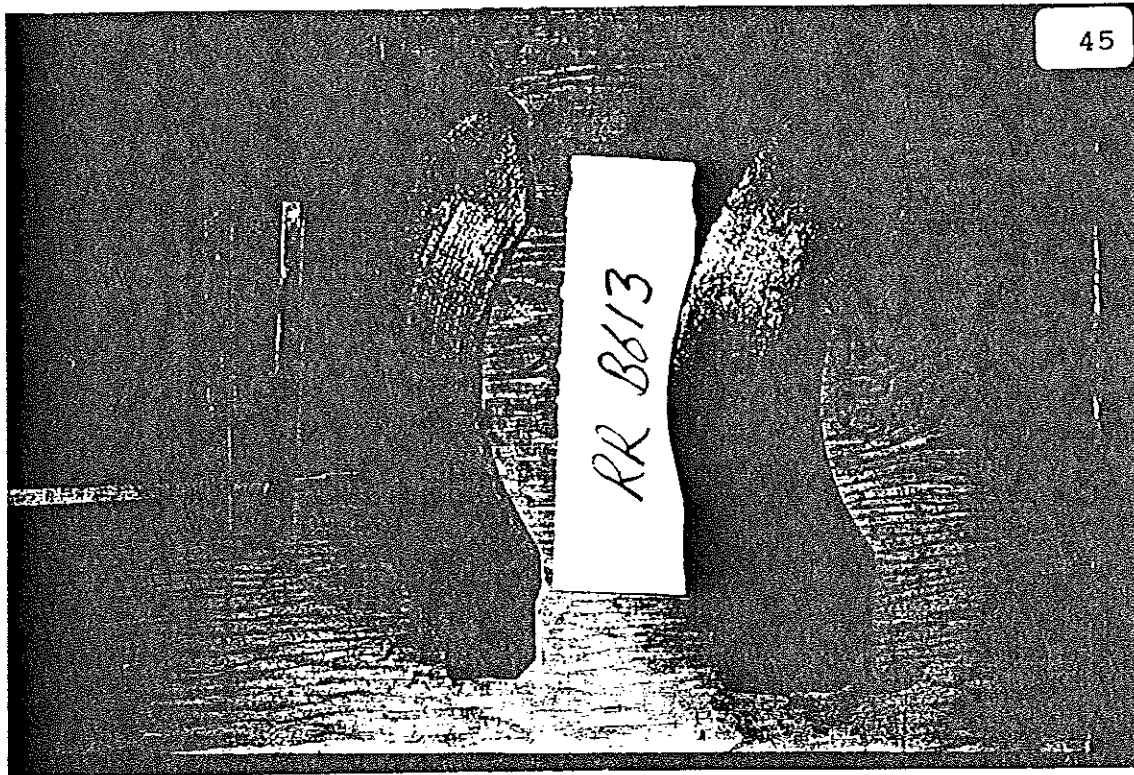
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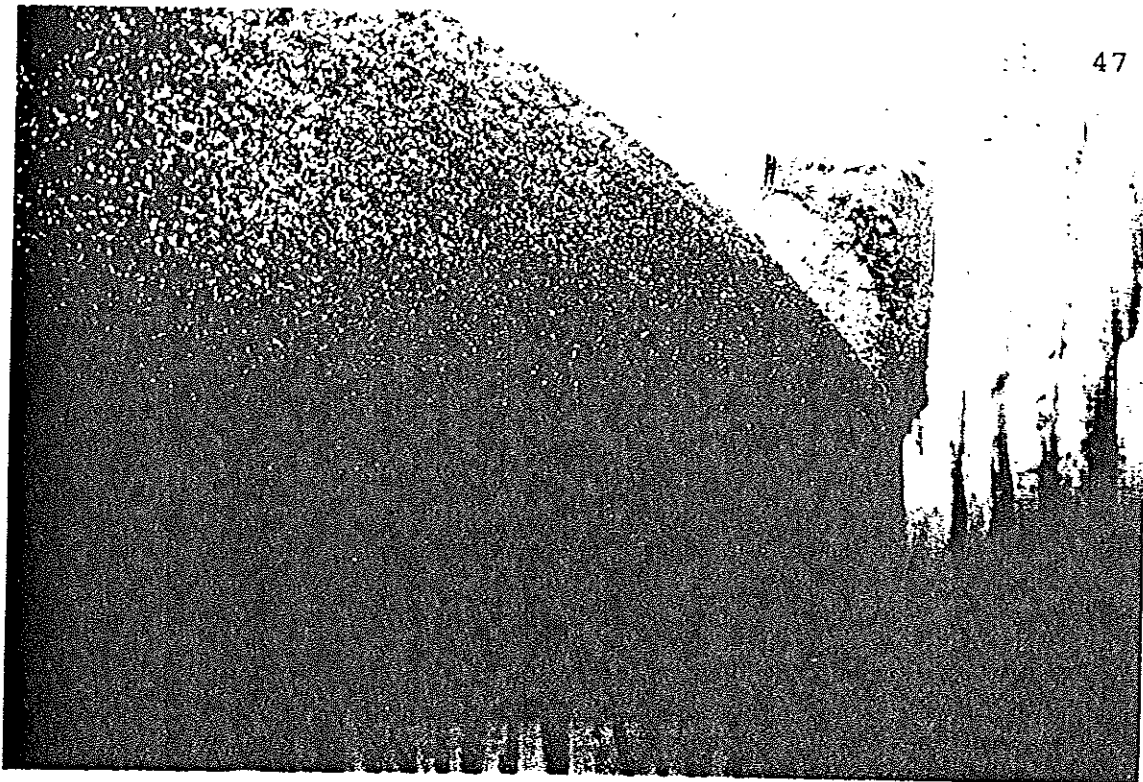


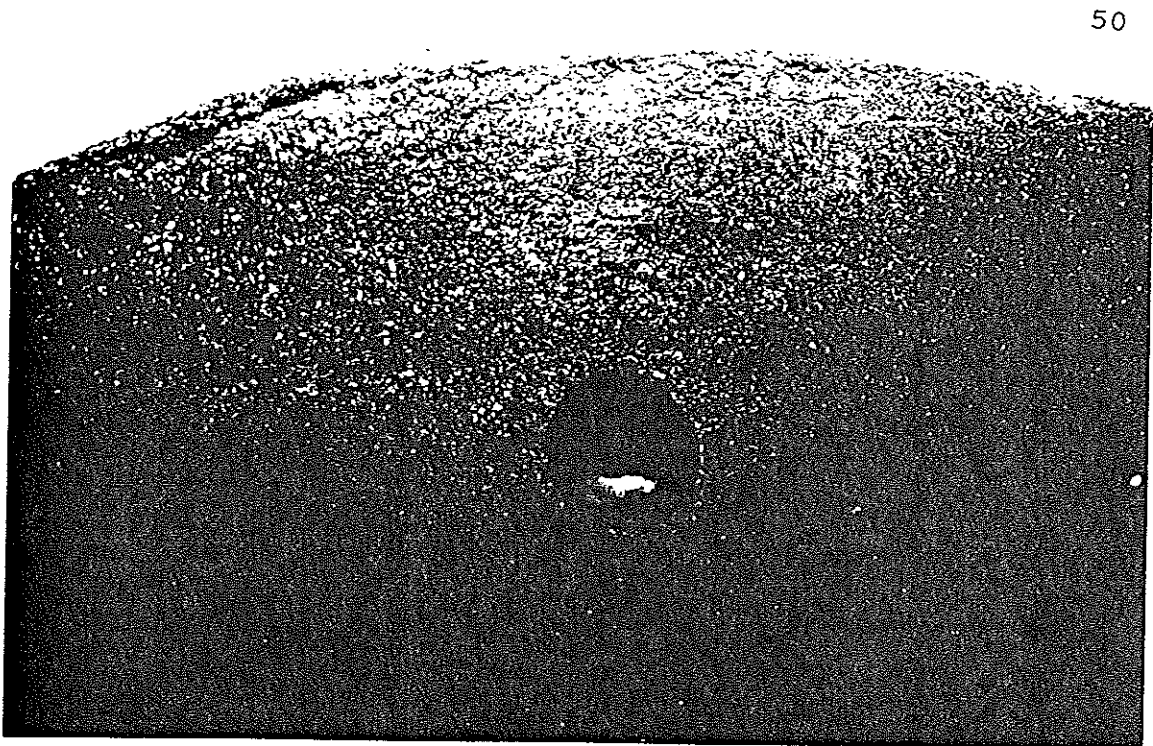
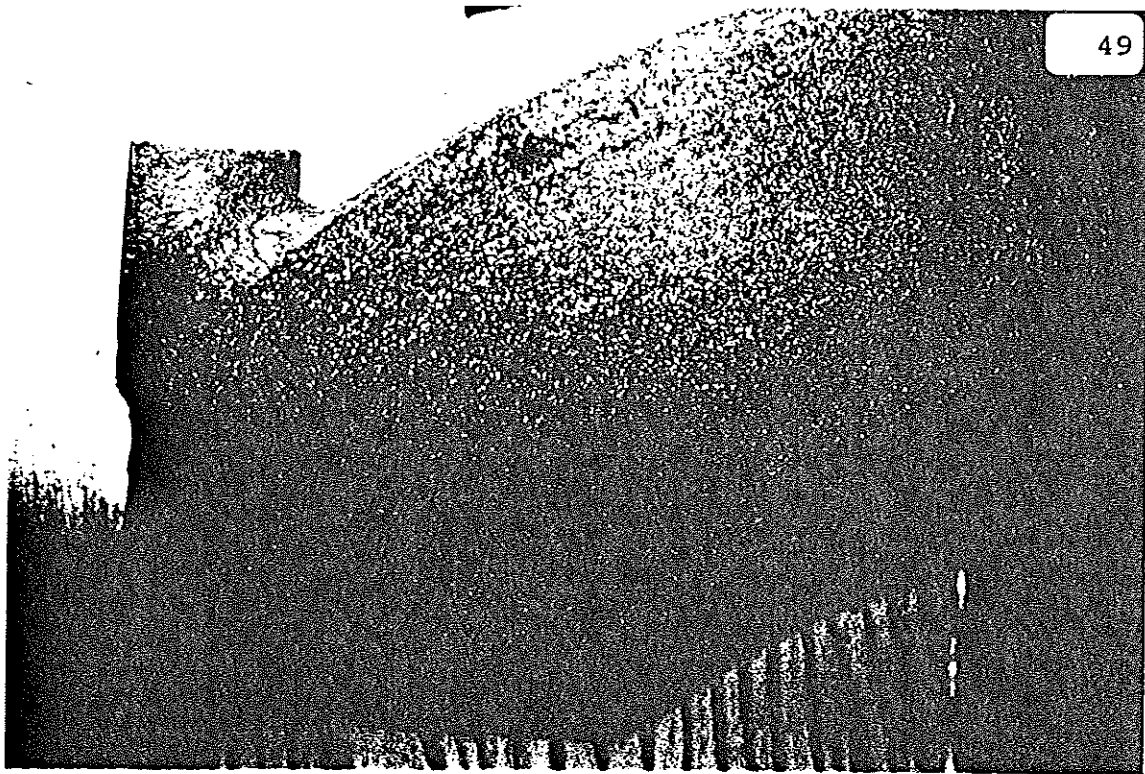
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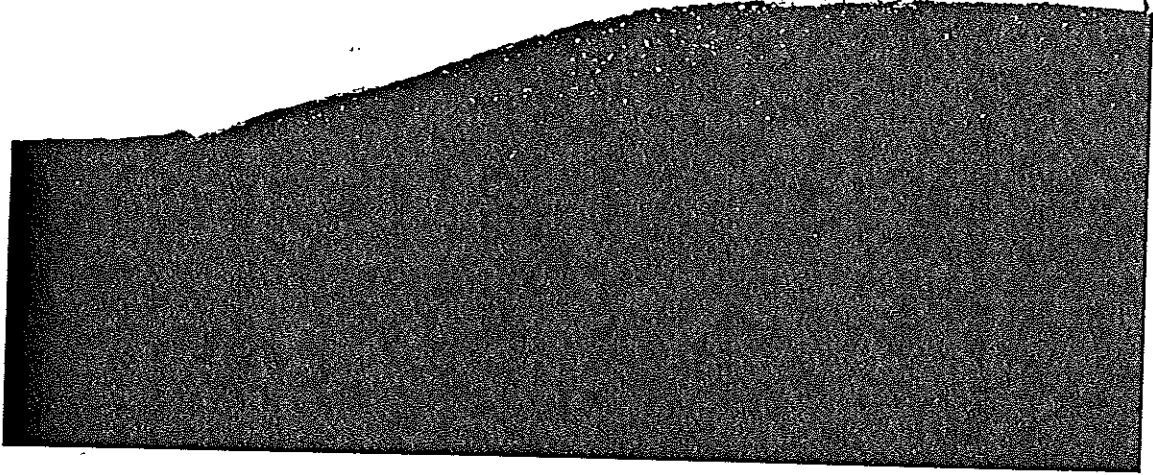




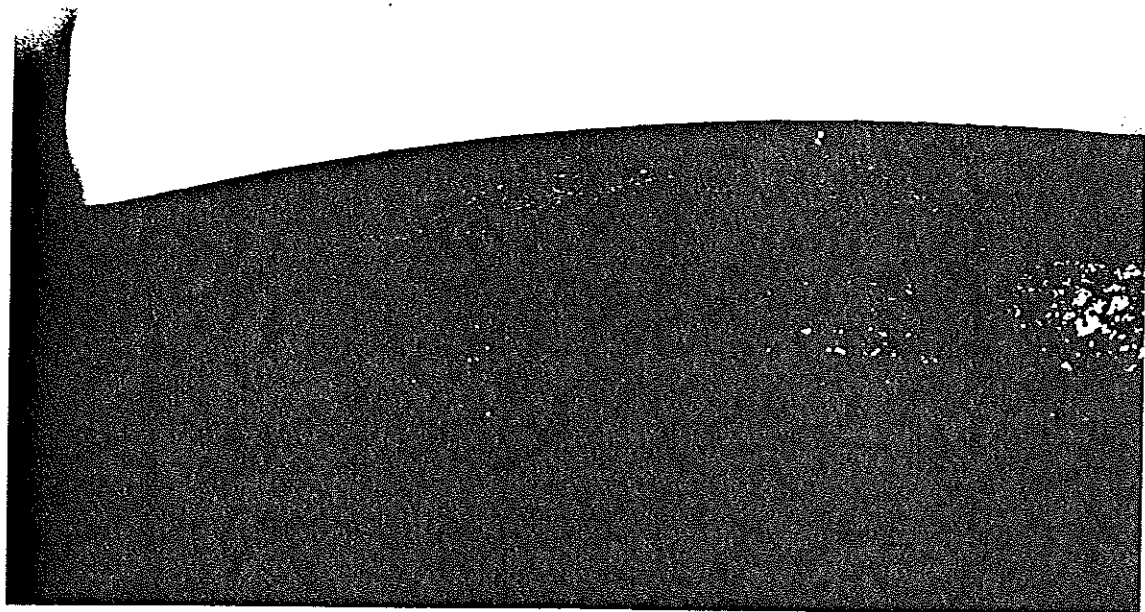
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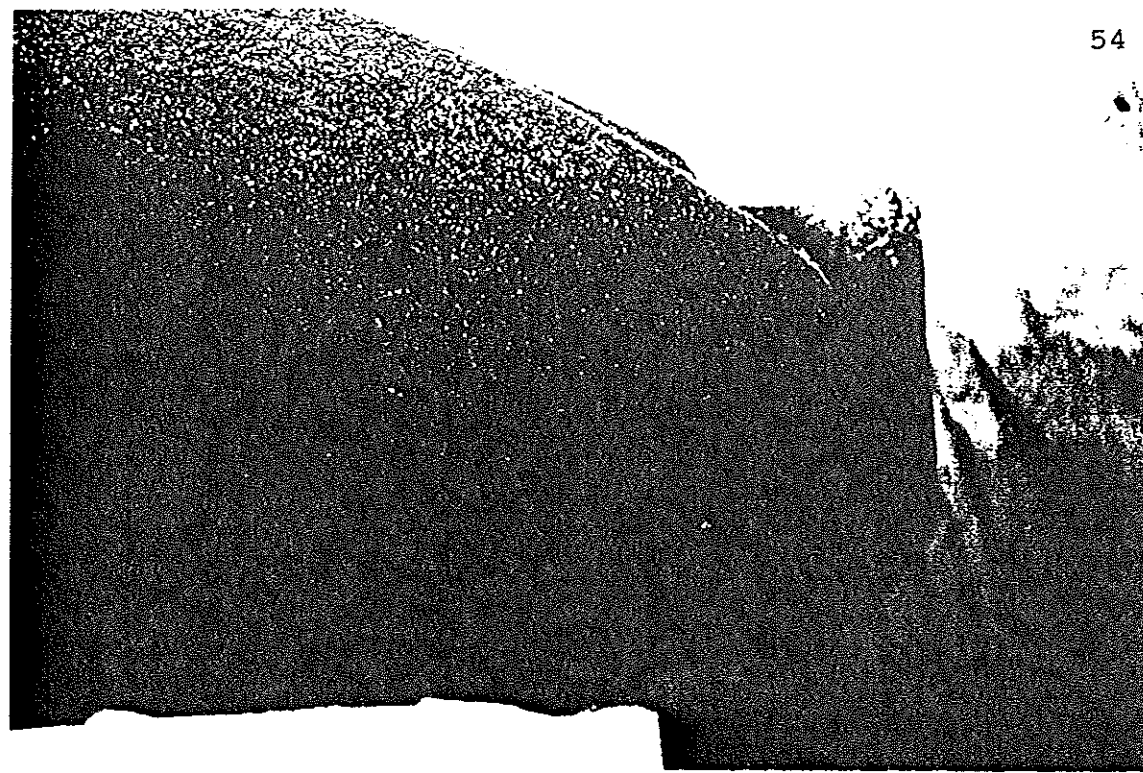
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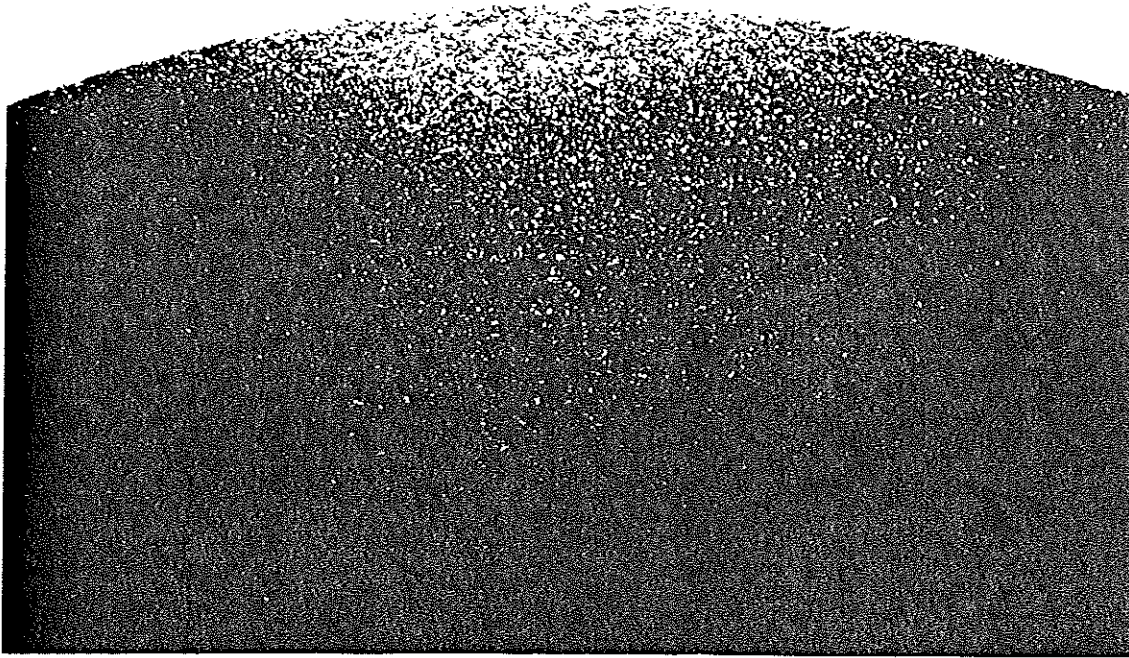


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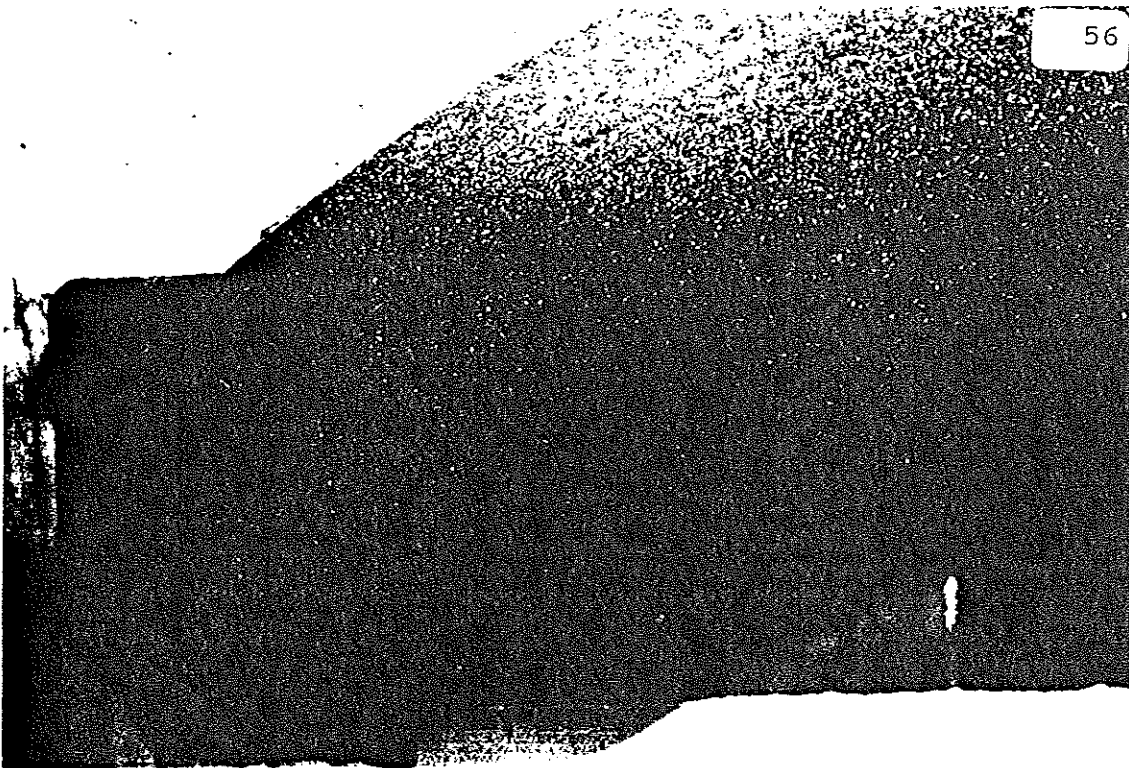


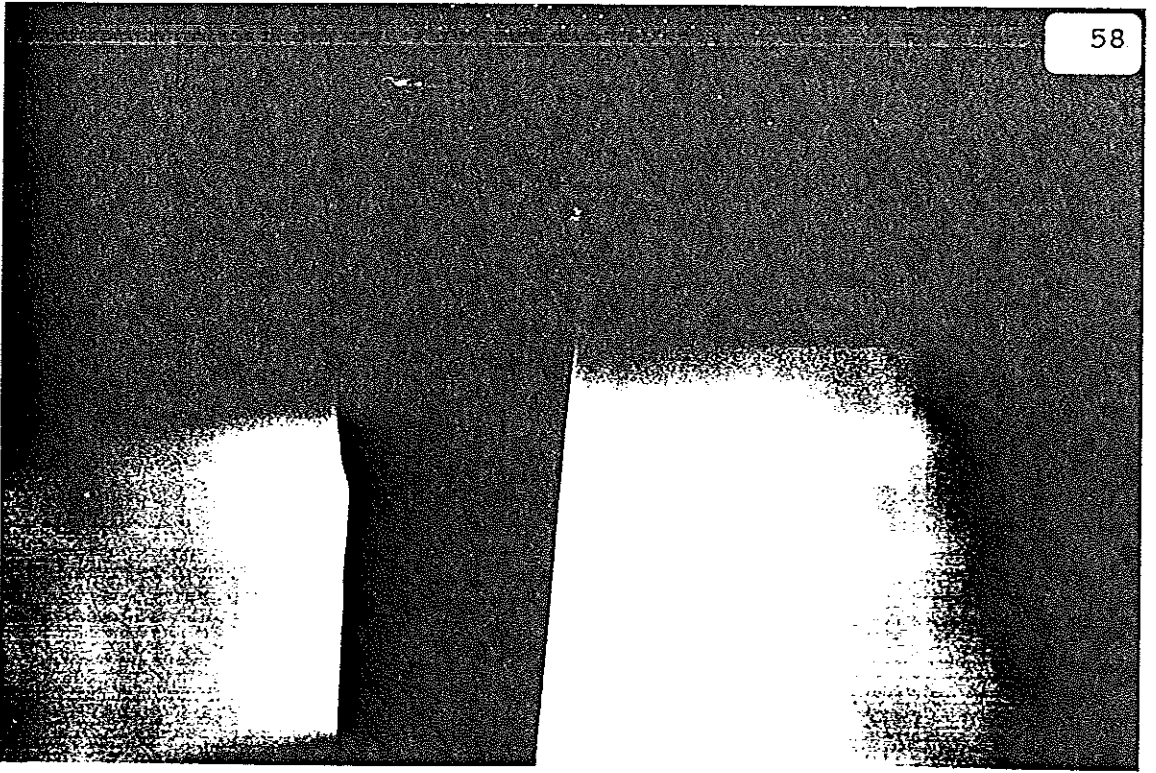
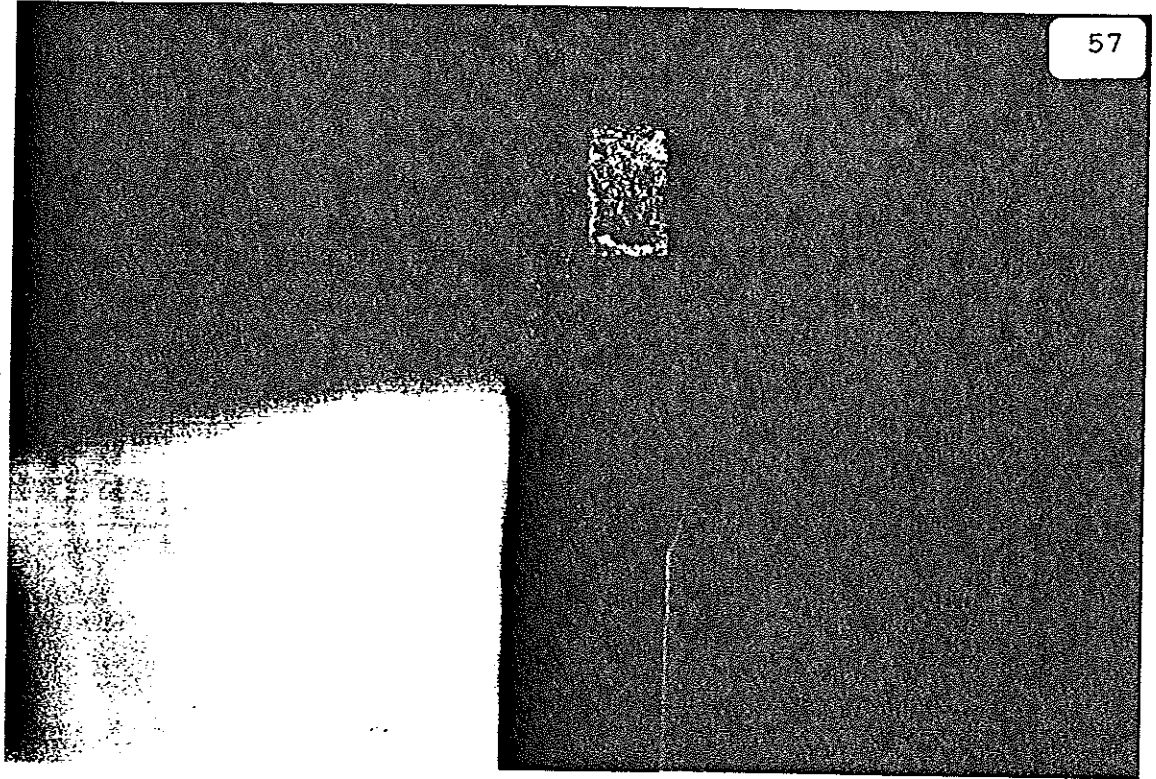


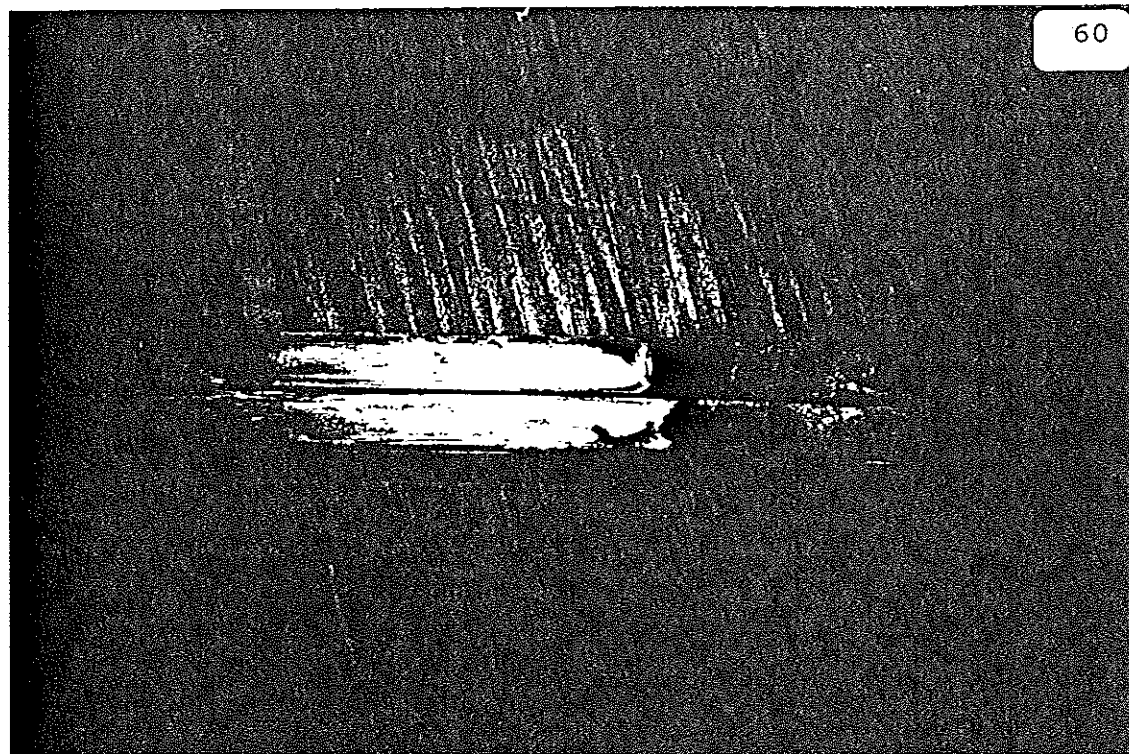
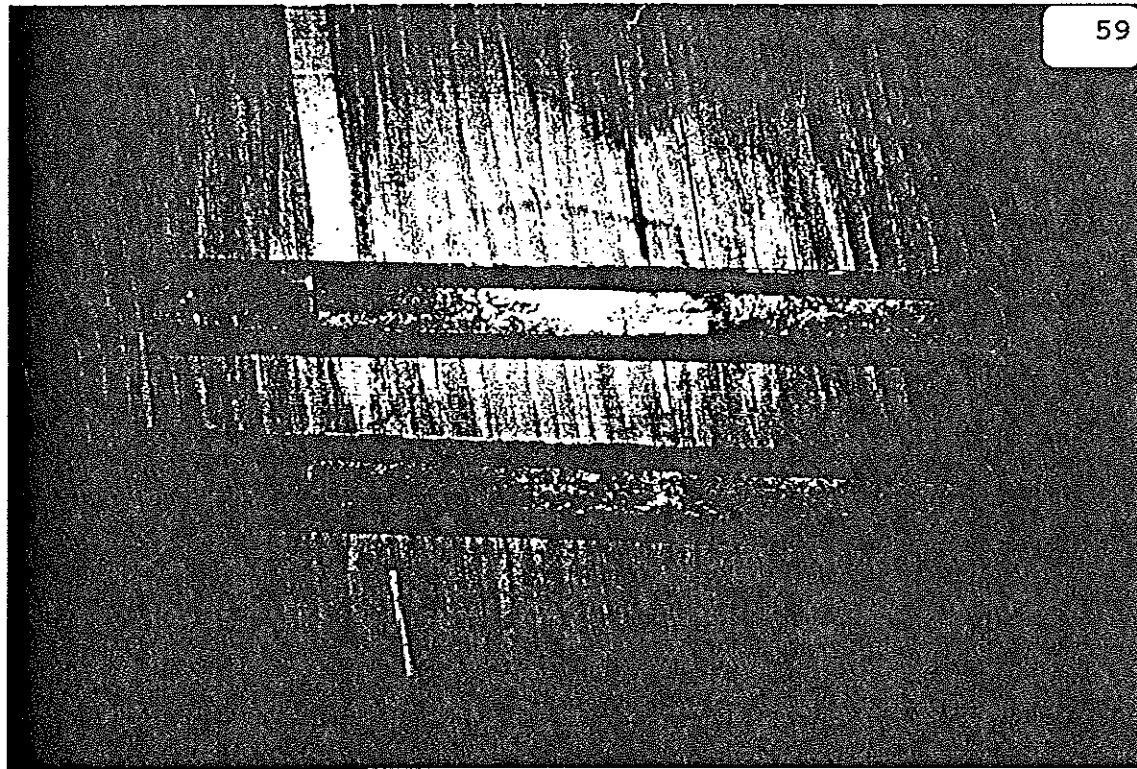
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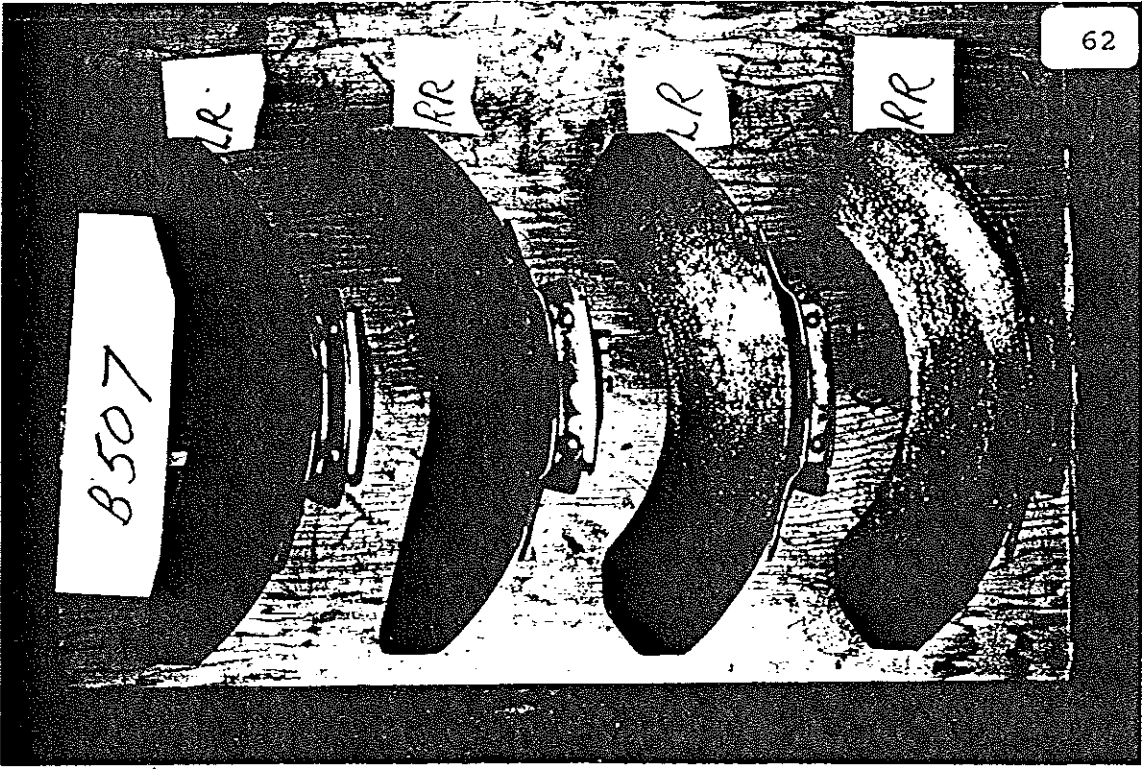
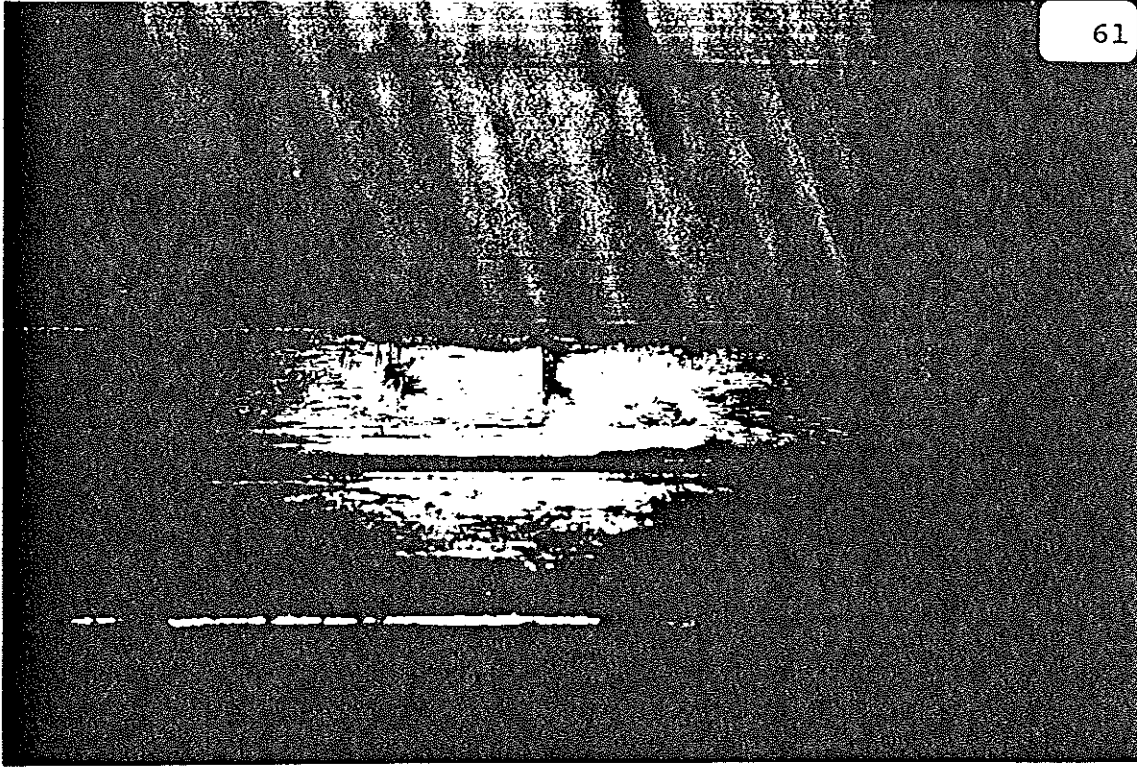


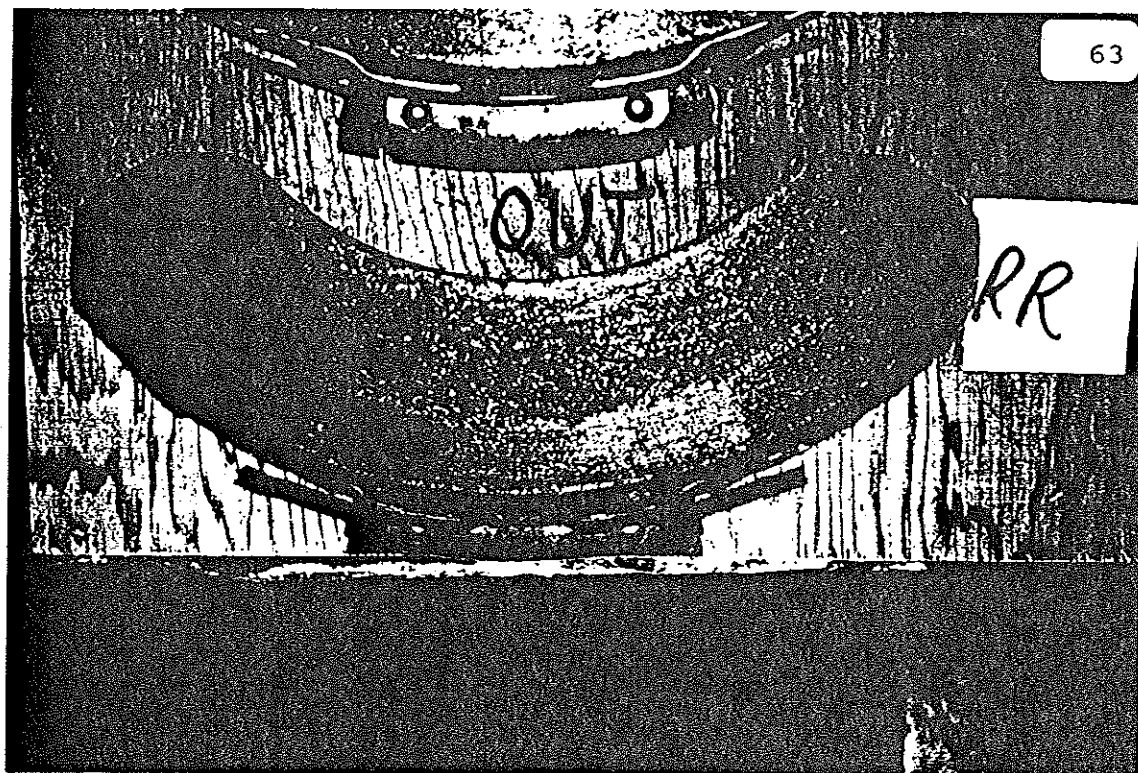
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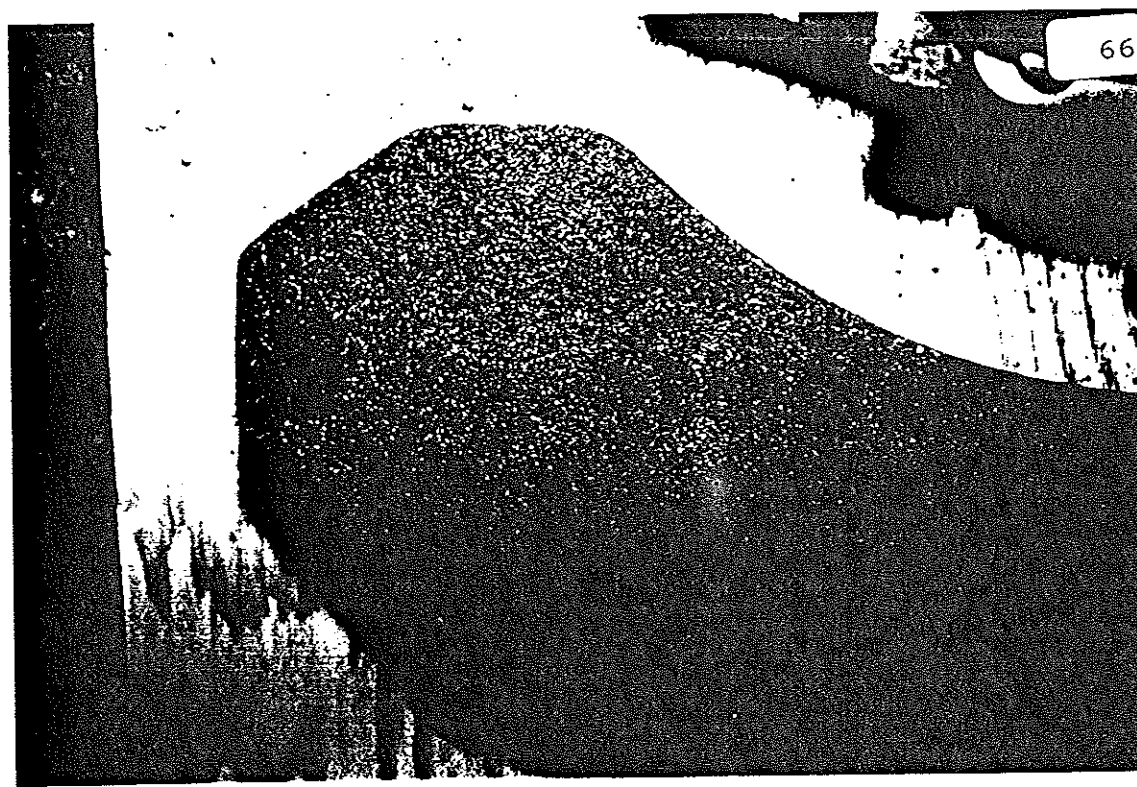
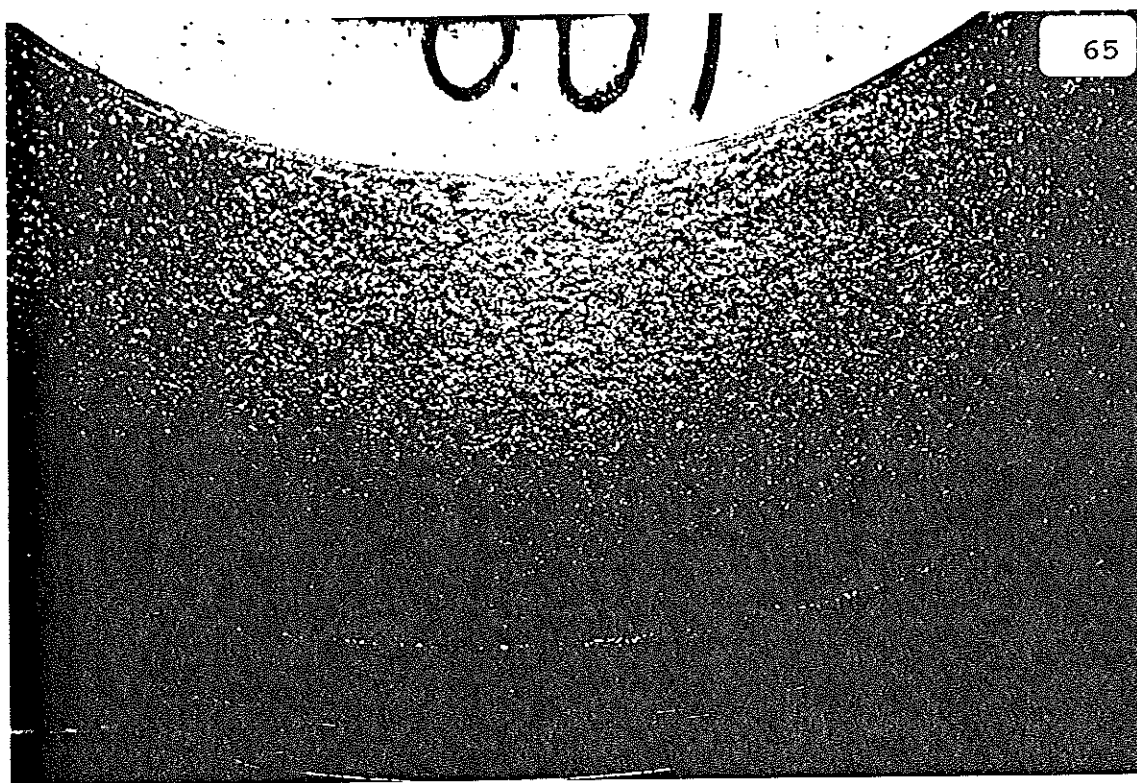


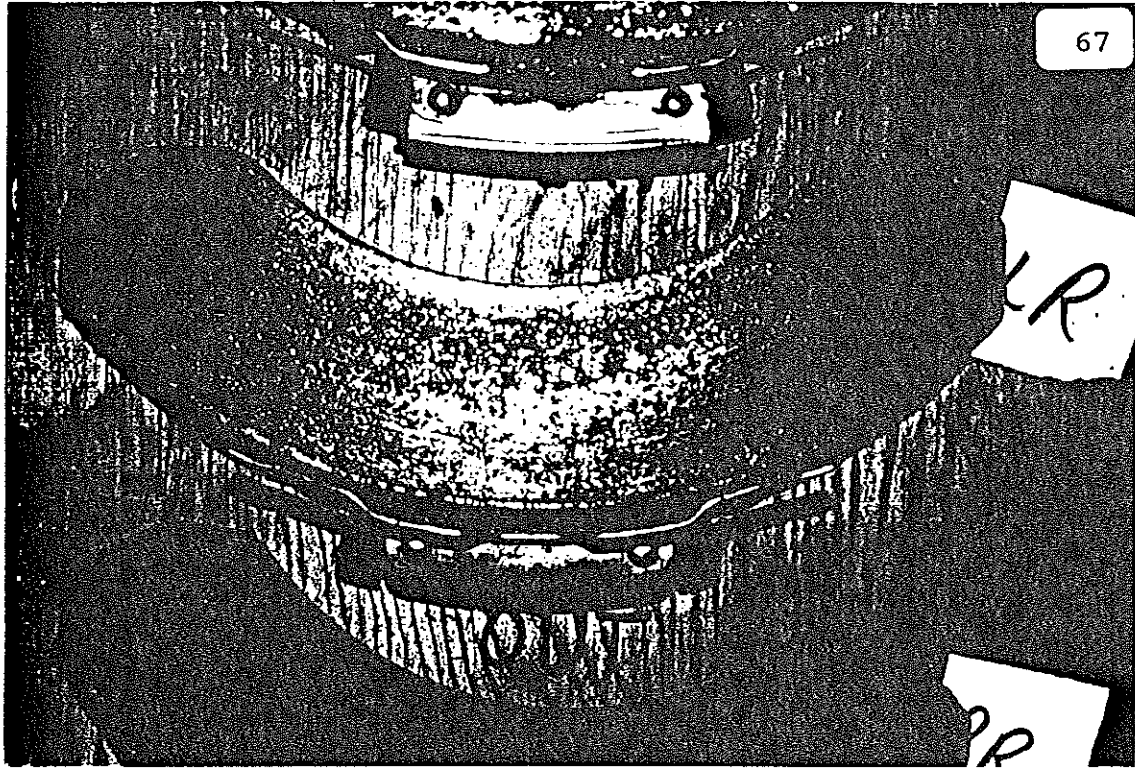


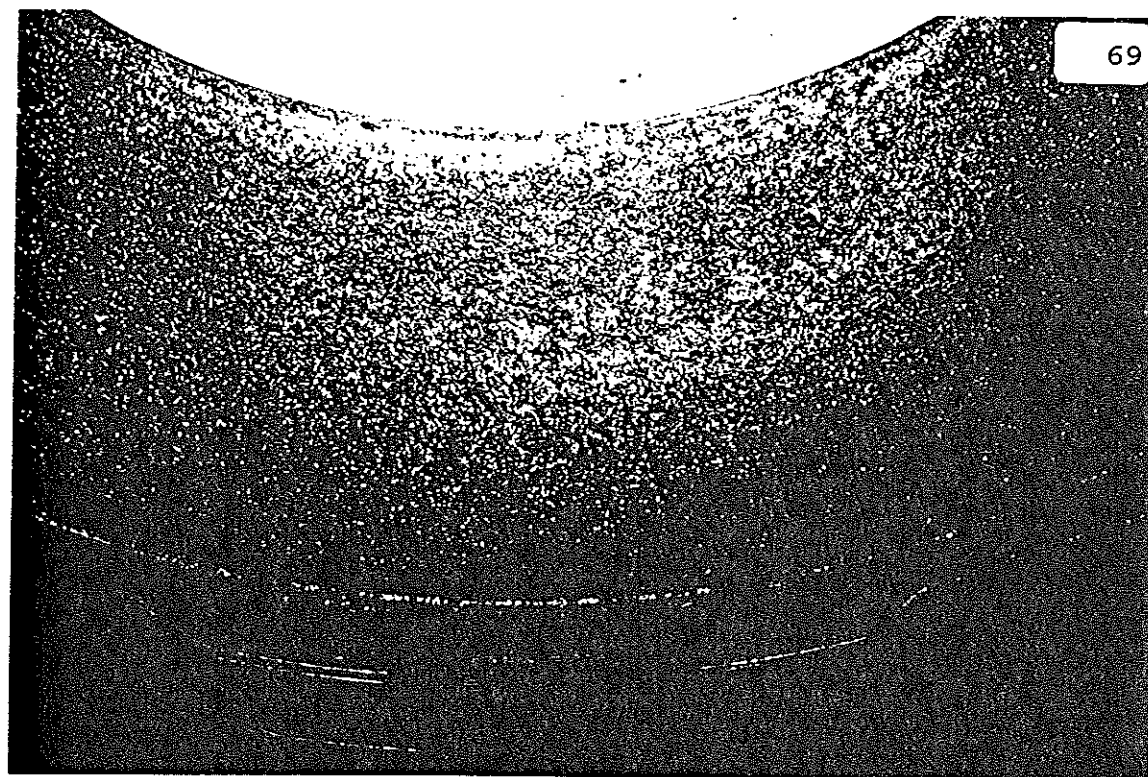


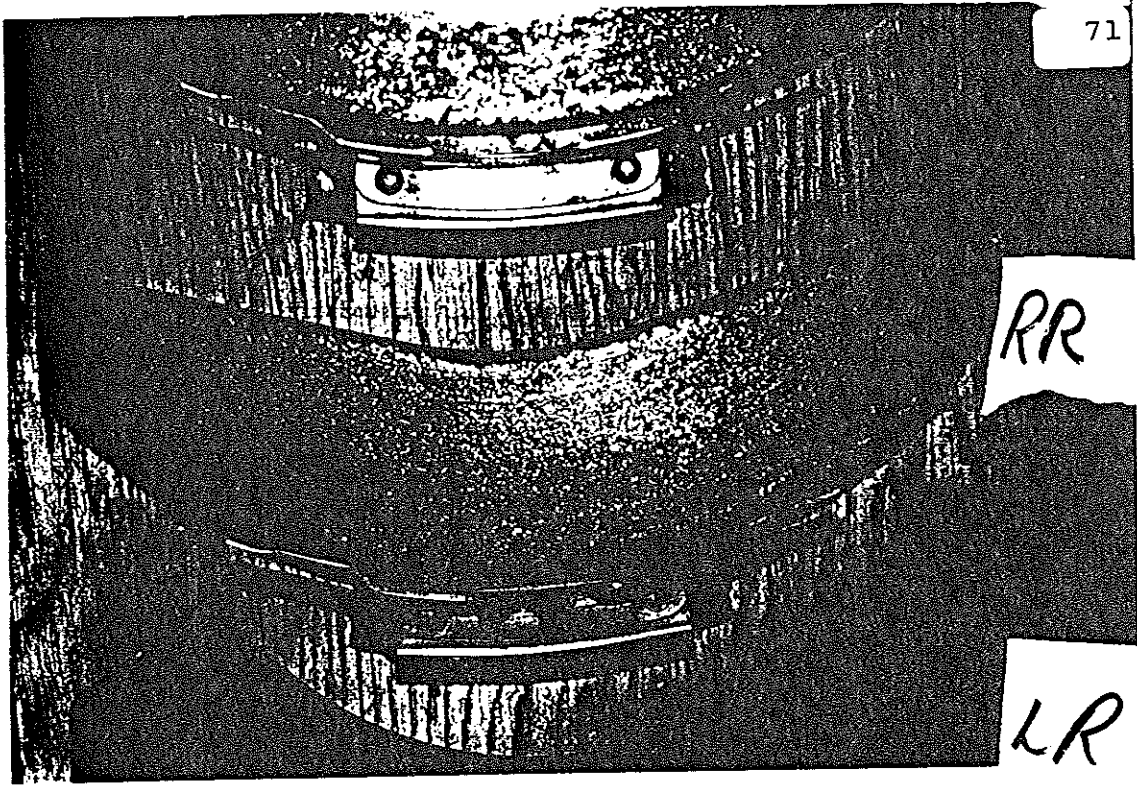








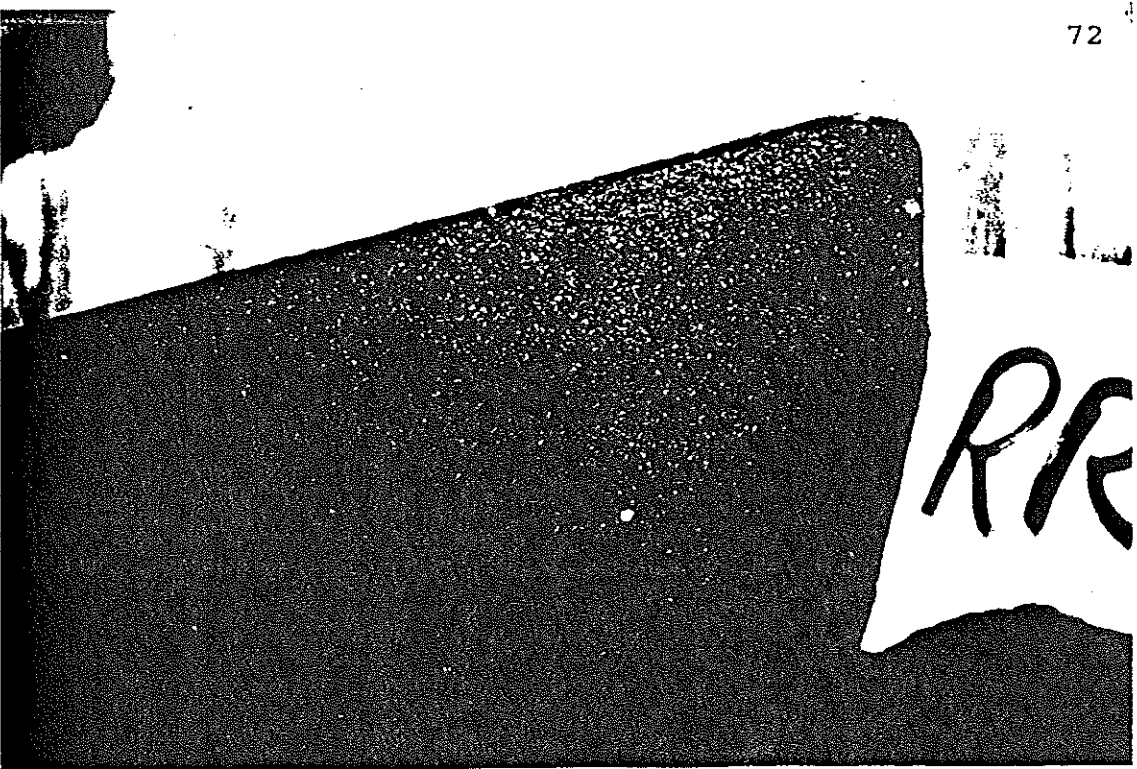




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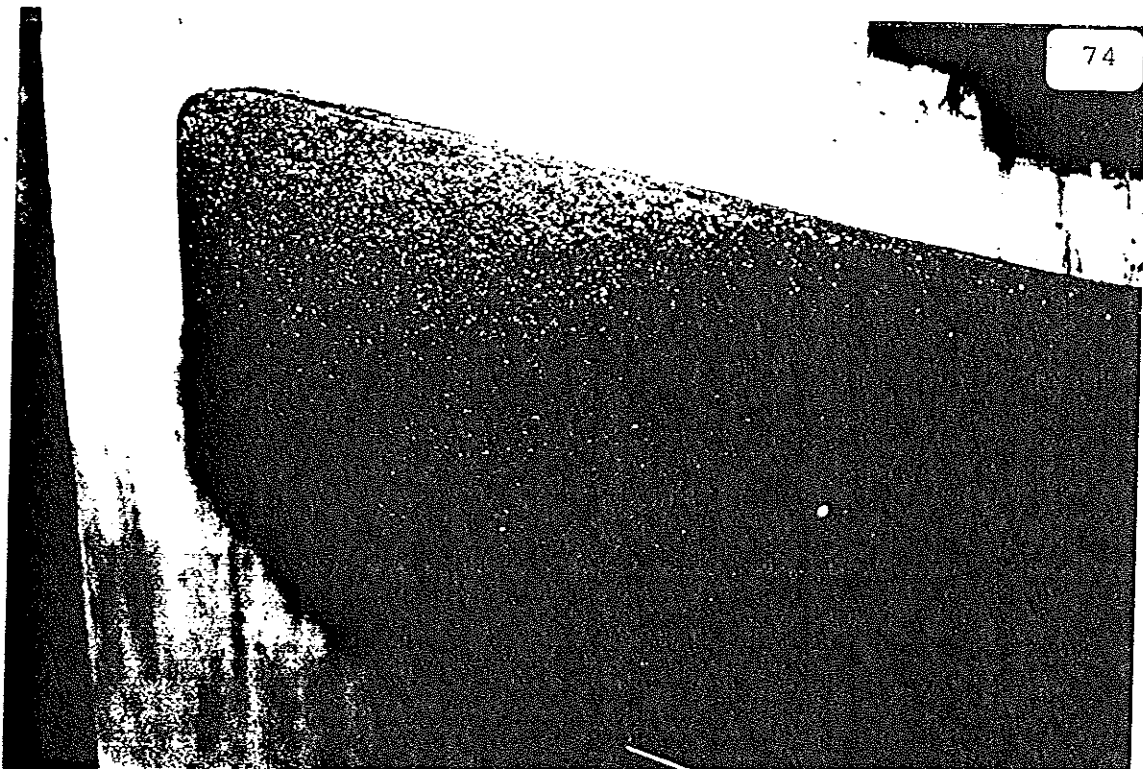
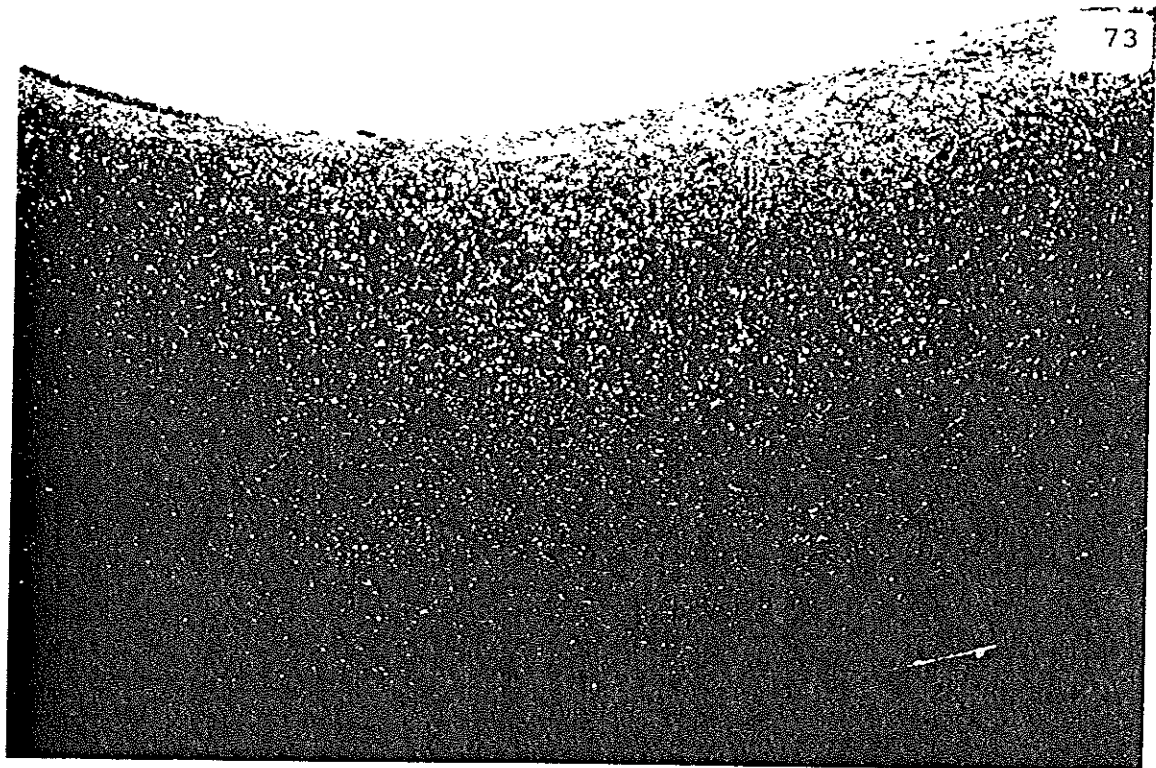
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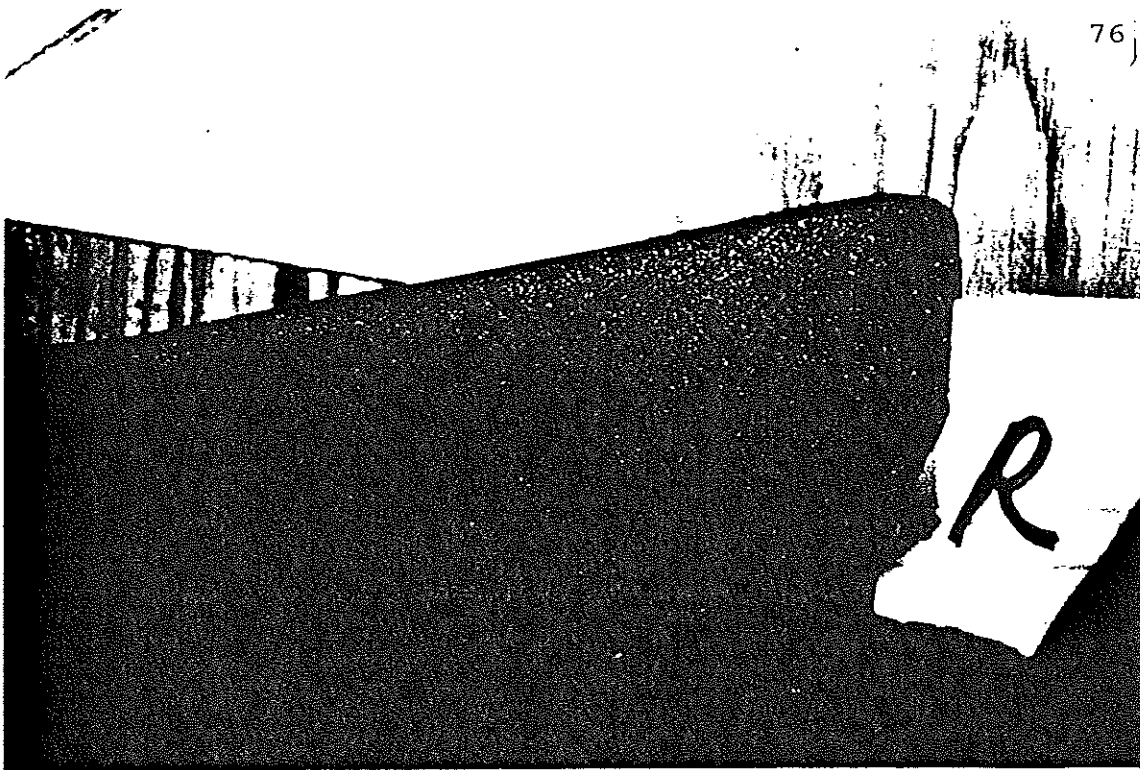
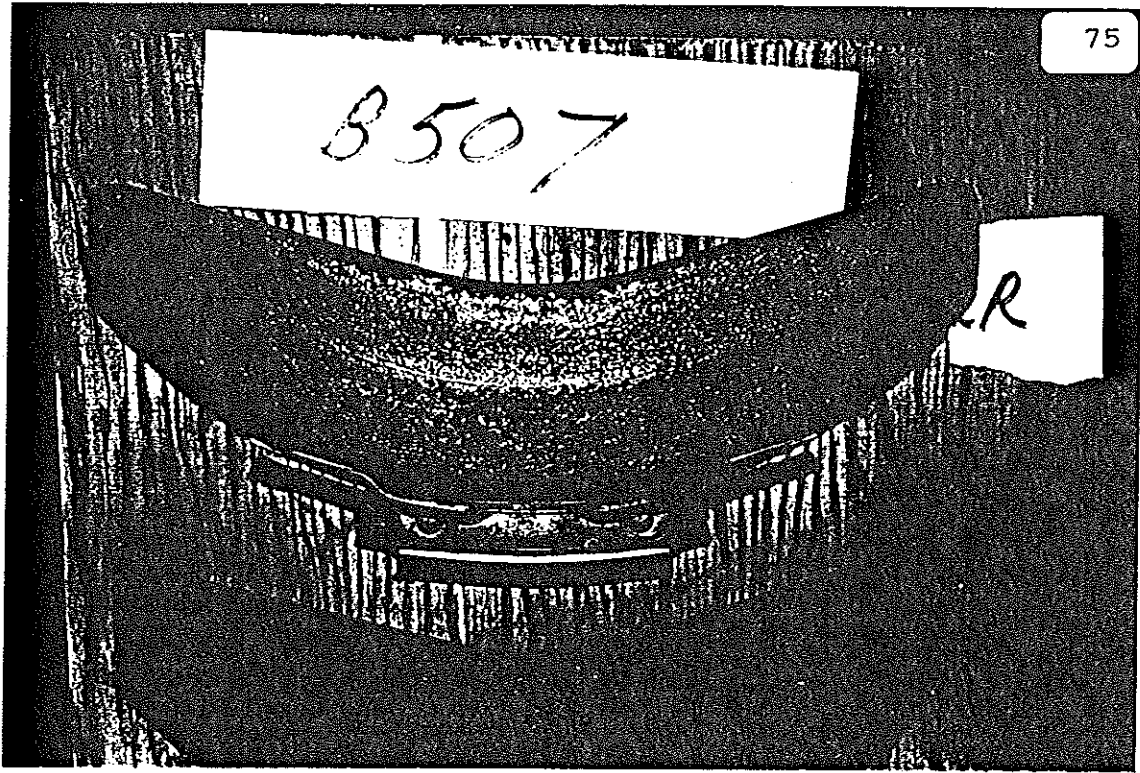
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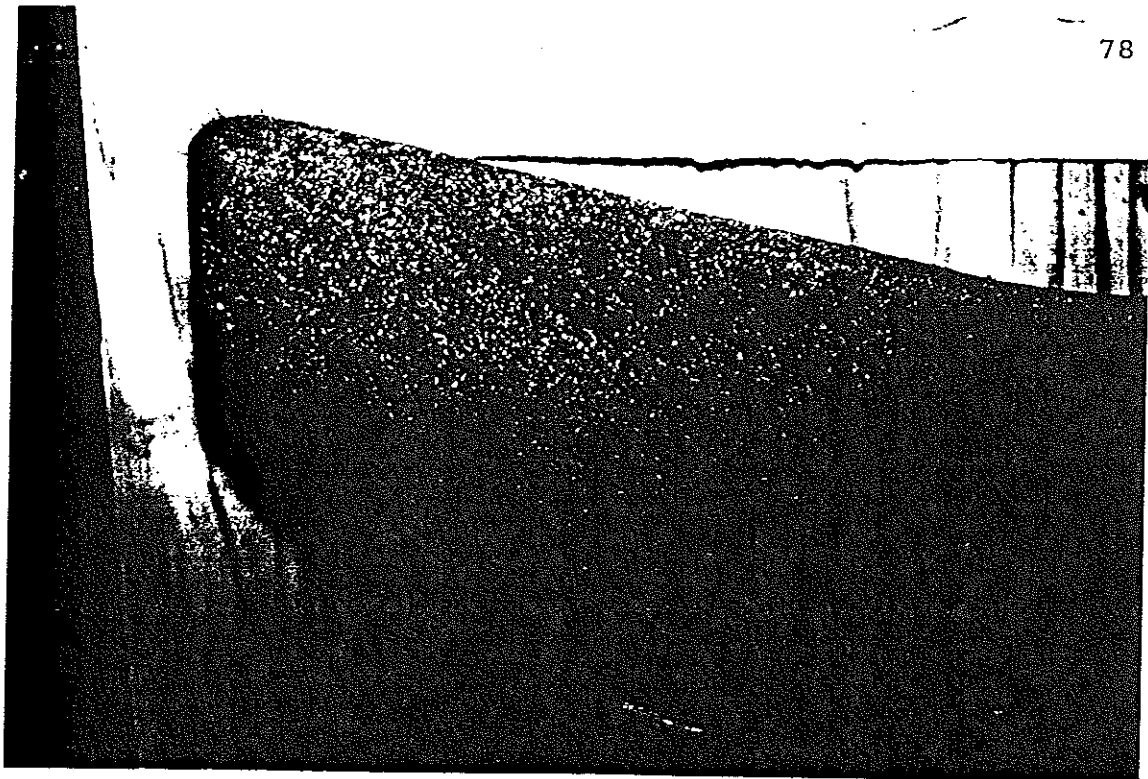
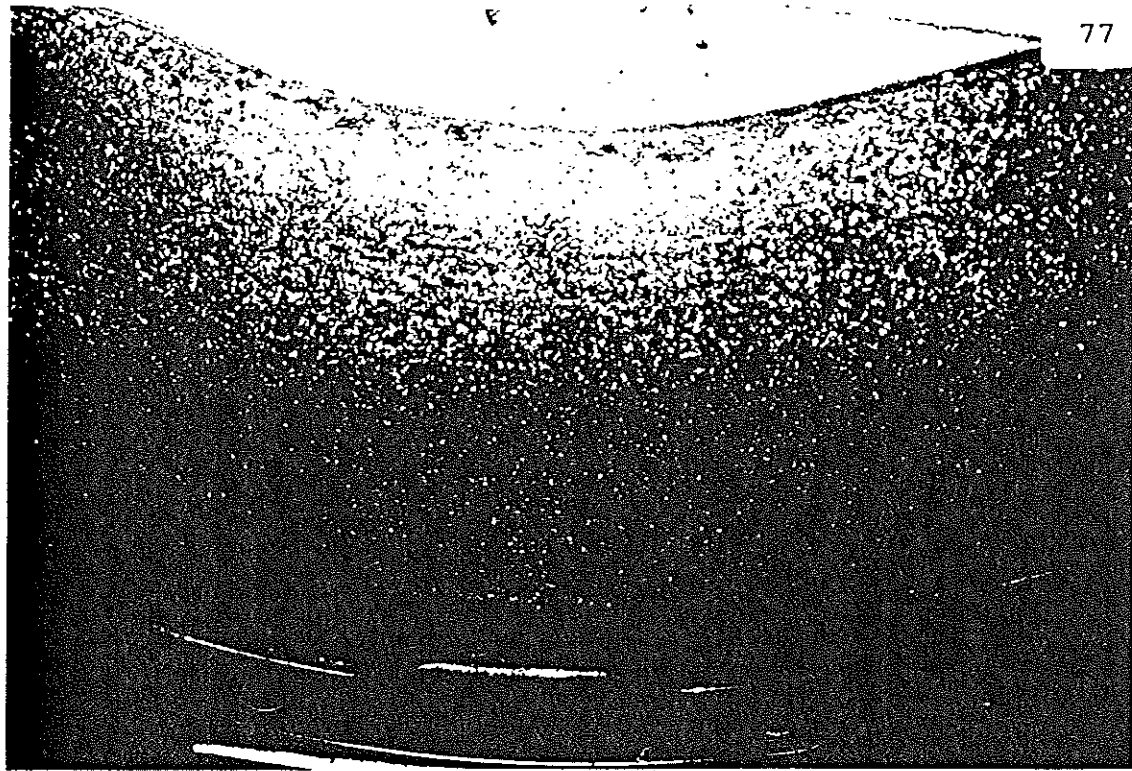


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RR







ATTACHMENT 4

Bus Type: Thomas (Mesa Unified School District)
Bus No. B507
VIN: 1T7E4M624G1681653
Odometer: 15,844.0 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 0.78 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.432	.502	.903
RF	.430	.503	.905
LR	.474	.223*	1.757
RR	.547	.218*	1.754

Comments: Need replacement of pads on left rear and right rear. Slight chipping away of leading edge of LR pad outboard. Replace rear brake pads.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay LR, okay. RR, okay.

Comments: Dust cover on left side, rear slack adjuster is broken, otherwise okay.

Bus Type: Thomas (Mesa Unified School District)
Bus No: B508
VIN: 1T7E4M620G1682654
Odometer: 18,261 miles

Hoses, Tubes and Connections:

Comments: Front and rear good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 0.78 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.460	.512	.905
RF	.433	.412	.905
LR	.660	.363	1.753
RR	.653	.351	1.759

Comments: Some slight chipping at leading edge LF pads inboard and outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay LR, okay RR, okay.

Comments: Good

Bus Type: Thomas (Mesa Unified School District)
Bus No: B509
VIN: 1T7E4K644G1010800
Odometer: 7,068 miles

Hoses, Tubes and Connections:
Comments - front and rear are good.

Disc or Drum, Friction Materials:
Minimum Thickness: Front, 0.78 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.410	.451	.905
RF	.457	.469	.902
LR	.810	.458	1.742
RR	.737	.460	1.746

Comments: Good

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Dust covers for both rear slack adjusters are broken. Dust cover for back side of maxi-brake are missing.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B601
VIN: 1BABLXBA0GF074679
Odometer: 14,714.8 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.694	.547	1.540
RF	.658	.511	1.537
LR	.644	.638	1.753
RR	.632	.643	1.756

Comments: Chipping away on leading edge of pad LR inboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Dust seal on RR caliper piston is deformed and broken, recommend replacement. Lock nut for clevis on right side rear actuation rod is loose.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B602
VIN: 1BAB1BXA7GF074680
Odometer: 15,857.6 miles

Hoses, Tubes and Connections:

Comments: Hoses good at front of bus, all hoses are okay. Dust cover on actuation link for both rear actuators are not sealed.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, not readable

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.659	.541	1.542
RF	.650	.514	1.540
LR	.621	.615	1.750
RR	.590	.606	1.751

Comments: Severe chipping away of entire edge of pad leading edge LF inboard and chipping away of pad leading edge LR inboard. Slight flaw in outboard surface RR disc, near perimeter, approximately .35 long X .235 deep.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Deformity of dust cover for actuator piston RR caliper.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B603
VIN: 1BAB1BXA9GF074681
Odometer: 15,189.7 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.650	.532	1.536
RF	.614	.500	1.535
LR	.577	.575	1.753
RR	.622	.607	1.752

Comments: Some chipping away along leading edge of RR pads, inboard and outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay LR, pin missing. RR, okay

Comments: Safety pin missing from pin in clevis on apply rod LF brake actuator.

Safety pin installed after inspection.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B604
VIN: 1BAB1BXAOGF074682
Odometer: 12,316.7 miles

Hoses, Tubes and Connections:
Comments: Good

Disc or Drum, Friction Materials:
Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.652	.540	1.540
RF	.639	.527	1.539
LR	.595	.587	1.752
RR	.539	.592	1.752

Comments: Chipping away along entire leading edge RF inboard, very slight chipping away of leading edge pad LR outboard.

Structural and Mechanical Parts:
Systems: LF, okay. RF, okay. LR, okay. RR, okay.
Comments:

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B605
VIN: 1BAB1BXA2GF074683
Odometer: 12,997.2 miles

Hoses, Tubes and Connections:

Hoses at front of bus okay, copper lines inside frame, flexible lines outside.
Rear okay.

Disc or Drum, Friction Materials:

Minimum Thickness: Front 1.41 - Rear 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.594	.490	1.443
RF	.595	.480	1.536
LR	.565	.593	1.753
RR	.470	.507	1.751

Comments: Slight chipping away of pad material at leading edge of RF outboard.
Some chipping away of pad material at leading edge of LF outboard
and inboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B606
VIN: 1BAB1BXA4GF074684
Odometer: 9,402.8 miles

Hoses, Tubes and Connections:

Comments: Hoses in good condition throughout.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.640	.520	1.537
RF	.655	.496	1.540
LR	.616	.622	1.754
RR	.614	.630	1.753

Comments: Slight chipping away on leading side of LR outboard and inboard.
Crack near metal base at leading side LR outboard. Very slight
chipping away at leading edge RR inboard and outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.
Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B607
VIN: 1BAB1BXA6GF074685
Odometer: 10,614.2 miles

Hoses, Tubes and Connections:

Comments: Front and rear are both good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear,

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.605	.497	1.536
RF	.595	.491	1.537
LR	.561	.578	1.755
RR	.543	.589	1.755

Comments: Chipping at leading edge RR outboard pad.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, see below, otherwise good. RR, okay.

Comments: Dust cover on RR caliper piston is deformed and broken, needs to be replaced, otherwise good.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No. B608
VIN: 1BAB1BXA8GF074686
Odometer: 14,922.7 miles

Hoses, Tubes and Connections:

Comments: Front and rear good (See * below.)

Disc or Drum, Friction Materials:

Minimum thickness: Front, 1.41 - Rear, not readable

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.594	.502	1.538
RF	.575	.441	1.540
LR	.416	.489	1.755
RR	.502	.557	1.754

Comments: Some chipping of leading edge pad RR inboard and outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: *Wire loose, not connected from device attached to bottom of air tank on LR.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B609
VIN: 1BAB1BXAXGF074687
Odometer: 9,559.5 miles

Hoses, Tubes and Connections:
Comments: Front and rear are good.

Disc or Drum. Friction Materials:
Minimum Thickness: front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.610	.526	1.536
RF	.614	.525	1.532
LR	.616	.623	1.753
RR	.578	.626	1.757

Comments: Slight chipping of RR outboard pad leading edge. Chipping of leading edge of pad at LR inboard and outboard. Chipping of leading edge of pad at RF, inboard only.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.
Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B610
VIN: 1BAB1BXA1GF074688
Odometer: 7,609.1 miles

Hoses, Tubes and Connections:

Comments: Both front and rear are good. Wire disconnected on left side, rear tank, from device attached to the bottom of the tank.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.659	.530	1.543
RF	.638	.530	1.538
LR	.606	.634	1.755
RR	.578	.613	1.761

Comments: Slight chipping away of leading edge RR outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B611
VIN: 1BABLXBA3GF074689
Odometer: 11,283.8 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.595	.496	1.539
RF	.617	.518	1.542
LR	.580	.574	1.753
RR	.601	.626	1.757

Comments: Chipping away of leading edge of pad RR outboard. Very slight chipping away at leading edge pad LR outboard.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay

Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B613
VIN: 1BAB1BXA1GF074691
Odometer: 16,274.0 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.526	.492	1.544
RF	.541	.492	1.539
LR	.427	.114*	1.752
RR	.276*	.318*	1.758

Comments: Slight chipping of leading edge pad LF inboard and outboard.
*Replace rear pads.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, okay.

Comments: Good, except worn pads.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B614
VIN: 1BAB1BXA3GF074692
Odometer: 10,934.4 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum thickness: Front, 1.41 Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.577	.489	1.537
RF	.582	.476	1.539
LF	.519	.574	1.754
RR	None	.395	1.569*

Comments: Chipping away along outer leading edge LF inboard pad. RR inboard pad worn to metal, heavy degradation at rotor inboard surface, replace rotor.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, rotor.

Comments: RR rotor replacement necessary before further use. Broken dust cover LR caliper piston.

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B615
VIN: 1BAB1BXA5GF074693
Odometer: 14,140.5 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.583	.494	1.541
RF	.583	.483	1.539
LR	.488	.584	1.752
RR	.492	.505	1.768

Comments: Small flaw in outboard rotor surface LR, located approximately .45 inches from outside, approximately 1/8 of an inch round.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR,
Comments: Good

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B616
VIN: 1BAB1BXA7GF074694
Odometer: 16,626.7 miles

Hoses, Tubes and Connections:

Comments: Front and rear are good.

Disc or Drum, Friction Materials:

Minimum Thickness: Front, 1.41 - Rear, 1.63

<u>Brake</u>	<u>Inboard Pad</u>	<u>Outboard Pad</u>	<u>Rotor</u>
LF	.536	.461	1.545
RF	.570	.472	1.540
LR	.145	.259	1.762
RR	None	.406	1.713*

Comments: Slight chipping away of RF inboard at leading edge corner.

*Inboard pad worn to metal, metal rubbing. Rotor needs turning.

Structural and Mechanical Parts:

Systems: LF, okay. RF, okay. LR, okay. RR, new rotor, otherwise okay.

Comments:

ATTACHMENT 5

Bus Type: Thomas (Mesa Unified School District)
 Bus No: B507
 VIN:
 Odometer: 15,903 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.53	Average 27.82
20	3.66	
25	2.67	Average 37.66
25	2.64	
5	5.87 (50')	
5	5.70	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(y/n)</u>	<u>Comments</u>
20	20'5"	Y	Rear skid, nose dive
20	21'5"	Y	Rear skid, nose dive
5	5'6"	Y	Nose dive
5	5'9"	Y	Nose dive

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 124 psi
 Final - 113 psi
 - 11 psi

Warning Systems:

Warning pressure - 68 psi
 Comments: None

Pressure Rise:

At 85-100 - 0 minute, 52 seconds
 Gov cat out - 129 psi
 Gov cat in - 112 psi

Bus Type: Thomas (Mesa Unified School District)
Bus No: B508
VIN:
Odometer:

Speed - 0

	<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
	20	3.67	
	20	3.73	27.02
	25	2.63	
	25	2.75	37.17
1000 tach		11.18	
1200 tach		8.95	2.23
5mph 1350 tach		7.59	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	15'6"		
20	26'8"		
20	23'4"		
5	15'8"		
5	16'		

Leakage (Y/N): N

Comments: 0 psi/min, normal, non-observed

Engine Off - 1 minute apply:

Initial - 121 psi
Final - 115 psi
- 6 psi

Warning Systems:

Warning pressure - 65 psi
Comments: None

Pressure Rise:

At 85-100 - 0 minutes, 52 seconds
Gov cat out - 127 psi
Gov cat in - 113 psi

Bus Type: Thomas (Mesa Unified School District)
Bus No: B509
VIN:
Odometer: 7,184 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.60	
20	3.60	27.77
25	2.87	
25	2.59	36.63
5	5.57	
5	5.47	9.058

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane (Y/N)</u>	<u>Comments</u>
20	21'11"	Y	Rear skid at end
20	24'	Y	Rear heavy skid
5	4'3"	Y	
5	6'2"	Y	
5	5'4"	Y	

Leakage (Y/N): None apparent
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 112 psi
Final - 107 psi
- 5 psi

Warning Systems:

Warning Pressure - 68 psi
Comments: None

Pressure Rise:

At 85-100 psi - 50 seconds
Gov cat out - 132 psi
Gov cat in - 109 psi

Bus Type: Blue Bird (Mesa Unified School District)
 Bus No: B601
 VIN:
 Odometer: 15,260 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.69	Average 26.95
20	3.73	
25	2.73	35.52
25	2.90	
5	5.34	
5	5.57	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	28'7"		
20	27'3"		
5	6'10"		
5	6'11"		

Leakage (Y/N): Y, very slow leak, less than 1 psi/min
Comments: Less than 1 psi/min

Engine Off - 1 minute apply

Initial - 115 psi
 Final - 108 psi
 - 7 psi

Warning Systems:

Warning Pressure - 73 psi
 Comments: None

Pressure Rise:

At 85-100 - 1 minute, 1 second
 Gov cat out - 116 psi
 Gov cat in - 102 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B602
VIN:
Odometer: 16,076.3 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.38	Average 29.24
20	3.46	
25	2.94	Average 34.66
25	2.83	
5	11.09	
5	11.27	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	20'	Y	Light rear skid
20	20'11"	Y	Light rear skid
5	10'9"	Y	
5	9'5"	Y	

Leakage (Y/N): N, none observable
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 121 psi
Final - 108 psi
- 13

Warning Systems:

Warning Pressure - 65 psi
Comments: None

Pressure Rise:

At 85-100 - 1 minute, 0 seconds
Gov cat out - 124 psi
Gov cat in - 116 psi

Bus Type: Blue Bird (Mesa Unified School District)
 Bus No: B603
 VIN:
 Odometer: 15,363 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.67	Average 28.17
20	3.43	
25	2.83	Average 36.04
25	2.72	
5	5.63	
5	5.46	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	21'8"	Y	Short light rear skid
20	26'3"	Y	No skid
5	8'8"	Y	
5	7'10"	Y	

Leakage (Y/N): N, none apparent or observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 114 psi 111 psi
 Final - 98 psi 102 psi
 - 10 psi 9 psi
 maxi on

Warning Systems:

Warning pressure - 68 psi
 Comments: None

Pressure Rise:

At 85-100 - 0 minutes, 38 seconds
 Gov cat off - 116 psi
 Gov cat in - 102 psi

Bus Type: Blue Bird (Mesa Unified School District)
 Bus No: B604
 VIN: 1BAB1BXA0GF074682
 Odometer: 12,415.1 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.78	Average 26.49
20	3.77	
25	2.88	Average 35.21
25	2.80	
5	10.77	
5	10.77	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	23'6"	Y	Slight lockup
20	22'6"	Y	Heavy skid
5	8'3"	Y	
5	8'8"	Y	

Leakage (Y/N): N, none observable
Comments: 0 psi/min

Engine Off - 1 minute apply

Initial - 124 psi 103 psi
 Final - 108 psi 95 psi
 * - 16 psi 8 psi

*Slight release during first application.

Warning Systems:

Warning Pressure - 64 psi
 Comments: None

Pressure Rise:

85-100 - 1 minute, 4 seconds
 Gov cat out - 126 psi
 Gov cat in - 112 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B605
VIN:
Odometer: 13,272.9 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.35	
20	3.41	Average 29.58
25	2.64	
25	2.69	Average 37.52
5	5.66	
5	12.00	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	23'6"	Y	Slight front & rear skid
20	26'6"	Y	None
5	5'8"	Y	

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 112 psi
Final - 104 psi
- 8 psi

Warning Systems:

Warning Pressure - 58 psi

Pressure Rise:

At 85-100 - 1 minute, 4 seconds
Gov cat off - 118 psi
Gov cat in - 102 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B606
VIN:
Odometer: 9,561 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.74	
20	3.65	27.06
25	2.94	
25	2.91	33.84
5	5.84	
5	6.13	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	33'		
20	26'11"		
5	5'8"		
5	7'11"		

Leakage (Y/N): Y, very slight leak, not audible
Comments: 1 psi/min

Engine Off - 1 minute apply:

Initial - 120 psi
Final - 110 psi
- 10 psi

Warning Systems:

Warning Pressure - 78 psi
Comments: None

Pressure Rise:

At 85-100 - 38 seconds
Gov cat off - 129 psi
Gov cat in - 109 psi

Bus Type: Blue Bird (Mesa Unified School District)
 Bus No: B607
 VIN:
 Odometer: 10,711 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>	
20	3.47	Average	29.02
20	3.42		
25	2.87	Average	34.72
25	2.89		
5	5.17		
5	5.46		

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	29'2"	Y	None
20	24'0"	Y	Light rear skid
5	10'2"	Y	
5	7'1"	Y	
5	6'8"	Y	

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 105 psi
 Final - 94 psi
 Delta - 11 psi

Warning Systems:

Warning Pressure - 70 psi
 Comments: None

Pressure Rise:

At 85-100 psi - 45 seconds
 Gov cat out - 119 psi
 Gov cat in - 103 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B608
VIN:
Odometer: 15,122.9

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.34	
20	3.65	Average 28.61
25	2.99	
25	2.73	Average 34.96
5	5.91	
5	5.90	

Braking Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	19'6"		Rear skid
20	23'3"		Rear skid
5	7'8"		
5	7'7"		

Leakage (Y/N): N, none detectable
Comments: 0 psi/min - The overflow valve is stuck open, allowing air leak. Can be set to not flow.

Engine Off - 1 minute apply:

Initial - 109 psi
Final - 100 psi
- 9 psi

Warning Systems:

Warning Pressure - 64 psi
Comments: None

Pressure Rise:

At 85-100 - 1 minute, 7 seconds
Gov cat off - 118 psi
Gov cat in - 103 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B609
VIN:
Odometer: Unknown

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.93	
20	3.69	Average 26.24
25	2.75	
25	2.89	Average 35.46
5	6.44	
5	6.06	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	25'0"	Y	Light skid marks
20	27'0"		
5	7'10"		
5	8'3"		

Leakage (Y/N): N, none observable
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 93 psi
Final - 85 psi
- 8 psi

Warning Systems:

Warning pressure - 70 psi
Comments: None

Pressure Rise:

At 85-100 - 0 minute, 51 seconds
Gov cat out - 117 psi
Gov cat in - 102 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B610
VIN:
Odometer:

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.67	
20	3.71	Average 27.10
25	2.89	
25	2.85	Average 34.84
5	5.97	
5	10.92	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	27'9"	Y	No skid
20	23'8"	Y	Slight skid rear
5	8'0"	Y	
5	8'2"	Y	

Leakage (Y/N): N, no apparent
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 118 psi
Final - 108 psi
- 10 psi

Warning Systems:

Warning Pressure - 65 psi
Comments: None

Pressure Rise:

At 85-100 - 54 seconds
Gov cat out - 119 psi
Gov cat in - 105 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B611
VIN:
Odometer: 11,466.0

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.89	
20	3.89	25.27
25	2.93	
25	3.25	37.36
5	5.83 (50')	
5	5.87	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	26'9"	Y	No skid
20	25'9"	Y	No skid
5	9'6"	Y	
5	9'2"	Y	

Leakage (Y/N): N
Comments: 0 psi/min, non-apparent

Engine Off - 1 minute apply:

Initial - 120 psi
Final - 108 psi
- 12 psi

Warning Systems:

Warning Pressure - 62 psi
Comments: None.

Pressure Rise:

At 85-100 psi - 0 minute, 40 seconds
Gov cat out - 127 psi
Gov cat in - 109 psi

Bus Type: Blue Bird (Mesa Unified School District)
 Bus No: B612
 VIN: 1BAB1BXAXGF074690
 Odometer: 11,480.6 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>	
20 (29.33)	3.72	26.88	
20	4.03	24.81	25.845
25 (36.66)	3.29	30.395	
25	3.29	30.395	30.395
5 (7.33)	5.19	9.63	
5	4.97	10.06	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	25'6"	Y	
20	32'9"	Y	Wheels skid
20	23'0"	Y	
<u>Parking Brakes</u>			
5	8'8"	Y	
5	7'3"	Y	

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 120 psi
 Final - 107 psi
 - 13 psi

Warning Systems:

Warning pressure - 80 psi
 Comments: Varies between 78 and 80 psi

Pressure Rise:

At 85-100 - 1 minute, 6 seconds
 Gov cat out - 125 psi
 Gov cat in - 108 psi

Bus Type: Blue Bird (Mesa Unified School District)

Bus No: B613

VIN:

Odometer: 16,557.7 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.84	
20	3.78	Average 26.25
25	2.97	
25	3.16	Average 32.63
5	6.67	
5	13.53	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	25'4"	Y	None
20	24'6"	Y	Heavy rear skid
5	7'4"	Y	

Leakage (Y/N): N, none observed

Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 112 psi

Final - 104 psi

- 8 psi

Warning Systems:

Warning Pressure - 68 psi

Comments: None

Pressure Rise:

At 85-100 - 1 minute, 1 second

Gov cat out - 124 psi

Gov cat in - 107 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B614
VIN:
Odometer: 10,983.3

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.69	
20	3.58	Average 27.51
25	2.98	
25	2.96	Average 33.67
5	5.59	
5	6.09	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	24'8"	Y	Light rear skid
20	24'	Y	Light rear skid
5	7'3"	Y	
5	7'3"	Y	

Leakage (Y/N): N, none apparent
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 108 psi
Final - 97 psi
Delta - 11 psi

Warning Systems:

Warning Pressure - 64 psi
Comments: None

Pressure Rise:

At 85-100 - 56 seconds
Gov cat off - 119 psi
Gov cat in - 103 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B615
VIN:
Odometer: 14,473.7 miles

Speed - 0

<u>Indicated</u>	<u>Time (100')</u>	<u>Actual</u>
20	3.67	
20	3.46	Average 28.05
25	2.96	
25	2.99	Average 33.61
5	5.43	
5	11.27	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(Y/N)</u>	<u>Comments</u>
20	25'4"	Y	Light rear skid
20	26'3"	Y	None
5	7'4"	Y	
5	7'8"	Y	

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 116 psi
Final - 107 psi
- 9 psi

Warning Systems:

Warning Pressure - 70 psi
Comments: None

Pressure Rise:

At 85-100 - 0 minute, 52 seconds
Gov cat out - 129 psi
Gov cat in - 111 psi

Bus Type: Blue Bird (Mesa Unified School District)
Bus No: B616
VIN:
Odometer: Not read

Comments: Rear tread is worn, poor condition.

Speed - 0

<u>Indicated</u>	<u>Time (100)</u>	<u>Actual</u>
20	3.82	
20	3.63	Average 26.84
25	3.11	
25	3.09	Average 32.26
5	6.10	
5	6.06	

Brake Distance

<u>Speed</u>	<u>Distance</u>	<u>Lane(y/n)</u>	<u>Comments</u>
20	21'9"	Y	Heavy rear slide
20	17'0"	Y	Heavy rear slide
5	6'8"		

Leakage (Y/N): N, none observed
Comments: 0 psi/min

Engine Off - 1 minute apply:

Initial - 112 psi
Final - 103 psi
- 9 psi

Warning Systems:

Warning pressure - 60 psi
Comments: None

Pressure Rise:

At 85-100 - 1 minute, 2 seconds
Gov cat out - 120 psi
Gov cat in - 104 psi

ATTACHMENT 6

Bus Type: Blue Bird (Mesa Unified School District)

Bus No: B614

VIN:

Odometer: 10,994.8 miles

NOTE: Vehicle was loaded with 168 boxes of paper weighing 50 lbs. each,
8,400 lbs. total

<u>Brake Test Speed</u>	<u>Distance</u>	<u>Lane</u>	<u>Comments</u>
20	26'11"	Y	No skid
20	32'6"	Y	No skid
20	27'11"	Y	Slight front skid
5	7'0"	Y	
5	7'0"		