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The 22 September 1979 Event

Interagency Intelligence Memorandum

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THE 22 SEPTEMBER 1979 EVENT

Information available as of December 1979 was used in the preparation of this memorandum.

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FOREWORD

On the basis of available information, we cannot determine with certainty the nature and origin of the event on 22 September 1979. The conclusions reached in this memorandum rest largely on circumstantial evidence and on the assumption that there was a nuclear explosion. (S NF)

This memorandum was prepared under the auspices of the National Intelligence Officer for Nuclear Proliferation in response to a National Security Council request. It was coordinated at the working level with NFIB representatives in the Interagency Intelligence Working Group on Nuclear Proliferation. (U)

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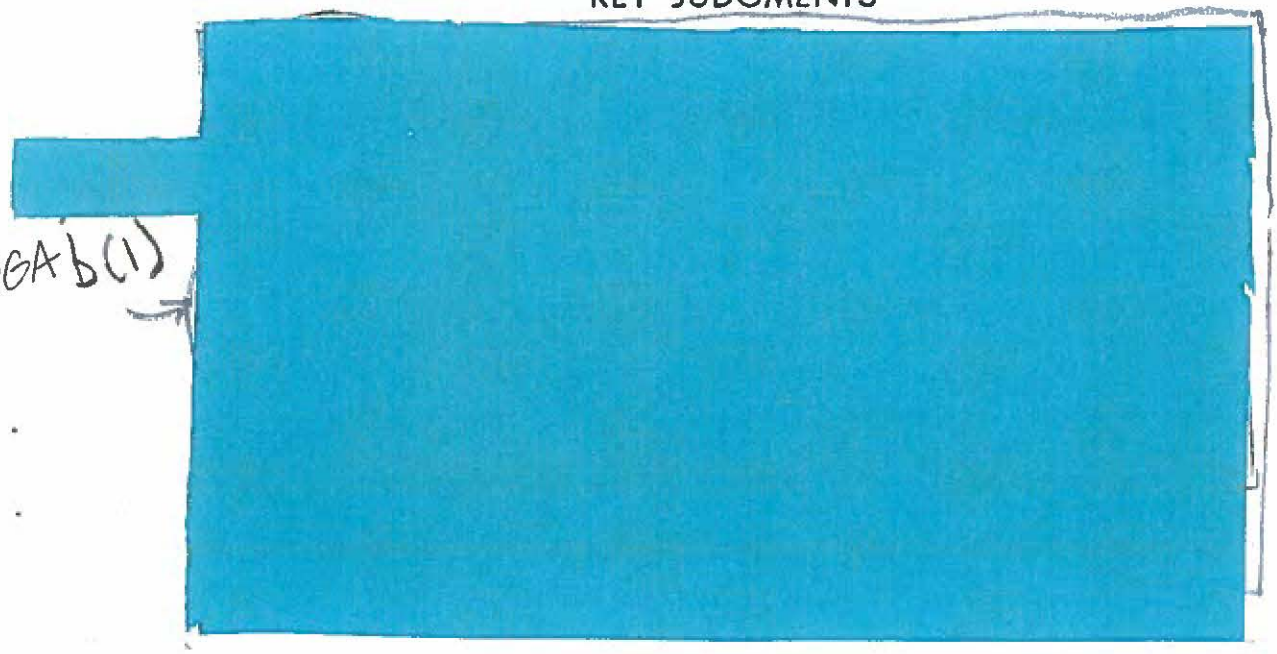
KEY JUDGMENTS



OGA b(1)

[redacted]

DISCUSSION

1. [redacted] DOE b(3)

In practical terms, the testing of a nuclear device at sea would not have needed to involve more than two or three ships or aircraft, including several dozen crewmen and technicians. Equipped with appropriate diagnostic instruments, they could have set up the test within a few hours, detonated the device, obtained required data within minutes after the explosion, and dispersed within another few hours. (S NF)

4. [redacted] DOE b(1)

Several advanced non-nuclear-weapon states, such as West Germany, have possessed both the materials and the technical expertise; none of them, however, has had an incentive, on balance, to develop nuclear weapons, much less to test a device. Other states that might have nuclear ambitions—such as Brazil, Argentina, and Iraq—almost certainly lacked the fissile material and nonfissile components required to fabricate and test nuclear explosive devices. Neither France nor China has agreed to refrain from testing in the atmosphere, but they have recently had no known technical or political motivation to test clandestinely in the southern Indian or Atlantic Ocean. The Soviet Union would have had to assume inordinate political risks in its relations with the United States to have conducted a covert nuclear explosion in violation of the Limited Test Ban Treaty (LTBT) for any purpose. (S NF)

5. The Defense Intelligence Agency believes, however, that if an atmospheric test were in the technical interest of the USSR, an anonymous test near an unwitting proxy state such as South Africa could have provided an attractive evasion method. DOE b(

6. [redacted]

DOE b(1)

[redacted]

A Secret Test by South Africa

b(1) GA

[redacted]

A facility was prepared in the Kalahari Desert apparently for a series of underground test detonations. (The Defense Intelligence Agency has strong reservations as to whether this facility was for nuclear testing in light of alternative uses that are conceivable, such as toxic nuclear waste storage.) (S NF NG OC)

8. In late 1977 the Vorster government apparently suspended preparations to test. Strong US pressure and other international reactions appeared to have deflected South Africa at least temporarily from testing. The setback probably compelled Vorster and the key officials in the nuclear weapons program to review their whole approach toward weapons development and testing. Statements made by the Vorster government at that time did not permanently foreclose future options for testing. Rather than completely stopping their weapons program, the South Africans could then have decided to prepare for a future nuclear test more securely.

b(1)

[redacted]

In short, the Vorster administration may well have deferred any decisions on whether or when to test. (S NF)

9. *Botha's Policy.* Arguments that nuclear testing could make an important contribution to technical confidence in and, to the extent it was disclosed, foreign respect for South Africa's military strength in all likelihood would have resonated with Prime Minister Botha and other South African officials. Botha had overseen a substantial buildup of South Africa's defense forces in the late 1960s and 1970s, following a decision in the early 1960s to achieve self-sufficiency in arms. Because of his personal convictions as well as his official responsibilities, he has advocated more than any other Cabinet officer the military components of South Africa's strategy for coping with possible external threats. He has regarded the West as unwilling to support South Africa against foreign threats that he has perceived to be growing. Moreover, he has probably sympathized with views that nuclear weapons might ultimately be needed. However, he probably has not foreseen any imminent military requirement for nuclear weapons or any political advantages to disclosing particular elements of South Africa's nuclear weapons capabilities at this time. Nevertheless, he may have been persuaded that undeclared but undenied nuclear weapons would have an important psychological deterrent effect that South Africa could better achieve through testing. (S NF)

DOE b(1)

[redacted]

10. After Botha became Prime Minister in September 1978, South Africa finally succeeded in producing highly enriched uranium (HEU) suitable for nuclear weapons.

b(1) DGA

[redacted]

11. If P. W. Botha had decided in favor of a nuclear test, he would have evaluated alternative options for conducting it in terms of their expected effectiveness, risks, and costs. To minimize adverse foreign reactions, he would have had to assess both the chances and the consequences of discovery. While an atmospheric test over unfrequented international waters presumably would have been seen to entail some risk of being found in violation of the Limited Test Ban Treaty, to which South Africa is a party, it also would have offered a relatively quick, safe, and easy way for South African weapons designers to prove a nuclear device without creating unambiguous evidence that South Africa was responsible for a nuclear explosion. In contrast, an atmospheric or underground test in South Africa probably would have entailed higher risks of

[redacted]

[redacted]

prior detection and ultimate proof by foreign intelligence because it probably would have required site preparations and left tangible indications of a nuclear explosion. Botha's security advisers might have warned him that, if South Africa were discovered to have violated the LTBT, it might suffer more serious sanctions than if it tested underground. On the other hand, they would have raised the possibility of another international uproar and more serious threats if new underground test preparations were detected, and the likelihood of more serious sanctions if South Africa proceeded to test under such circumstances. Thus, Botha probably would have decided to minimize the risks of prior detection and certain attribution by testing secretly at sea rather than within South Africa. (S ~~NF~~)

12. As Defense Minister since 1966, P. W. Botha very likely supported the development of a nuclear weapons program, including military preparations for nuclear testing. As Prime Minister, Botha has retained the Defense portfolio and has continued to keep closer counsel with senior military officers than with other government officials. We have no specific evidence that senior military officers perceive any imminent, or an eventually important, role for nuclear weapons.

[redacted]

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OGA

[redacted]

b(1)
OGA

16. Independent sources who are fairly reliable have reported no evidence of knowledge about the 22 Septemher event among employees at the nuclear center. According to one source, the consensus among several technicians and engineers at the Valindaba uranium enrichment facility was that South Africa had nothing to do with the alleged nuclear event of 22 September. Another source said there was no evidence at the Pelindaba nuclear research center to indicate that personnel associated with South Africa's nuclear program were involved in or had prior knowledge of the 22 September incident. In fact, South Africa's alleged involvement has become the object of derisive joking among scientists there. (s ~~NF NC~~ OC)

17. ***Possible Indications of Nuclear Weapons Development, Testing, and Policy.*** Since P. W. Botha became Prime Minister in September 1978, a number of measures have been taken in South Africa that suggest, among various possibilities, that nuclear weapons development may have been under way. They certainly indicate a sharpening of the government's sensitivity about its nuclear installations and activities. In late 1978, a home guard unit was positioned and new security patrol patterns were established near HEU conversion facilities at the Pelindaba nuclear research center.[4] A decision that was made in late 1978 or early 1979 to establish a military facility for evaluating and treating cases of human exposure to radiation could have been intended to permit greater secrecy in the event of accidental exposure resulting from a clandestine nuclear test program. And, as stated above, South African authorities decided not to

[4] Security forces were also established near several nonnuclear strategic facilities during this period. This heightened security may relate more to general security concerns than to a change in the pace of South Africa's nuclear weapons program. (s ~~NF~~)

[redacted]

disclose the production at Valindaba of weapons-usable enriched uranium. (S NF NO OC)

18. In September 1979 some special security measures were put into effect which indicate that certain elements of the South African Navy were exercising or on alert on 22 September. The harbor and naval base at Simonstown were declared, in a public announcement on 23 August, to be off limits for the period 17-23 September. The US defense attache gathered from several reliable sources that harbor defense exercises took place there during this period.[5] Although such a closure might not be required for a nuclear test at sea, it could have screened sensitive loading or unloading operations as well as ship movements. Also, the Saldanha naval facility, which includes a naval search-and-rescue unit, was suddenly placed on alert for the period 21-23 September. The alert was not publicly announced, no explanation for it was given to naval personnel, and no activity was observed in or around the port. While the Saldanha naval alert appears unusual, we are unable to state with confidence whether such an alert has ever happened before. Furthermore, at the same time, General Malan, Chief of South Africa's Defense Force, was reported to be touring South America, when he might have been expected to be in South Africa or at the test observation point during such an important event. (S NF)

[redacted] However, on 25 September—three days after the nuclear event—he told a provincial congress of the ruling National Party that "South Africa's enemies might find out we have military weapons they do not know about." His enigmatic remark prompted speculation in the South African press that he had undeclared nuclear weapons in mind. Although no South African Government official issued any public clarifications, [redacted]

[5] The US defense attache's report played down the significance of the Simonstown closure, noting that it was a regular practice linked to internal defense. (S NF)

[redacted] b(1) OGA

20. On 24 October—before the US disclosures of the technical indications of a test—the Prime Minister, addressing an anniversary dinner attended by past and present members of the AEB as well as members of the local diplomatic corps, reportedly paid tribute to the South African nuclear scientists who had been engaged in secret work of a strategic nature. He reportedly said that, for security reasons, their names could not be mentioned and that they would never gain the recognition in South Africa or abroad that they deserved.[6] (U)

[redacted] DOE b(1)

22. Only one official has categorically denied South Africa's involvement. [redacted] DOE b(1)

De Villiers, who had been directly involved in weapons design work at the Pelindaba nuclear research center before his promotion to President of the AEB in July 1979, almost certainly would be witting if South Africa had conducted a test explosion—and prepared to parry press queries if such a test were detected. On 6 November, De Villiers issued a report of periodic atmospheric samplings that had been conducted by the AEB; the report concluded, "It is considered most unlikely that an atmospheric nuclear test has recently been conducted in this region." (S NF)

23. On 25 October the Commander of the South African Navy made allegations we believe to be false

[6] The source of this information states that, although the speech was all about the achievements of South Africa's nuclear scientists, it was not certain that, in referring to "secret work of a strategic nature," Botha specifically said "nuclear scientists" or just "scientists." (C NF)

that a Soviet nuclear submarine had been in the vicinity of the Cape in late September, implicitly denying that the South African Navy was involved in a nuclear test conducted at sea. (S NF)

24. Foreign Minister Roelof Botha's public statements have been especially ambiguous. For instance, on 25 October he ridiculed speculation that South Africa had conducted a nuclear explosion, but also declined under questioning to say unequivocally that South Africa had not done so and that it did not intend to acquire nuclear weapons. On 6 November the Foreign Minister, in a discourse on South Africa's foreign policy presented to all the foreign ambassadors in Pretoria, said he was dismayed by allegations in the UN General Assembly that South Africa had violated the Limited Test Ban Treaty, and distributed the AEB report on atmospheric samplings as evidence to the contrary. But he did not take the opportunity to deny that South Africa had a nuclear weapons program. (C)

DOE b(1)

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b(1) OGA

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DOE b

DOE b(1)

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A Secret Test by Others

31. *India.* Indian nuclear and weapons experts have probably been reviewing contingency plans to develop nuclear weapons in light of continuing developments in China and Pakistan. Indian political and military authorities, however, have apparently not decided to develop their nuclear explosive technology into proven weapons that would require testing. Nor are there any known plans to develop Indian nuclear explosive technology by further testing for any purpose. The Indians, moreover, would probably have been disinclined to violate their obligations under the LTBT. For this reason, and to secure maximum information from a test, Indian nuclear weapons designers would probably have preferred to conduct a nuclear explosion underground rather than to conduct one over remote oceans in the middle of the night. (S NF)

[redacted]

Conversely, past US remonstrances about Taiwan's nuclear weapons research program—coupled with President Chiang's determination to maintain a relationship as close as possible with the United States—weigh against a decision to test a nuclear device. (S NF)

35. *Pakistan.* [redacted] However, Pakistan's leaders have been interested mainly in achieving nuclear parity with India by conducting a nuclear explosion that they can claim as their own, presumably on their own territory. Furthermore, the Pakistanis are preparing in Baluchistan a suitable tunnel that would enable them to conduct an underground explosion that could credibly match India's "PNE" of 1974. (S NF)

[redacted]

36. Nevertheless, Pakistan's leadership might have wanted to prove its nuclear explosive technology in secret before risking an underground explosion whose preparations and results were subject to detection. To minimize the chances of a potentially conspicuous and politically damaging failure, Pakistan's nuclear device designers might have considered alternative ways of testing secretly, including an atmospheric test over a remote ocean area. The perceived advantage of such a test, however, would have been marginal, at most, because technical difficulties would have made it more likely to fail, perhaps even detectably. Moreover, if Pakistan had actually succeeded in such a test, it would probably have been recorded and publicized immediately to secure the domestic prestige and foreign respect that Pakistan's leaders have been seeking through nuclear research and development. In short, Pakistan has had little incentive and uncertain capabilities to conduct an undeclared nuclear test over the ocean in the southern hemisphere on 22 September 1979. (S NF)

Conclusions

[redacted]

38. The purposes in conducting a test at sea under cover of clouds and darkness would have been to maximize pretest security and to reduce the presumed risks of detection, attribution, and sanctions by foreign powers. (S NF)

39. The Bureau of Intelligence and Research, Department of State, believes that, while South Africa is in all probability embarked on a nuclear weapons program, has by this time acquired sufficient fissile material for the fabrication of several nuclear devices, and may be willing to take the risks of testing eventually, there are sufficient political motivations to deter the Botha government from undue provocation of international criticism at this time. The arguments which the United States and other Western powers advanced to deter South Africa from proceeding with construction operations at the Kalahari site are still valid: unless South Africa is willing to relinquish a clandestine as well as overt nuclear weapons option, its access to Western technology and uranium enrichment services might be terminated. (S NF)

40. State/INR differs particularly with the premise that Prime Minister Botha's government has been more ready than its predecessors to develop nuclear weapons. It points out that all South African governments have sought this option, but that until recently South Africa lacked the relevant technology and fissile material. Even now, the political constraints would outweigh technical incentives in South Africa's calculations, and therefore it is unlikely that South Africa elected to test a nuclear device. The ambiguity that surrounds South Africa's nuclear situation has provided it with substantially the same benefits— without the opprobrium—as if it had in fact tested. Elusiveness serves South Africa best at this juncture, and is in line with its previous behavior—neither to confirm nor to deny allegations about its nuclear-weapons-related activities. (S NF)

41. In sum, State/INR finds the arguments that South Africa conducted a nuclear test on 22 September inconclusive, even though, if a nuclear explosion occurred on that date, South Africa is the most likely candidate for responsibility. (S NF)

42. The Defense Intelligence Agency believes that the available evidence is insufficient to estimate how top South African officials have balanced the incentives and disincentives regarding a nuclear test. (S NF)

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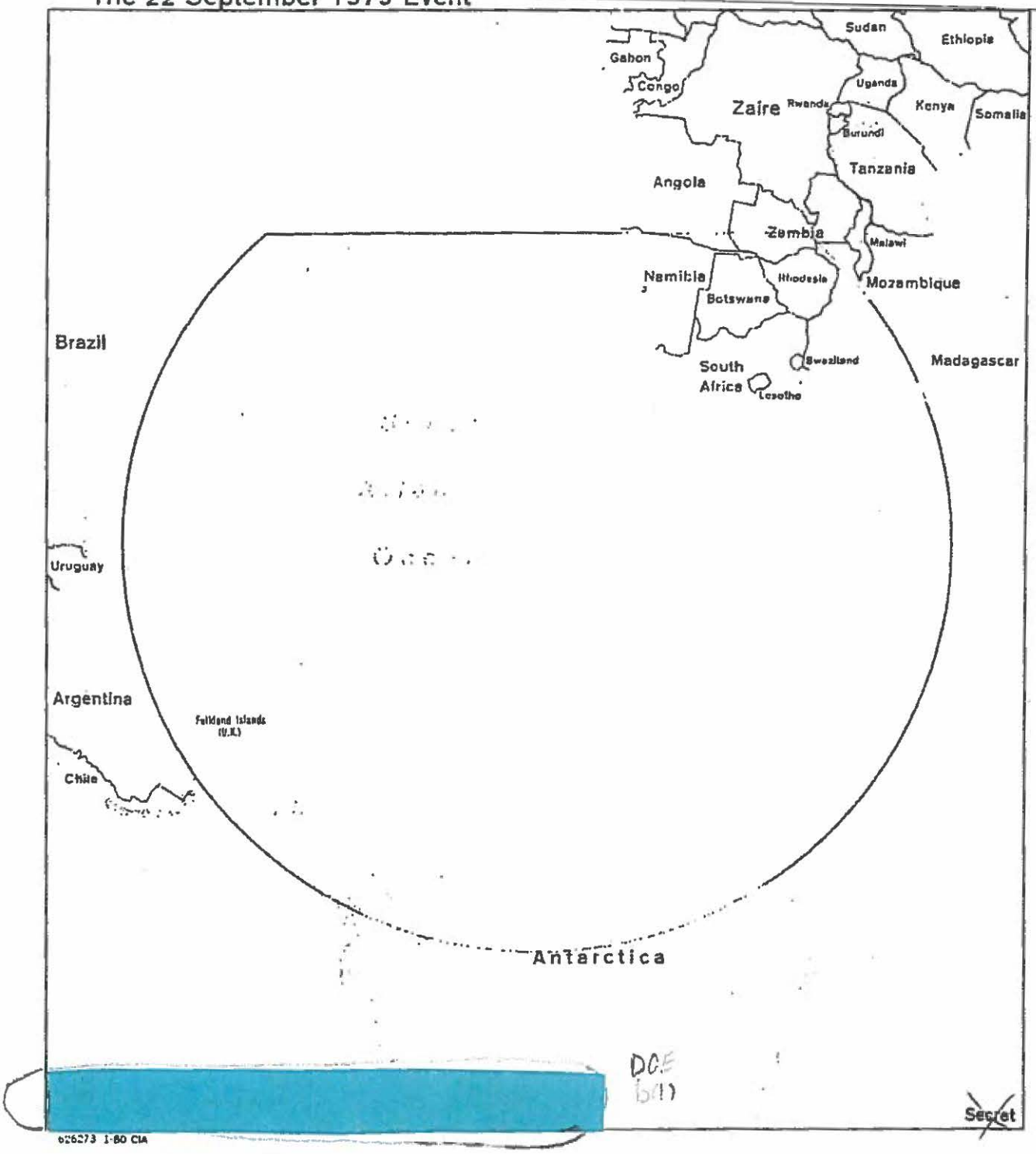
The 22 September 1979 Event



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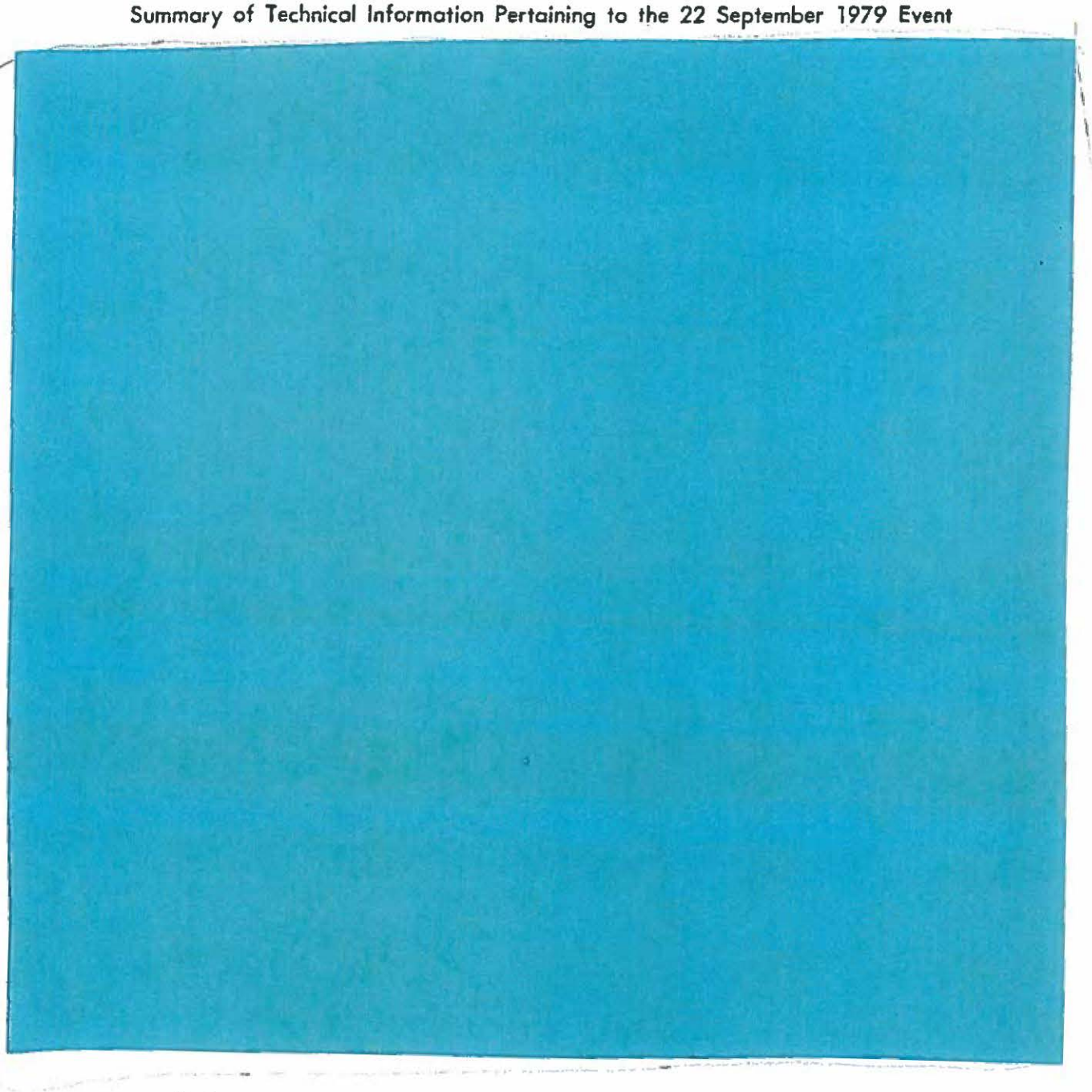
ANNEX

Summary of Technical Information Pertaining to the 22 September 1979 Event



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