

UZBEKISTAN OIL WELL RELEASE EPA AFTER-ACTION REPORT



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SUMMARY

On March 2, 1992, a new oil well in Uzbekistan was damaged and began to release large amounts of oil into the environment. Estimates varied, but between 30,000 and 60,000 barrels of oil were being released daily from the well.

The oil well, situated in the Migbulak oil field, is located in the eastern part of Uzbekistan; a newly formed country within the Commonwealth of Independent States (CIS) that was once a Soviet republic. Migbulak is located in the Fergana Basin near the city of Namangan. The area is approximately 300 kilometers east of Tashkent, the nation's capital. The Syr Darya River flows northerly through the region. The river is the only major source of water for the area's population, which is estimated at over one million.

Reacting to the initial event, local responders immediately built berms around the well, containing the spewing oil. Although no serious environmental catastrophe resulted from the release, Uzbeki officials concluded that a potential hazard existed in that the oil well was only 200 meters from the Syr Darya. If the containment was breached and the river became contaminated, individuals in the intermediate vicinity could be affected.

The problem was magnified by the lack of well-capping and oil-removing technology in the region. Oil in the containment area was removed by siphoning. The siphoned oil was diverted into trucks and transported to secondary containment areas. This slow process afforded the Uzbeki's the ability to maintain the existing level in the containment area, but not significantly lower it. Combining this inability to reduce the size of the containment pool and the lack of technology and equipment, the Uzbekis could not cap the well.

On April 6, the well caught fire possibly as a consequence of activity by Uzbeki and Russian fire-fighting crews working at the site. The resulting smoke plume raised additional health and environmental concerns in the region.

Unable to effectively respond to the accident, the Uzbeki Government contacted both the U.S. Government (through the Charge de Affairs in the newly opened U.S. Embassy in Tashkent) and private U.S. oil-capping corporations. The Uzbeki government was interested in hiring a U.S. contractor to cap the well in addition to obtaining technical assistance from the U.S. Government.

On March 13, U.S. Department of State informed EPA of the incident. On March 27, a representative from the Office of International Assistance for the New Commonwealth within the Department of State (headed by Ambassador Armitage) contacted officials in EPA's Chemical Emergency Preparedness and Prevention Office (CEPPO) to determine the availability of a technical assistance team to accompany a U.S. contractor to the region once one had been chosen by the Uzbekis and a contractual agreement had been confirmed.

CEPPO officials brought the incident to the attention of the Administrator's Office and informed the representatives within EPA's National Incident Coordination Team (NICT). The NICT agreed that EPA could lead the effort to assemble a team to travel to Uzbekistan if a formal request for assistance was made. The team would assess the health and environmental effects of the plume and spilled oil and report its findings through Ambassador Armitage's Office. Consideration for the team's composition included EPA Environmental Response Team members, EPA On-Scene Coordinators, and representatives from U.S. Coast Guard (USCG), Department

of Energy (DOE), and Health and Human Services, Centers for Disease Control (HHS/CDC). The Department of Energy later determined that it was not necessary to send a representative.

The team would sample and monitor the conditions around the site, assess health and environmental threats, and provide technical expertise to the Uzbeki Government. The team consisted of seven officials with expertise in a broad range of disciplines associated with oil releases and was comprised of representatives from the EPA, USCG, and HHS/CDC. Extensive logistical and other support was provided by the U.S. Department of Defense and the U.S. Department of State.

On March 30, an initial request for assistance was received from the Uzbekistan Government. On April 2, Ambassador Armitage's Office received a formal request for U.S. technical assistance from the Uzbeki Government.

The team arrived in Namangan on April 15, and spent six days in Uzbekistan providing support to Uzbeki officials and assessing the environmental consequences of the release. By the time the team returned to the United States, a significant portion of oil had been removed from the containment area and the team no longer considered the incident to be a threat to the environment or to the health of the local population. The team spent a considerable amount of time working with top-level Uzbeki environmental officials who were anxious to establish bilateral relations with the United States over health and environmental issues. The team returned to the United States having accomplished the goals stated in the mission plan.

2.0 COORDINATING U.S. GOVERNMENT RESPONSE

On March 13, U.S. Department of State (DOS) notified EPA that an oil-well incident had occurred in Uzbekistan. On March 27, DOS contacted officials in CEPPO to ascertain whether health and environmental experts could provide technical support to the Uzbeki government. After determining that support could be provided, officials from several government agencies, including, EPA, Department of Energy, U.S. Coast Guard, Health and Human Services/Centers for Disease Control, Department of Defense, and Department of State met to determine team composition, develop a mission strategy, work out logistical considerations, and determine equipment and other requirements for the team.

Between March 28 and April 9, officials from these Agencies met to coordinate the U.S. Government's response. Team composition was finalized on April 7. Team members began arriving at the EPA Emergency Operations Center on Thursday, April 9, to develop the mission plan. On the following Saturday, the plan was finalized and was based on three components:

- Provide technical support as requested by the Uzbeki government;
- Assess the health and environmental consequences resulting from the release; and,
- Assist the Uzbeki Government develop a contingency plan for this and future incidents.

The U.S. Department of State worked with the U.S. Department of Defense, the Uzbeki Government, and private U.S. contractors, to arrange for U.S. military C-141 aircrafts to transfer all capping equipment to Uzbekistan. The team also used the C-141 aircraft to travel to Uzbekistan. This eased logistical problems involving the U.S. Government's equipment and supplies. On April 6, Cudd Wild Well Control, Inc. a U.S. firm specializing in capping oil wells, reached an agreement with the Uzbeki Government, and on Sunday, April 12, the team departed for Uzbekistan with Cudd personnel and equipment.

The team returned to the United States on April 19 and 22, achieving the goals stated in the mission plan. Three members of the team returned on a U.S. military C-141 on April 19 with the majority of the equipment the team brought to the region. Three days later, the remaining four members returned via commercial carrier after completing additional sampling and holding discussions on bilateral agreements with Uzbeki officials.

3.0 TECHNICAL ASSISTANCE TEAM IN-COUNTRY ACTIVITY

Arriving in Namangan on April 15, the team immediately began discussions with Uzbeki health and environmental officials. On April 16, the Charge de Affairs from the U.S. Embassy in Tashkent arrived at the site to provide additional assistance that the team might require.

For the next four days, the different specialists conducted tasks based on the mission plan. The following sections summarize the team's in-country activity.

3.1 Environmental Impact of the Release

From April 15 to 19, the team assessed the impact of the oil well blowout and fire at Migbulak. The blowout caused the oil to be sprayed by wind on an area of about four by eight kilometers. An undetermined quantity of oil reached the Syr Darya River, which is approximately 100 meters from the pooled oil and approximately 200 meters from the well. Oily debris (e.g., twigs and branches) was retrieved as far as fifteen kilometers downstream of the well site, at the Axikent bridge.

The oil well was ignited on or about April 9. Emissions resulting from the plume have consisted of soot particles lofted to approximately 1700 meters and dissipated into the atmosphere. The team determined that the plume presents no immediate danger given the prevailing atmospheric conditions in the valley; however, atmospheric inversion could occur and concentrate the level of pollutants in a particular area with the possibility of causing problems to sensitive populations (e.g., children, the elderly, and individuals with respiratory problems).

The environmental impact of the blowout on the ecology of the Fergana Valley was likely kept to a minimum due to:

- The measures taken by the Uzbekis to contain and collect the pools of oil, and
- The timing of the blowout, which just preceded the onset of Spring.

The team was able to monitor the site and take samples of the oil at the well and water at several locations in the immediate vicinity as well as at locations as far as 15 kilometers from the well. These water samples taken upstream from the oil well and oil samples taken near the well site are still undergoing analysis.

3.2 The Effects of the Release on Human Health

The health impact of the oil well fires appears to be the most significant on those individuals working in and near the oil well site. Some 535 of the approximately 1500 workers involved suffered some type of oil-related injuries. Workers on-site were not wearing protective clothing.

Real-time aerosol monitoring for total particulate revealed the following data:

<u>Location</u>	<u>Reading</u>
Downwind of fire	0.008 mg/m ³
Near heavy vehicle traffic	0.140 mg/m ³
Strong wind and high dust level	1.400 mg/m ³
- Average	0.250 mg/m ³

Samples of volatile organic compounds were taken by Dr. Ruth Etzel (CDC/HHS). Dr. Etzel was able to draw samples from Uzbekistan firefighters and the U.S. Government team. Appendix E of this report provides graphical summaries of Dr. Etzel's analysis.

3.3 Contingency Planning Activities

The team worked with Uzbeki officials to develop contingency plans for possible future incidents. The following recommendations were made by the team:

- The Uzbeki's should continue to place a high priority on extinguishing the fire and capping the well.
- To facilitate safe development of the Migbulak field, the Uzbekis should adopt a policy where environmental issues are explicitly considered in the decision-making process of energy production. A principle component of this policy should be the development of a national oil spill response and planning program that will harmonize the actions of those Uzbeki Government organizations and institutes with roles of environmental and health protection, energy development, and public awareness.
- The objectives of the oil spill response program should be:
 - Reducing to a minimum the probability of the incidents, particularly in regard to siting of wells. If an incident should occur, minimizing the outflow of oil by developing a spill prevention control and countermeasure plan for all oil storage and production facilities;
 - Ensuring proper readiness and quick response to oil spills with technical means and personnel; development of a strong contingency plan that identifies equipment available for response and ensuring that personnel are trained to respond effectively;
 - Ensuring effective oil spill response;
 - Developing a worker safety program;and
 - Instituting cooperation with neighboring countries.

4.0 CONCLUSIONS

This section summarize the team's activities and observations of the affects of the oil well spout. This section also focuses on U.S. Government operations in responding to the incident.

4.1 Overall Assessment of the Health and Environment Impact of the Oil Well Release

Initial reports from Uzbekistan indicated that a serious environmental incident had occurred. The team concluded that because of the quick response efforts of Uzbeki officials and response personnel, the threat to the health of the Uzbeki population and the environment immediately surrounding the well never materialized. The Uzbeki Government lacks a comprehensive plan to respond to similar incidents in the future; however, it appears that health and environmental officials are aware of this and are trying to develop better management programs to balance energy production and environmental protection.

Thousand of gallons of oil were released from the well. The Uzbekis were able to contain this oil and were effective in recovering the oil for productive use. Only a small portion of the released oil spilled into the Syr Darya River. This small amount does not appear to further jeopardize the water quality beyond current pollution levels.

The plume which resulted from the well catching fire does not appear to impact the health of the local population. Certain atmospheric conditions could create an atmospheric inversion which could cause a concentration of pollutants over a populated area. The effects of such an occurrence will likely affect only those individuals susceptible to minor changes in atmospheric conditions (e.g., individuals with respiratory problems).

4.2 Conclusions Based on Team's Debriefing

A debriefing for the team was held in the EPA Emergency Operations Center (EOC) on Wednesday, May 13, 1992. All team members participated either in person or through teleconference. Several individuals from EPA's Chemical Emergency Preparedness and Prevention Office (CEPPO) and USCG were also in attendance. The debriefing was held to achieve the following objectives:

- Coordinate information in support of writing a consolidated report on the event and operations;
- Highlight success/obstacles resulting from initial mobilization;
- Highlight success/obstacles for in-country activities; and
- Enumerate and describe outcomes and next steps.

Tony Jover (CEPPO) opened the meeting by reviewing the debriefing agenda and summarizing the objectives of the meeting.

Harry Allen (EPA, Environmental Response Team), the team's Technical Leader, noted that the mission objectives existed at two levels. At one level, the team performed the assessment of the incident as described above. The participants agreed that, at this level, the mission was a success. Although the team was required to modify the mission plan because of unforeseen events while in Uzbekistan, all members agreed that the team's goals were achieved.

A broader, political objective -- to initiate and perform diplomatic activities with Uzbeki officials -- was also to be performed by the team. Uzbekistan is a newly formed state which was once a Soviet Republic. The team thought that top U.S. Government officials desired to provide support in an effort to demonstrate U.S. commitment to the emerging countries of the former Soviet Union. Mr. Allen noted that at this level, the mission goals were not clearly defined. He suggested that in future international incidents, this type of activity should be better coordinated so team members would have a better understanding of U.S. Government objectives in addition to health and environmental ones.

Mr. Jover emphasized that EM1 Chuck Guthrie (USCG) provided an outstanding contribution to the team's success. EM1 Guthrie was the team's logistical and communications officer. Mr. Jover noted that in the early stages of developing a team, a logistical person was not considered. Mr. Jover stressed that, because of the benefits derived from having Guthrie on the team, such a position should always be considered for similar future activity.

4.2.1 Team In-Country Activities: Three issues were discussed involving federal activity prior to sending the team to Uzbekistan:

- Obtaining and verifying information:
- Defining the roles and responsibilities of the team; and
- Logistics.

There was general consensus that for future incidents, if at all possible, involved Agencies should send an individual prior to sending a team. This individual would verify conditions and provide an initial assessment. The participants agreed that inaccurate information was used in deciding to send the team. It was stressed that those providing information had vested interests, outside of health and environmental concerns, in getting a U.S. team to Uzbekistan. For example, on-site contractors desired U.S. Government aircraft to transport equipment and the Uzbeki Government desired financial assistance. The majority of the information used in deciding to send the team came from these sources. When the team arrived at the well-site, they discovered that the health and environmental threat was not as serious as information from these sources indicated.

A second concern focused on the team's role. Team members agreed that, at the health and environmental level, the mission plan was properly defined and well executed; however, they expressed concern was expressed that in the Federal Government's broader objective, strengthening diplomatic ties, there was confusion. The team agreed that it is important to clearly define why U.S. Government involvement is requested or necessary in responding to an incident of this nature. The team emphasized that:

- High-level officials should clarify the role of Government personnel prior to sending a team;

- All individuals involved should understand what that role is; and
- Efforts should be made at all levels to ensure that the team is able to achieve established objectives.

The Charge de Affairs in the U.S. Embassy in Uzbekistan and many key Uzbekistan officials were unaware that the team had arrived in Uzbekistan. This was significant in that the State Department was extensively involved in coordinating arrangements for the team's trip and it was in the State Department's interest to have these individuals informed. It was suggested that at an early stage of development, high-level government officials meet with representatives of the foreign country to establish the roles and expectations of the team. The roles and expectations should be reviewed by Embassy personnel prior to the team's departure to ensure support is available. Embassy personnel should discuss the potential mission with host officials. Once an agreement can be reached, the roles and expectations should then be incorporated into the mission plan. The team agreed that input from the foreign country is very important.

The third in-country issue concerned logistics. There was unanimous agreement that logistical issues were handled very well, despite the uncertainty in determining when the team would leave. It was stressed that coordinating the team's departure was difficult due to conflicting information from Uzbekistan and contractors. In particular, three obstacles added to the difficulty in coordinating logistical issues:

- In working with the State Department and the Uzbeki government, it was determined that the team should use U.S. military air transport to fly to Uzbekistan. This transport had to be coordinated with the contractor schedules and requirements. It was not clear until just prior to the team's departure which contractor was hired and when they would leave.
- The second obstacle concerned coordinating equipment requirements. Very little information on in-country equipment capabilities was available prior to the team's departure. Due to this lack of information, contingency plans for meals, lodging, transportation, interpreters, and communications needed to be made in the event that items were unavailable.
- The third obstacle involved the team's return to the U.S. Three team members left early. Concern surfaced as to whether Uzbeki Customs would allow the equipment to leave. There was some confusion as to whether the U.S. military aircraft would transport the equipment back to the U.S.

The team recognized that EPA support staff were able to overcome these obstacles and were effective in organizing and sending the team to Uzbekistan. Additional logistical observations included:

- A checklist should be developed for many standard items, such as medical packs for over the counter items such as aspirin, decongestants and toilet paper.
- Mr. Jover thought everyone should have hand-held recorders for capturing thoughts/observations while in the field.

- Communications equipment worked well; however, the team agreed that more time should be spent testing and verifying the condition of communications equipment prior to departure. Some minor concerns were raised over structuring send/receive times with Headquarters. Commander Softye (USCG) stated that in long term incidents, it is possible to establish set transmitting times; however in short missions, transmitting will be accomplished when time and space is available. Commander Softye also suggested that the team should maintain contact with a single source in the United States. The source would then forward information to relevant points-of-contact (POCs) within the United States.
- Ken Stroeck (CEPPO/SPP) raised the issue of secured phone lines, asking whether equipment taken could handle a secured communication device. EM1 Guthrie (USCG) said that it would not be a problem since secured phone systems use the same connections as standard communications systems.
- The team should verify phone calling card requirements prior to leaving the U.S. (in this case, AT&T and MCI cards worked fine, SPRINT cards did not).
- The team's equipment functioned adequately. Procuring gas for the generators was the only minor problem encountered.
- In future incidents, more effort should be made in coordinating the team's return to the U.S. For example, because the team's departure was staggered, the debriefing was held later than expected. Coordinating departure logistics also eases concerns in trying to get expensive equipment through foreign customs.

The participants at the meeting agreed that although the mission plan was well developed, some aspects did not meet the requirements at the site. For example, by the time the team arrived in Uzbekistan, the vast majority of the oil pool surrounding the well had been removed, eliminating the threat to the water supply in the area. This and other inconsistencies highlighted the need to confirm information and expectations prior to the team's departure. It was stressed that in future incidents, the team Leader should establish contact with foreign host prior to leaving the U.S. The team Leader should be the POC between the team and host officials once the team arrives. This individual would be responsible for determining the affected country's needs and expectations. It saves time, costs, and space. For example, in defining equipment/supplies needed by team, it is likely that less equipment will be sent.

It is important in future incidents that the team's activities are coordinated with the U.S. Embassy in the impacted country. Although the State Department was extensively involved in planning the trip, the Charge de Affairs at the U.S. Embassy in Uzbekistan was not prepared for the team's visit. Such break-downs in communications could severely hamper the team's ability to perform their duties. In this instance, the team had some difficulty obtaining transportation while in-country. There was also some problem obtaining translators/interpreters.

The team members were guests of the Uzbeki government. The Uzbekis provided food and lodging to the team. The unused MREs were given to orphanages as a gift when the team departed. With the exception of performing health assessments, the team was able to perform environmental monitoring of the release and fire. The Uzbeki government would only allow Dr.

Ruth Etzel (HHS/CDC), the team's human health expert, to monitor the health effects on the team and U.S. contractor employees.

Mr. Jover, Mr. Allen, and Dr. Etzel held several meetings with Uzbeki officials. Discussions during these meetings ranged from assisting in the development of contingency plans to establishing bi-lateral relations with Uzbeki environmental officials and organizations. The team considered these talks to be productive; however, in future incidents, it would be more efficient to schedule meetings soon after arrival to ensure that the objectives in the mission plan could be carried out and any problems or obstacles could be rectified at an early stage.

Team members stressed that in future incidents, the team should meet with affected country officials immediately upon arrival. It was suggested that the team Leader should initially work with foreign representatives while the team's technical experts continue to the site. In this incident, this process was reversed.

It was suggested that in future international incidents Government representatives should place more interest/focus on protocol, identifying the right people in the foreign country to ensure that mission objectives can be accomplished and are consistent with the needs of the foreign host.

The Charge de Affairs at the U.S. Embassy should have been more aware of the team's mission, schedule, and requirements. The team was aware that this was a new country and that the Embassy staff was still forming; however, it is still important to have the Charge de Affairs responding to the needs of the team, both for political reasons and to ensure that the objectives of the mission plan are achieved.

4.2.2 Next Steps: The oil well is under control. Problems remain in terms of how the contractor will be paid and how the contractor's equipment will be returned to the U.S. The team will review the draft summary of the team's activities written by Tony Jover and will return it with written comments and their own observations.

The Uzbekistan response and two other recent international incidents -- an oil spill off the coast of Mozambique and a sewer explosion in Guadalajara, Mexico -- demonstrated that teams travelling to international locations lacked sufficient information on the conditions at the site to design and implement effective mission plans. The team also agreed that political motivations for sending a team to international locations often increases the burdens of performing health and environmental response efforts.

EPA should explore obtaining an agreement with the U.S. Department of Defense to ensure that transportation is available for future incidents. Mission success was largely based on the ability to obtain U.S. military airlift for transporting equipment to the site. Without the military airlift, the team would not have been able to bring equipment to the site. Kim Fletcher (EPA/CEPPO) will study options for entering into an agreement with the military for air carrier support required for future incidents.

After the main discussion, team members presented findings based on observations made during the trip. Dr. Ruth Etzel (HHS/CDC) monitored over 30 impurities that could have affected individuals near the site. She presented one sample of her analysis by providing graphical results of benzene levels found within team members and U.S. clean-up contractors while working

around the site. These levels were significantly higher than cases involving individuals working near the Kuwaiti oil wells. Harry Allen displayed slides and a video taken during the trip. The team agreed to consolidate the members' slides into a single presentation.

4.3 Future Relations with Uzbeki Environmental and Health Officials

The team concluded that the U.S. would be hard pressed to determine the effectiveness of additional aid provided to Uzbekistan, should any be requested. In Uzbekistan, it appears that there is no single point-of-contact for addressing or understanding the scope and range of environmental problems facing the country. For example, the team observed that the Uzbeki Committee for Nature Protection understood some of the ecological problems, but had little if any information regarding environmental health issues and water quality, and does not appear to be involved in agricultural uses of pesticides. The problems with the pollution and increasingly reduced water levels in the Aral Sea seemed not to be any one group's responsibility.¹

A first step in future U.S. aid to Uzbekistan directed towards environmental problems should be to document the range and extent of environmental and health problems facing the country. This could be accomplished by convening a conference of experts to raise and discuss issues, present papers, and initiate an on-going dialogue. Out of the conference, proceedings would be developed and published that would document the problems and provide one document to be used to prioritize and better organize future environmental assistance. The conference would provide a baseline of information and decision-making for future actions.

This conference would be regional in nature, with the post-Soviet East Asian countries invited to attend. Uzbekistan would have the opportunity to host the conference.

The United States would be able to provide logistical support for this meeting, facilitators, and translators, and the final publication. To be successful, the meeting would have to be under Uzbeki leadership, with the U.S. providing the necessary underpinnings.

¹ The Aral Sea is the largest body of water in the south-central region of the former Soviet Union. Years of neglect combined with agricultural and industrial policies which placed heavy emphasis on irrigation over other possible agricultural options has resulted in extensive pollution of the Aral Sea and has resulted in a reduction of the lake's size by approximately 40 percent since the early 1960s.

APPENDICES

APPENDIX A: CHRONOLOGY OF EVENTS

03/02/92 - Monday

- A newly installed oil well in the Namangan territory near the city of Namangan blows, spewing oil in the Fergana Basin in the newly formed state of Uzbekistan.

03/13/92 - Friday

- Liz Cheney from Department of State, Ambassador Armitage's Office informs EPA that an oil well in the newly formed country of Uzbekistan has blown and is spewing oil and could possibly be on fire.

03/27/92 - Friday

- Liz Cheney from Department of State, Ambassador Armitage's Office contacts Jim Makris, Director, Chemical Emergency Preparedness and Planning Office (CEPPO), requesting information on the availability of a technical assistance team which could be sent to Uzbekistan to determine if U.S. assistance would be required, and if so, to what degree. Jim Makris states that support would be available.
- Jim Makris contacts Gordon Binder (EPA Chief of Staff) and Don Clay of the Administrator's Office and provides a briefing of the situation. Gordon Binder briefs EPA Administrator Reilly on the situation. All three confirm support to provide EPA technical assistance as requested by the Department of State. It is decided that Makris would lead the effort for this response.
- Jim Makris contacts Liz Cheney at Ambassador Armitage's office to formally offer support as needed. Concern is presented over the funding mechanism for this support.
- Jim Makris appoints Tony Jover as the lead point of contact within CEPPO to coordinate response activity.

03/28/92 - Saturday

- EPA learns that a possible contractor has been on-site in Uzbekistan to determine the conditions and possible response actions stop the flow of oil from the well. Joe Bowden of Wild Well Control (Houston) has travelled to the Fergana Basin and has offered his services to cap the well.
- Mr. Bowden estimates that costs to cap the well would run between \$6 and \$10 million dollars, excluding transportation.

03/29/92 - Sunday

- CEPPO staff contacts Department of State for update on conditions surrounding the oil well spill in Uzbekistan.
- The Office of Foreign Disaster Assistance (OFDA), Agency for International Development and U.S. Department of State attempt to secure funding through OFDA programs.
- The Uzbek government has yet to formally requested assistance from the U.S.. State Department is working determine if a request is in the works.

03/30/92 - Monday

- Don Clay receives briefing information from CEPPO staff and briefs senior EPA personnel on the current conditions in Uzbekistan.
- Preparations are made in the EPA Emergency Operations Center (EOC) to provide necessary support if conditions warrant. EPA contractor personnel are contacted to provide background material on Uzbekistan and provide administrative support, as necessary.
- Tony Jover and Ken Stroeck (OSWER/CEPPO) hold a conference call with members of the Emergency Response Division (ERD), and Emergency Response Team (ERT), the Department of Energy (DOE), Health and Human Services (HHS), and CEPPO staff to provide updates and discuss possible options.
- The following information is received from potential contractor, Joe Bowden, on the conditions surrounding the oil well:
 - The Syr Darya river is approximately two hundred meters from the well site. The Syr Darya is the only source of water in the area;
 - The oil is coating houses within a 2-3 km range of the well;
 - The area is chronically dry and the oil is having a serious impact on the irrigation system in the area; and
 - The terrain in the area is difficult and getting there will be particularly difficult.
- The United States Coast Guard (USCG) contacts EPA and offers the services of the Coast Guard Strike Team to support U.S. efforts in this matter.
- EPA staff contacts Department of State contact for update. It is determined that Uzbek government has formally requested U.S. technical assistance in capping the well and preventing/mitigating environmental consequences of the oil release.

Clarifications are still required to determine the extend of the assistance which is being requested.

03/31/92 - Tuesday

- Tony Jover and Ken Stroeck hold a conference call with representatives from DOE, HHS, and CEPPO staff to discuss conditions and develop possible strategies for response activity.
- Ken Stroeck (CEPPO/SPP) contacts Joe Bowden of Wild Well Control (Houston), to gather information on the conditions in Uzbekistan. It is revealed that the well is not burning (which was previously assumed from initial reports). Bowden is willing to provide services to cap well but requires a guaranteed contract upfront before any services are rendered. Bowden reveals that the area is heavily populated. The oil is currently being contained in a triangular berm 1/2 mile in each direction which surrounds the well. The technological capability in the region is very low. Oil is being transferred by truck or cart from the berm to other containment areas. There are no immediate threats to groundwater contamination or other health threats as long as the oil does not overflow the berm. The well is spewing out oil at a rate of approximately 60,000 barrels a day.
- A NICT memo is developed which provides updates to NICT representatives. A NICT teleconference meeting is scheduled for 4/1/92 at 9:00 a.m..
- A representative from EPA's Office of International Activities (OLA) is sent to discuss issues with Bill Freeman, U.S. State Department Soviet Desk Staffer to discuss the conditions surrounding well release. OLA representative receives copy of confidential cable concerning situation and returns to EPA to brief Don Clay and Gordon Binder.

04/01/92 - Wednesday

- Tony Jover chairs a conference call with representatives of the USCG Strike Team, ERD, HHS-Center for Disease Control, DOE, and CEPPO staff. Ken Stroeck provides an update based on the information received from Joe Bowden.
- A NICT teleconference call is held in the EPA EOC at 9:00 a.m. to update NICT representatives on oil well conditions. Minutes of the meeting along with a background piece on Uzbekistan are provided to NICT members later on in the day.
- Ken Stroeck holds a conference call with DOE, USCG Strike Force, HHS, CEPPO staff, and Joe Bowden of Wild Well Control (Houston). The call is intended to obtain specific information on the current conditions surrounding the oil well and to gain a better technical understanding on the kind of assistance will be required.

- CEPPPO staff members hold several conversations with Department of State officials throughout the day. From these conversations it is learned that Uzbekistan would not be able to pay for assistance. Funding options are being reviewed by EPA and DOS. Secretary of State James Baker will render a decision when all available information and options are presented.
- Department of State, Ambassador Armitage's Office confirm that DOS would secure military transport to lift necessary equipment from Houston to Tashkent if it was determined that U.S. would support contractor in capping well.
- Tony Jover (CEPPPO) meets with Gordon Binder. Binder had held discussions with Department of State and the National Security Council. Binder briefs Jover on these discussions, stating that EPA had offered to provide technical assistance if requested. Binder also states that he had identified funds from the Kuwait Activity Fund (Operation Dessert Storm/Shield) which could be made available to fund assistance.
- Mary Culler is appointed OSWER point-of-contact for incident.
- Gordon Binder is officially designated Administrator Reilly's point-of-contact on matters concerning the oil well incident.

04/02/92 - Thursday

- Kim Fletcher works on the technical assistant team's itinerary for a possible trip to Uzbekistan.

04/03/92 - Friday

- A teleconference with representatives of project agencies, including: DOE, HHS, USCG, CEPPPO (EPA), and ERD (EPA) is held in the EOC. Meeting was called to provide update, discuss members of technical assistance team, define strategies for the team, and begin work on travel and itinerary logistics.
- EOC staff contacts travel agencies on identifying possible routes, times, and other logistical considerations for team's travel.
- Work begins on identifying team members and began preparing travel documents for members.

04/06/92 - Monday

- A teleconference is held with the technical assistance team members to receive updates on current conditions at the site and to discuss logistics of the trip (equipment needs, passport information, medical requirements), and a tentative itinerary.

- Information from the State Department indicates that the Uzbek government has agreed to fund contractor costs.
- The oil in at least one pit around the well caught fire. It appears that workers at the site accidentally set the oil on fire.

04/07/92 - Tuesday

- A NICT update is delivered to NICT and ERT members and other addressees. The update summarizes events at the site and EPA logistic efforts to coordinate the technical assistance team.

04/08/92 - Wednesday

- A teleconference is held to update technical assistance team members and CEPPO staff as to the latest conditions at the site and logistics concerning the trip.
- Information packets containing a summary of events to date, background information on Uzbekistan, maps, travel tips for the Soviet Union and Uzbekistan, and a chronology of events to date are developed for the technical assistance team.

04/09/92 - Thursday

- Members of the Technical Assistance Team begin to develop Draft mission plans.
- A draft project plan which provides a summary and an overall objective for EPA's role in assisting the Uzbeki government is completed.

04/10/92 - Friday

- CEPPO staff members hold conversations with State Department officials throughout the day to receive updates on the incident.
- The draft mission plan for the Team is completed and reviewed by Team members and CEPPO staff.
- Technical Assistance Team members begin to arrive in Washington D.C. Current plans indicate that the Team will be leaving on Saturday, April 11.
- Final logistical issues are completed, including travel plans, advances for Team members, contact lists, etc.
- CEPPO staff and members of the Technical Assistance Team meet in the EOC to discuss the mission plan and logistical issues.

04/11/92 -Saturday

- The Team meets throughout the morning to prepare mission plans, develop in-country strategies, verify that all equipment works, and that all paperwork and other logistical issues are finalized.
- Team members meet in the EOC for briefings and strategy development.
- Team members finalize their individual mission objectives and finalized the team's mission plan.

04/12/92 - Sunday

- The Team organizes and checks all equipment and supplies to ensure readiness for departure. Team members are assisted by CEPPO staff.
- The Team departs from Andrews Air Force Base via U.S. military a C-141 at 4:20 p.m.

04/13/92 - Monday

- The Team continues on the flight to Uzbekistan.
- Work begins on developing EPA Uzbeki Oil Well Release After Action Report.

04/15/92 - Wednesday

- The Team arrives in Namangan via Frankfurt Germany and Incirlik Turkey. Flight plans were restructured in Incirlik due to Turkey Government policy which prohibited Russian pilots to fly in Turkish air space. Due to this, the Team flew to Tashkent, obtained a Russian navigator, and departed for Namangan. While in flight, the Team observed clean burning oil well with plume height at about 4,000 feet. The Team takes video and still photos while in flight.
- The Team arrives in Namangan at 10:05 Wednesday, April 15. Team members contact Uzbeki officials and are making arrangements to meet with Isamet Dinov, Namangan Airport Director. Mr. Dinov arranges for the Team's transportation and "secured" storage for equipment at the airport. The Team confirms that they are guests of the Uzbeki Government.
- The Team meets with Bob Cudd, President of U.S. contractor hired to cap the well.
- The Team arrives at Namangan hotel at 12:30 and later meets with local officials to discuss itinerary.
- One of the CUDD employees has been hospitalized. Dr. Etzel (CDC) and Chuck Guthrie (USCG) visits the employee at a local hospital. The employee is expected to be released on the 16th.

- The Team plans to meet with Konukhov, First Deputy Chairman of Uzbekistan State Committee for Environment to discuss plans on the 16th. After the meeting, Dr. Etzel and Chuck Guthrie will meet with Chief Medical Officer and begin to examine health records relating to the incident. The rest of the Team will visit the well site with Konukhov and Charge from U.S. Embassy.

04/14/92 - Tuesday

- Updates are provided to Senior EPA officials and the NICT on the current conditions surrounding the incident.

04/16/92 - Thursday

- The Team begins work at the well and continues to meet with several Uzbeki environmental officials, local health officials, and contractors working on-site.
- The Team makes several attempts to contact EPA headquarters; had a difficult time in establishing communications links with on-site equipment.

04/17/92 - Friday

- Updates of current conditions surrounding the incident are provided to senior EPA officials.
- Tony Jover informs EPA Headquarters that the U.S. military air carriers will be leaving Namangan either Friday or Saturday. Tony states that it is likely that the bulk of the equipment will depart on the planes.

04/18/92 - Saturday

- Three members of the Team leave Uzbekistan via U.S. military transport. The majority of the equipment brought with the Team to Uzbekistan is also loaded onto the C-141's and returned to the United States.
- The remaining four members of the Team plan to fly back on Monday, April 20. These individuals stayed behind for meetings with Uzbeki environmental officials and complete last-minute monitoring goals.

04/20/92 - Monday

- Tony Jover holds a telephone conversation with Ken Stroeck (CEPPO/SPP) and summarized the activities of the Team.
- The remaining four members of the Team complete the mission and left Uzbekistan via commercial air carrier.
- Tony Jover reports that the mission was a success. The oil well release is no longer considered an environmental or human health threat. The majority of oil

has been removed from the containment area around the well. The remaining oil is burning.

- Tony Jover reported that the burning oil was "clean" and contained no threatening amounts of carcinogens. The Team's presence was not required to cap the well, a task still remaining for the U.S. on-site contractor (CUDD).
- An outline of the After-Action Report is completed. CEPPO staff and contractor employees begin to work on report.
- Tony Jover reports that the majority of goals established prior to the Team's U.S. departure have been met. The only exception was that Dr. Ruth Etzel (CDC) was unable to draw blood and urine samples from the local population. She was, however, able to draw samples from the Team and CUDD contract employees working on capping the well.

04/21/92 - Tuesday

- The remainder of the Team returns to the United States from Uzbekistan via commercial transport.

APPENDIX B: TECHNICAL ASSISTANCE TEAM BIOGRAPHIES

The Technical Assistant Team was a multi-agency body with the skills and understanding to assess a wide-range of health and environmental issues and concerns in Uzbekistan. A brief biographical summary of the Team members is provided below.

Tony Jover was the Team Leader. Mr. Jover is the Director of Information Management within the Chemical Emergency Planning and Prevention Office (CEPPO) at EPA. Mr. Jover served as the Manager of the EPA's Emergency Operation's Center during Operation Desert Shield/Desert Storm. Mr. Jover coordinated all of the Team's activities and managed the mission while in-country. Mr. Jover coordinated information collection and assisted the Uzbeki government in developing contingency plans for the oil well as well as developing such plans for possible future incidents. Mr. Jover also was the lead point of contact for all communications to and from the team while in Uzbekistan.

Harry Allen, from EPA's Environmental Response Team, served as the Team's Technical Leader. Mr. Allen developed the environmental mission plan and focused the Team's efforts on identifying possible environmental hazards to the land immediately surrounding the well, the consequences to the Syr Darya River if the oil seeped or was released into it, and the hazards resulting from the release of plume emitted from the well.

Fred Stroud is an On-Scene Coordinator from EPA, Region IV. Mr. Stroud served as the Team's Senior On-Scene Coordinator. Mr. Stroud is an expert in assessing environmental effects of oil spills and releases. He spent a considerable amount of time in Kuwait in the aftermath of Operations Desert Storm/Desert Shield to provide technical support to the Kuwaiti Government. Along with the other Team members, Mr. Stroud assessed the environmental effects of the oil release.

Phil Campagna is a member of EPA's Environmental Response Team and served as the Team's sampling and monitoring expert. Mr. Campagna is also an oil hazard expert and has spent time in Kuwait assisted EPA's efforts in providing technical support to the Kuwaiti Government in the aftermath of Operations Desert Storm/Desert Shield. Mr. Campagna was responsible for obtaining air, water, and land samples in the region to identify possible consequences resulting from the oil well release.

Dr. Ruth Etzel is from Health and Human Services/Centers for Disease Control. Dr. Etzel is an M.D. and highly skilled epidemiologist. Dr. Etzel provided assistance to the Team of experts assessing the environmental and health consequences resulting from the oil spill and oil well fires in Kuwait. Dr. Etzel assessed the health effects on the immediate population resulting from the oil release. Her studies focused primarily on short-term health effects. However, data was also collected which may be used for identifying potential long-term consequences resulting from human contact with released material.

Commander Rick Softye is the Executive Officer for the USCG's National Strike Force Coordination Center in Elizabeth City, North Carolina. Commander Softye has extensive experience in coordinating activities involving oil spill clean-up and will be the Team's logistics expert.

EM1 Charles Guthrie is a member of the U.S. Coast Guard/Strike Force Atlantic Team based in Atlanta, Georgia. He is a highly skilled oil spill response specialist and is also a communications expert and an emergency medical technician. Mr. Guthrie was responsible for the Team's communications and assisted in assessing human health issues.

Individuals Supporting the Operation

Ken Stroech is the Director of the Special Preparedness Programs (SPP) Office in CEPPO. He is responsible for EPA's Emergency Operations Center (EOC) and associated response operations emanating out of the EOC.

Kim Fletcher is a member of the SPP Office staff. Ms. Fletcher served as the Operations Officer for the Uzbekistan mission. Ms. Fletcher assisted the Team by coordinating all logistical matters and provided day-to-day management of the operations from the EOC.

Barbara Ramsey is also a member of the SPP Office staff. During the response, Ms. Ramsey coordinated communications between Federal Agencies, supporting the EOC in logistical matters, and assisted Ms. Fletcher in supporting the Team.

George Patrick is a member of CEPPO staff. Mr. Patrick served as the liaison to the Office of International Affairs within EPA.

APPENDIX C: PROJECT PLAN (Finalized April 7, 1992)

**PROJECT PLAN
INTERNATIONAL RESPONSE MISSION
UZBEKISTAN OIL WELL BLOW OUT RESPONSE**

Background

On March 2, 1992, a blowout occurred at a new oil well located in the Fergana Basin of Uzbekistan in the former USSR. The cause of the blowout is unknown, however, sabotage has been ruled out. The oil well is spewing approximately 35,000 to 62,000 barrels of oil per day. The released oil is currently being contained by a 1.5 mile triangular berm. The berm was constructed by the locals and the oil is being manually removed from the bermed area via tanker trucks. As of April 7, 1992, the oil well had caught fire as a result of unknown, albeit accidental, causes.

The well site is at Minbulask, near the town of Namangan, located in the eastern portion of Uzbekistan. The terrain is rough and the area is difficult to reach. The area is Uzbek's most economically productive region, is well populated and very dry. All of Uzbek's cotton, the country's most important crop and commodity, is grown in the basin. Virtually the only source of water in the area is the Syr Darya River which flows approximately 200 yards from the site. The active population are dependent on that water for drinking and irrigation purposes.

Accordingly, the largest environmental threat to the region is the possibility of the oil escaping the berm and spilling into the Syr Darya River. The oil itself is high in asphaltenes; due to its high temperature, it currently has the consistency of road tar. At ambient temperatures, the oil tends to be less fluid, impeding its flow across land if a break in the berm was to occur. If the oil does reach the river, it will cool quickly and become more viscous but still retain its buoyancy. Under such circumstances, cleanup efforts historically have been hindered because highly asphaltic oil easily adheres to objects with which it comes in contact. The oil, however, will not leach excessive quantities of toxic compounds into the water column like many other oils.

Mission

Mr. Gary Tomlinson and CUDD Pressure Controls of Tulsa, Oklahoma have been provided with a contractual agreement to cap the well by the Uzbekistan government. The U.S. military will provide transportation to CUDD to move the necessary equipment to the site.

On March 27, 1992, EPA received a request from the Department of State to organize and lead an interagency team of experts to provide technical assistance to the Uzbekistan government. Since the request was made, the Department of State has sent a cable to the Charge de Affairs at the U.S. Embassy in Uzbekistan describing the EPA-lead technical team and their mission and requesting direct Uzbeki involvement. Preliminary observation from the Charge is that the Uzbekis have received this information favorably.

Immediately following the Department of State request, began to organize a team and prepare for departure. The following are issues and objectives for the team and the team's organization.

Objectives

The overall objective of the U.S. Team is to provide technical assistance, through the U.S. Embassy, to the Uzbekistan Government regarding the health and environmental effects of the oil well release. The Team will evaluate the health and environmental situation at the site, develop a remedial plan for the oil spill and fire, and provide guidance in preparing a contingency plan for any new developments.

1. The first element of the mission involves the immediate assessment of the health and environmental impacts of the incident. Team members will sample the air for vapors and particulates; evaluate the water supply and the threat of contact; and assess the effects of any direct contact with the oil. The Team will analyze the spill potential at the site by examining the integrity of the containment efforts, evaluating provisions for spill control, and refining contingency plans. The Team will consider environmental impacts on the river's organisms and habitats, birds, and terrestrial habitats. In addition, the Team will examine the long-term health and environmental impacts of the release including air and water supply conditions, chronic water and soil effects, and habitat destruction.
2. The second element of the mission is to develop a remedial plan for the oil spill and fire. The Team will identify the various methods available to extinguish the fire. The infrastructure within the country as well as the current political situation must be taken into account when determining the most appropriate type of assistance. After the fire has been extinguished, the well must be stabilized. Recovering any pooled oil will require the Team to assess the potential for spills during recovery. The Team will also assess various methods of dealing with contaminated soil, including bioremediation.
3. The final element of the mission requires the Team to provide assistance to the Uzbeki government in preparing a Spill Prevention and Counter-Control contingency plan.

The U.S. Team was structured to ensure the needed expertise to provide support in completing the elements of the mission. Thus, the Team includes representatives from EPA's CEPPO as well as the Emergency Response Team (ERT), the Coast Guard, Center for Disease Control, and the Department of Commerce. The following personnel are currently slated to be members of the U.S. Team:

Tony Jover
EPA -- OSWER/CEPPO
Team Leader

Harry Allen
EPA -- ERT
Technical Team Leader

Phil Campagna
EPA -- ERT
On-Scene Coordinator/Technical Advisor

CMDR Rich Softye
Coast Guard -- Coast Guard Strike Team
Technical Advisor

EM1 Charles E. Guthrie
Coast Guard -- Coast Guard Strike Team
Communications Expert

Fred Stroud
EPA -- Region 4
On-Scene Coordinator/Technical Advisor

Dr. Ruth Etzel, M.D./Ph.D.
CDC
Technical Advisor

(Dr. Ruth Etzel, Fred Stroud, and Phil Campagna were members of the team in Kuwait)

Logistical Issues

--Included in this section should be travel information, visa/passport/country clearance/shots, and in-country logistics, etc.--

APPENDIX D: MISSION PLAN (Finalized April 8, 1992)**UZBEKISTAN OIL SPILL**

MISSION: Assist Uzbeki Officials in Evaluating the Health and Environmental Situation, in Planning remedies for Oil Spill and Fire, and in Planning for Responses to any New Contingencies.

IMMEDIATE ASSESSMENT ELEMENTS:**Health Impacts**

- a. Exposure Assessment
 - 1. Air (Vapors and particulates)
 - (i) VOC (Tenax/CMS), PAH, Acid Gases
 - (ii) Respirable Particles (RAM)
 - 2. Water (Supply and contact threat)
 - (i) Visible Sheen
 - (ii) TPH, VOC's, Metals
 - 3. Direct contact with oil
- b. Human Health Effects Assessment
 - 1. Emergency Room Record Surveillance

Spill Potential

- a. Assess Integrity of Containment Structures
- b. Assess Provisions for Spill Control, Review Well Fire and Stabilization Procedures, and Evaluate On-Scene Response Hardware
- c. Assess Spill Emergency Response Plans

Environmental Impacts

- a. Review Existing Background Environmental Information and Assess Impacts Visually and by Mapping and Photography
 - 1. Riverine (Organisms and Habitats)
 - 2. Birds
 - 3. Terrestrial Habitats

REMEDIAL ASSESSMENT ELEMENTS**Recovered Pool Oil**

- a. Assess Oil Spill Potential During Recovery, Including Adequacy of Surge Protection Provisions
- b. Assess Effectiveness of Existing Response Capability

Storage of Recovered Oil

- a. Assess Practices for Temporary Handling and Storage of Recovered Oil

LONG-TERM ASSESSMENT ELEMENTS

Health Impacts

- a. Exposure Assessment
 - 1. Air - VOC and Metals (Carbon Tubes)
 - 2. Water Supply - THP Monitoring
- b. Human Health Assessment
 - 1. Blood (VOC and Benzene)
 - 2. Urine (Mercury, Nickel, Vanadium)

Spill Prevention and Control Plan

- a. Outline for Preparing Plan for Dealing with Future Spills or Spill Threats From This or Other Sites

Environmental Impacts

- a. Chronic Water and Soil Effects
- b. Habitat Destruction

Treated Oil Soil

- a. Assess Methods of Dealing with Contaminated Soil

PENDIX E: DATA COLLECTED BY TECHNICAL ASSISTANCE TEAM**E-1. INFORMATION SUMMARY ON UZBEKISTAN OIL WELL BLOW-OUT PRIOR TO TEAM'S DEPARTURE**

On March 2, 1992, a new oil well in the republic of Uzbekistan blew, spewing large quantities of oil on the immediate countryside. Initial reports indicated that the well was on fire. It was later discovered that the well was not initially on fire, however, a fire has ignited within the last few days. The well is releasing large quantities of oil. A plume of undetermined gas is also being released from the well.

Oil Well Location

The oil well is located in Minbulask field near the town of Namangan. Namangan is in the Fergana Basin, which is situated in the eastern portion of Uzbekistan. Several maps provided in this information packet (see table of contents) identify the location of the oil well.

The oil well is located in a portion of the Fergana Basin which is arid and ruggedly mountainous (the Pamirs mountain range surrounds the basin). The Syr Darya River flows northerly through the region and reportedly is the only significant source of water for the population.

The area is densely populated. From current information available, the largest town in the vicinity is Namangan with a population of over one million. Several small townships and villages are located downstream from the well. The independent republic of Kirgiz is also downstream of the well and a release into the Syr Darya River could have international implications.

Initial Reports on the Conditions of the Well

The well was recently installed and had not been connected to any storage or processing facilities. Reports from the U.S. contractor who visited the region provide the following information:

- The well is approximately 100-200 meters from the Syr Darya River. Residential units are relatively close to the well; however, exact locations of homes are not known at this time.
- Initial reports indicated that the well had been spewing oil at a rate estimated to be between 31,000 to 62,000 barrels a day. Gas from the well has an H₂S content of 6.5 percent.
- The well is a low gravity well and to-date is not cratering. The oil is heavy. The oil is paraffinic and has a low sulfur content. Additional information on the oil includes:

- API 32 degrees
 - Sulfur .18 percent
 - Volatile loss 23 percent
 - Saturates 52 percent
 - Aromatics 18 percent
 - NSO 8 percent
 - Asphaltene 13 percent
- The contractor stated that the oil is "very sticky."
 - The oil is blowing out the side of the well, directly into a surrounding containment area. Local officials have built berms around the well and are shoring up secondary containment in case the oil overflows the berms.
 - The oil has formed a lake, approximately three to four feet deep, within the containment area.
 - Although it has not been determined what caused the blow-out, sabotage has been ruled out as a possibility.

Initial On-Site Response Efforts

Approximately 100 local response individuals are at the well location. These individuals are re-enforcing the containment and assisting in filling the tankers to maintain the oil lake's current level. The response effort is very low tech. It appears that the oil is being siphoned into the trucks. No pumping technology appears to be available at the well to quicken the removal process.

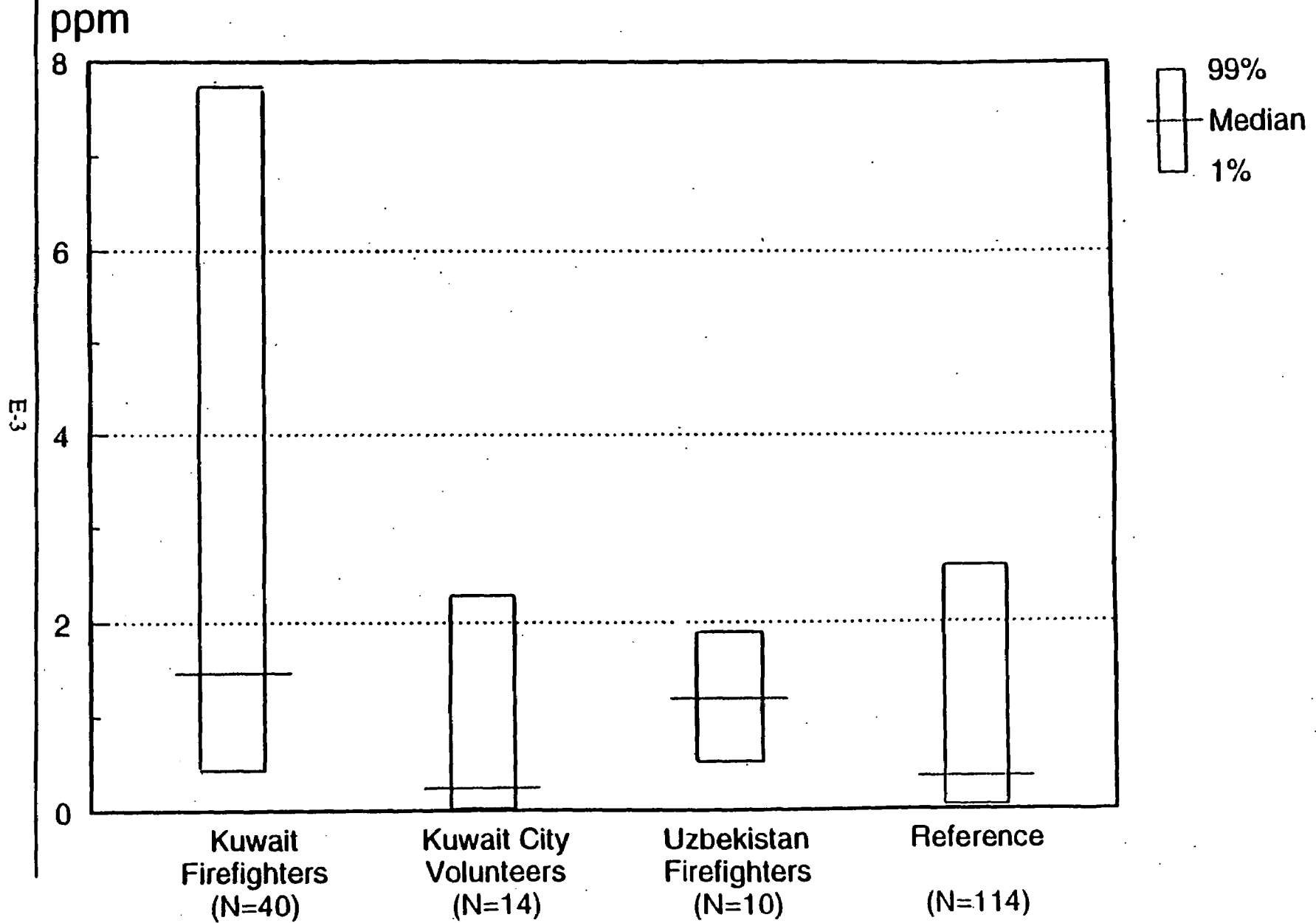
The containment area is triangular in shape and approximately one half mile in length in each direction. Local personnel and a few Russian firefighters are the only responders at this time.

In addition to the United States, assistance has been offered by Saudi Arabia and Kuwait; however, Uzbekistan has not replied to Saudi Arabia or Kuwait. The Uzbeki government has contacted the U.S. Department of State requesting assistance. This request is the basis for sending the EPA-led technical assistance team to the region.

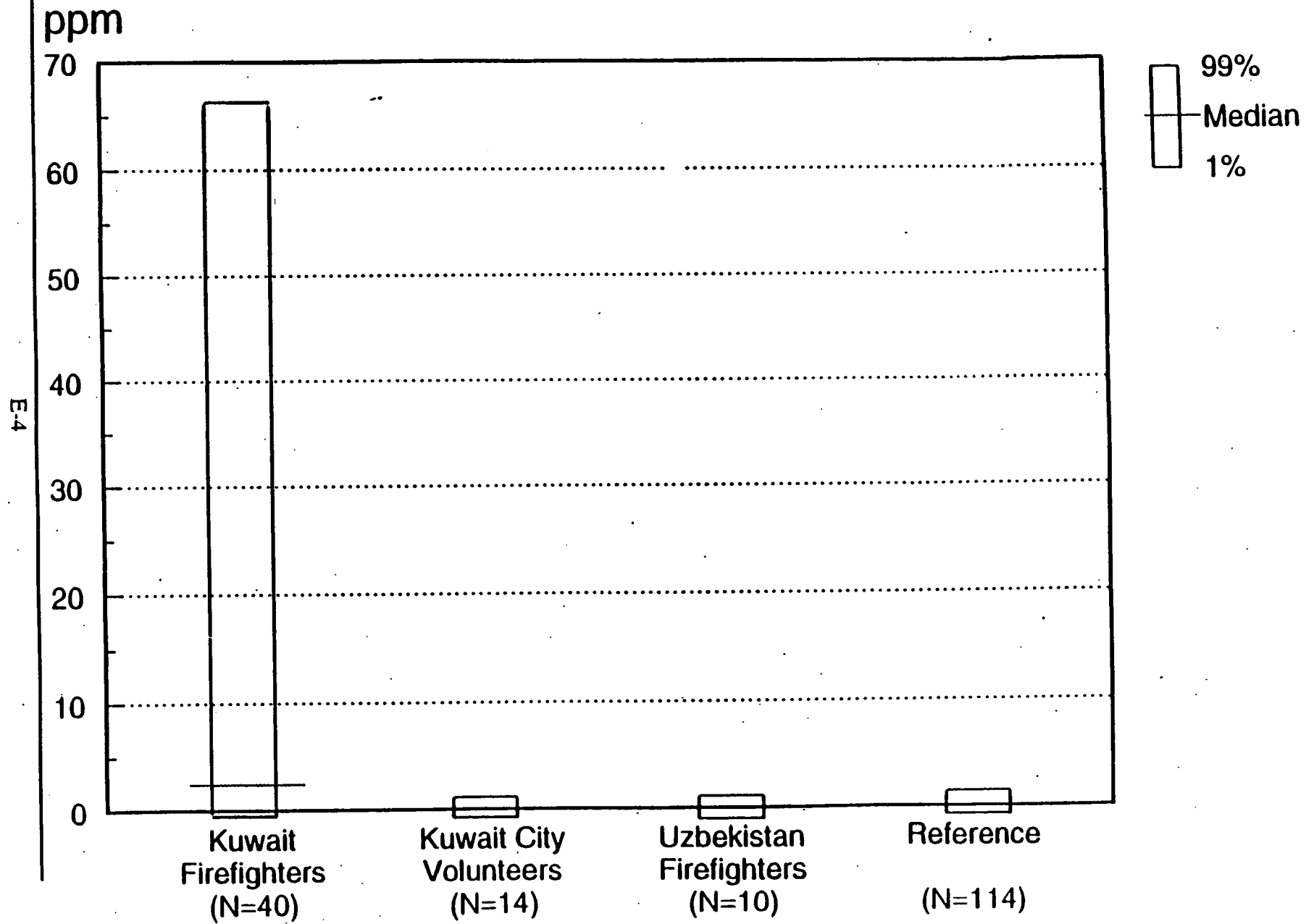
E-2 . TEAM'S HEALTH FINDINGS

Graphical summaries measuring exposure to volatile organic compounds of workers and Team members are provided on the following pages. The volatile compounds analyzed include Benzene Ethylbenzene, M-/P-Xylene, O-Xylene, Styrene, Trichloroethene, Tetrachloroethane, and Toluene.

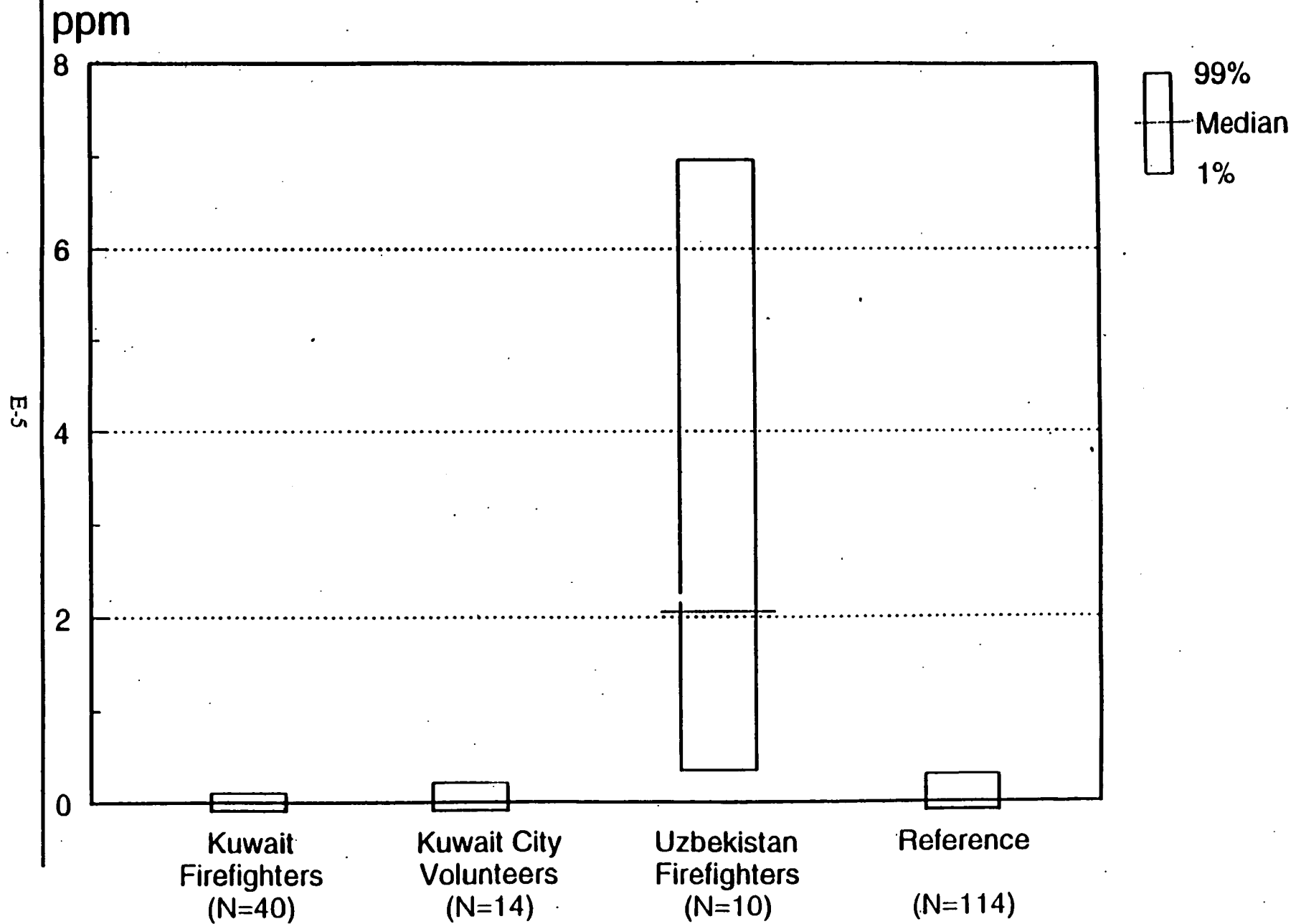
Toluene



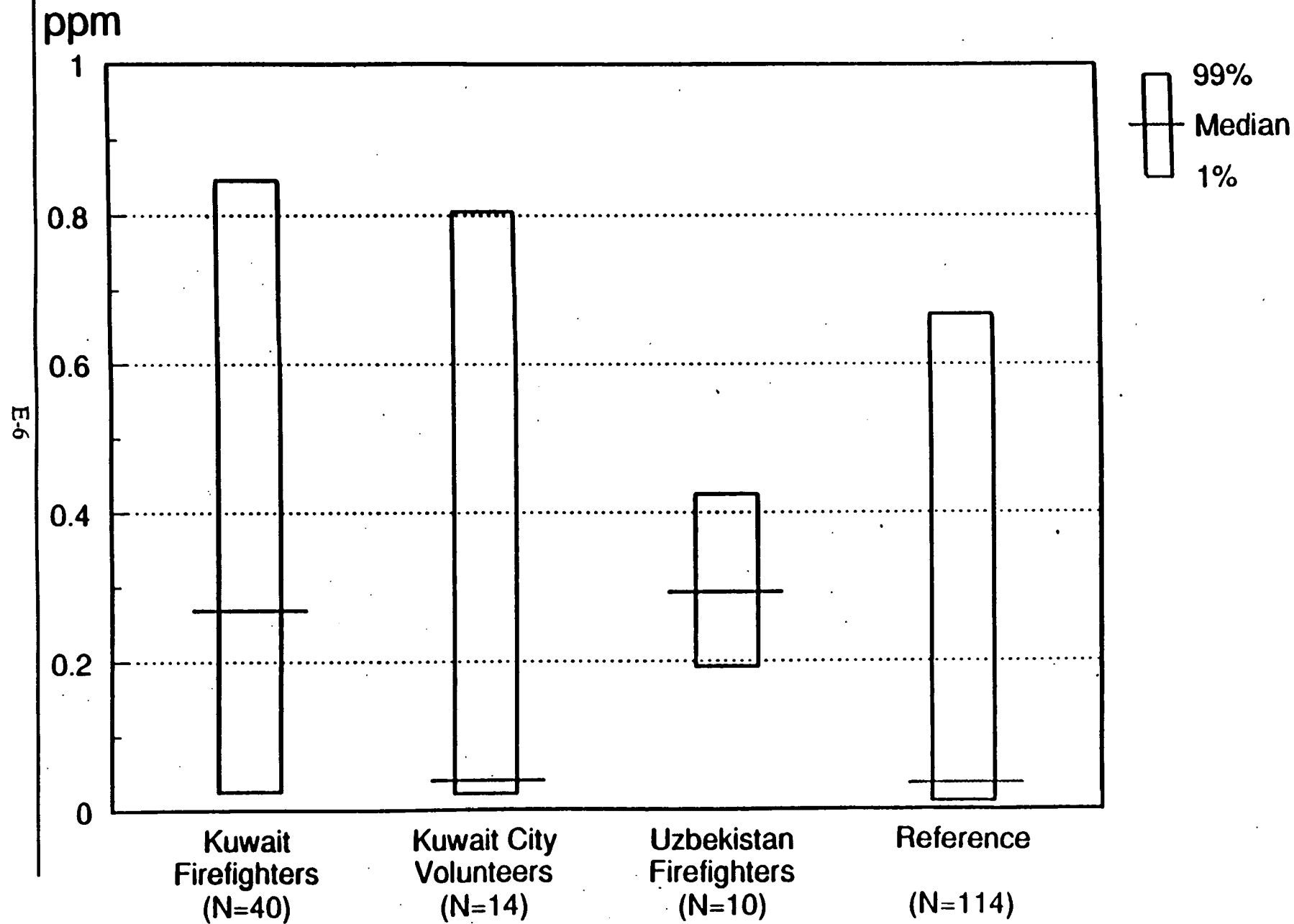
Tetrachloroethene



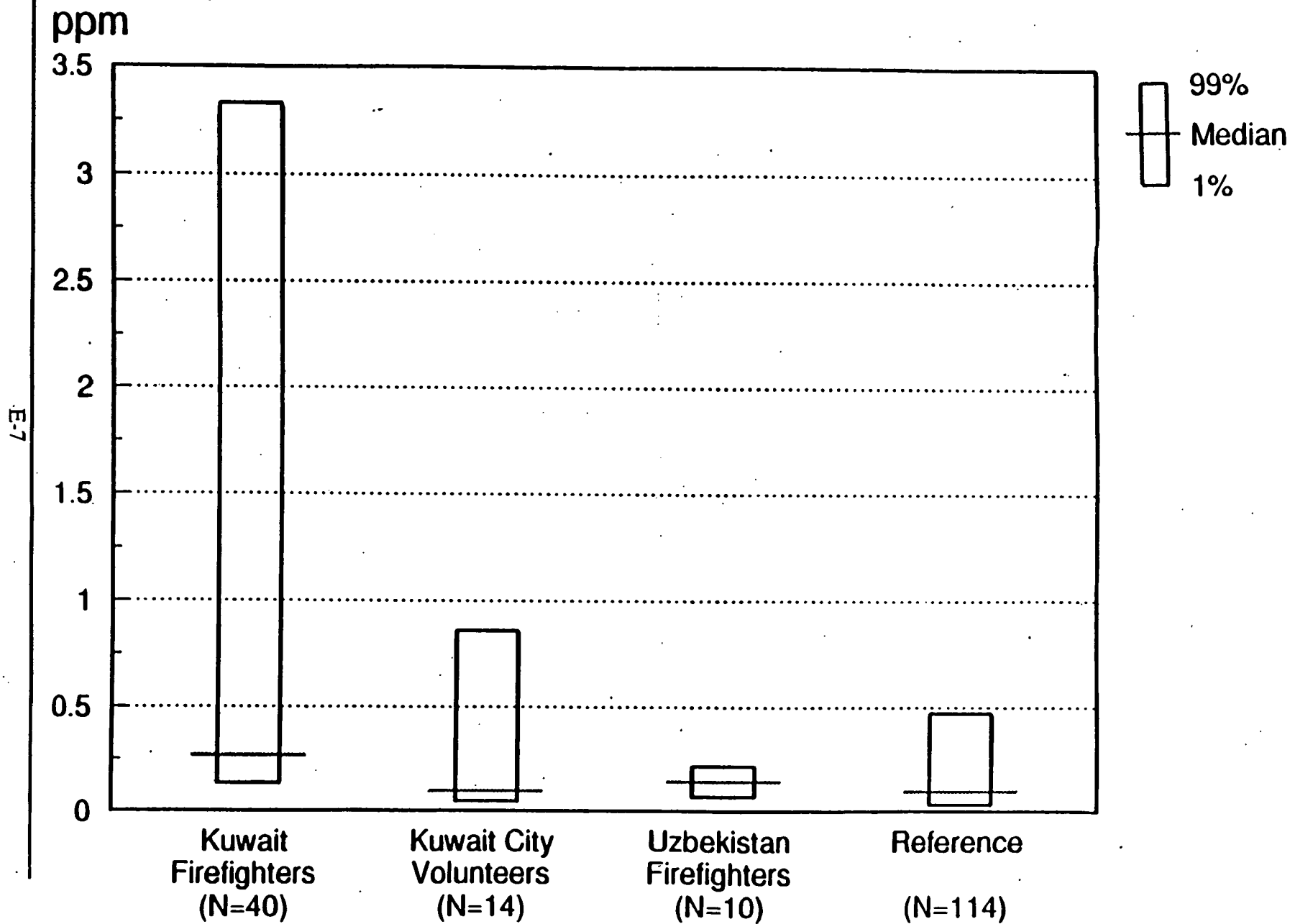
Trichloroethene



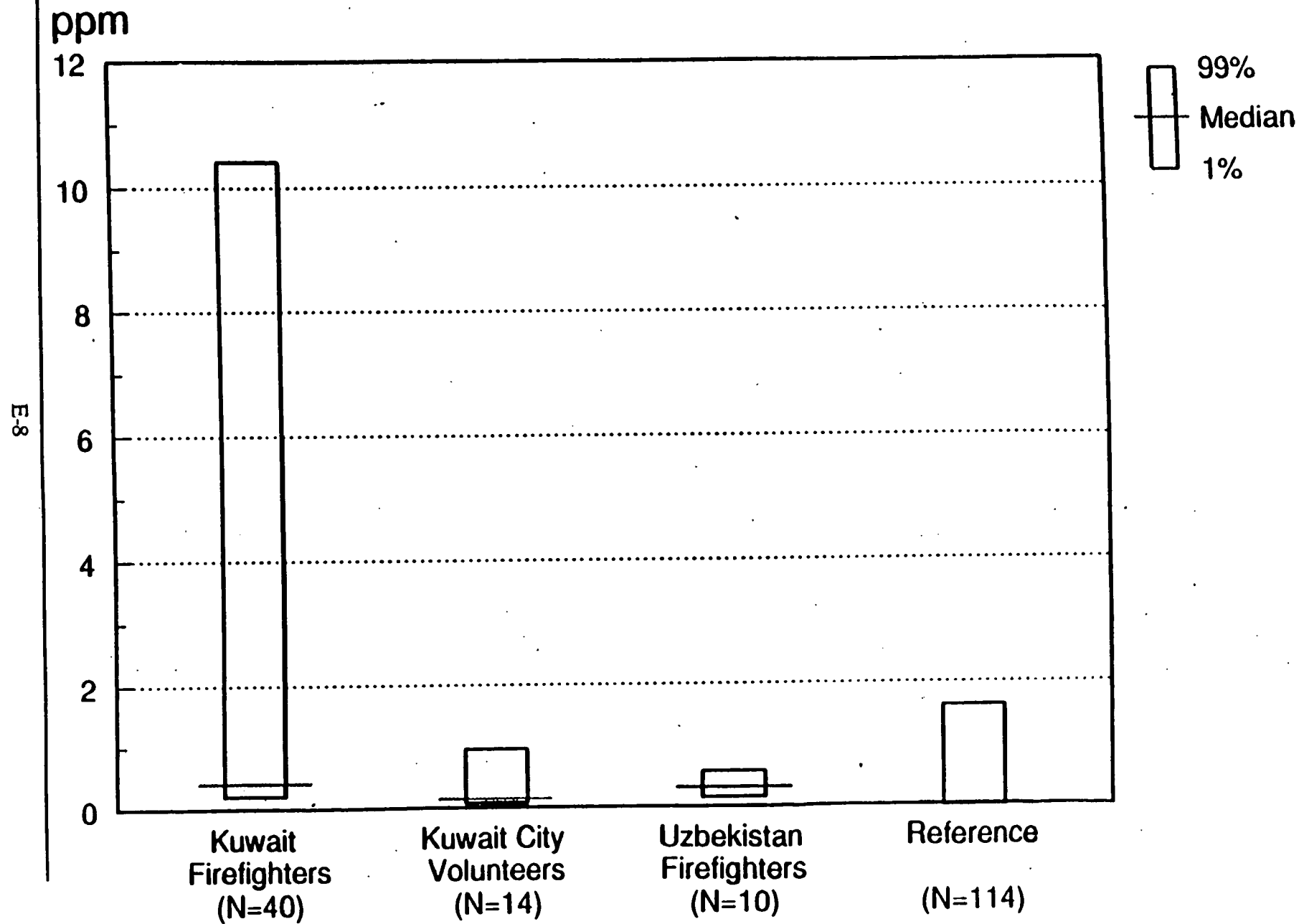
Styrene



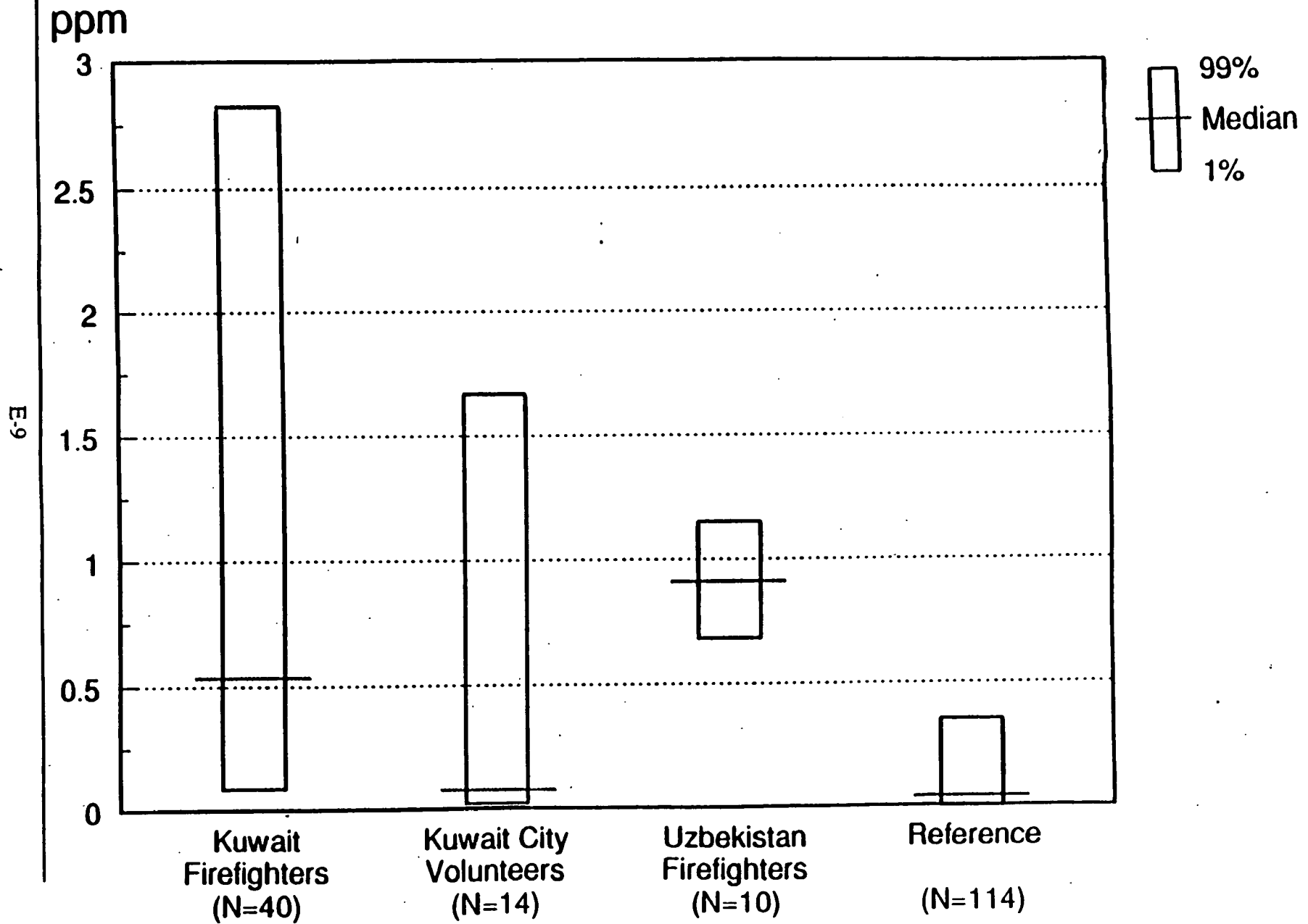
O-Xylene



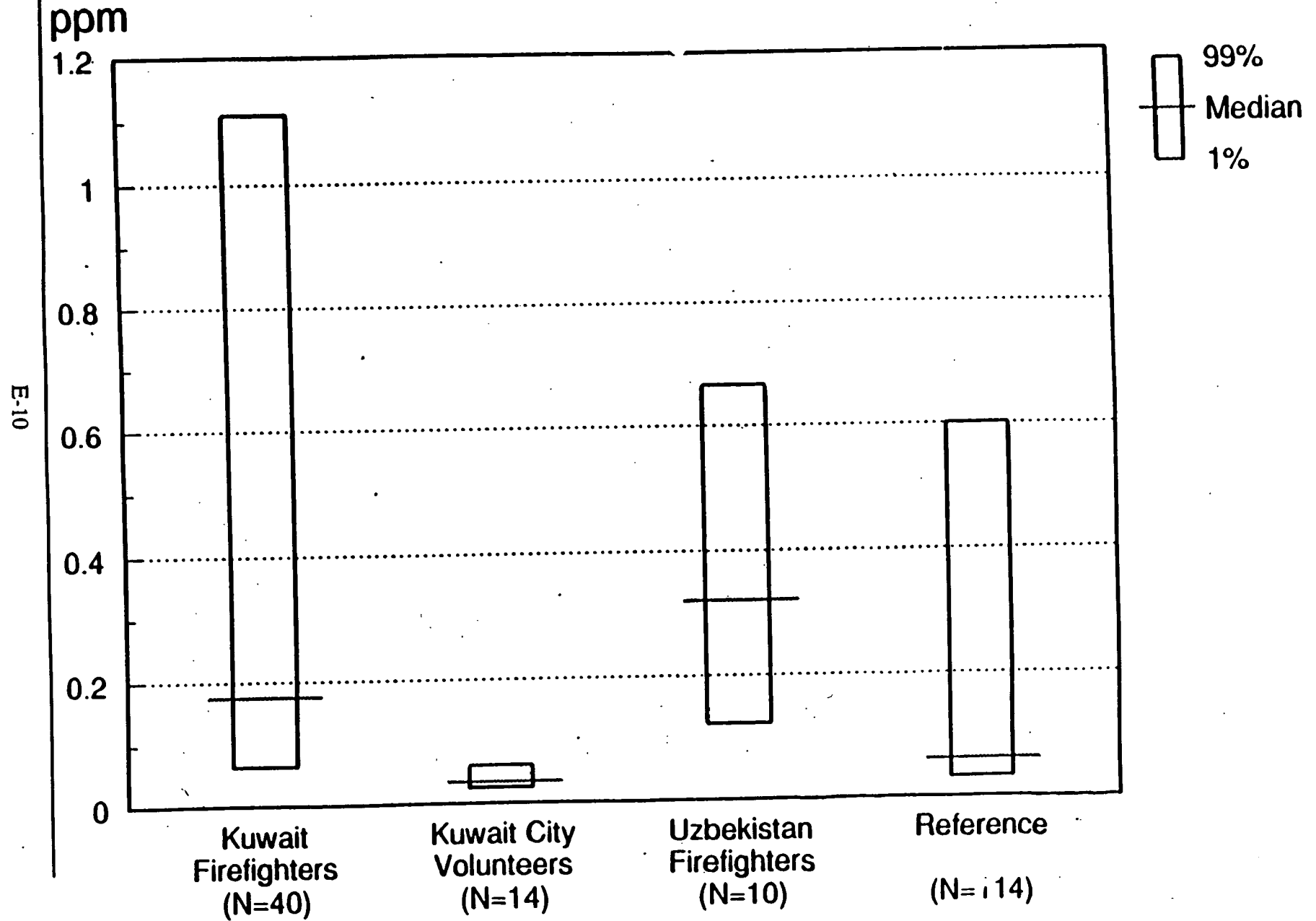
M-/P-Xylene



Ethylbenzene



Benzene



APPENDIX F: POLREPS

POLREP TWO UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

WEDNESDAY APRIL 15, 1992

A. SITUATION

OIL WELL CONTINUES TO BURN WITH CUDD BEGINNING TO ASSEMBLE
TEAM AND EQUIPMENT NECESSARY TO MOVE ON THE JOB. TEAM
FOLLOWING MISSION PLAN.

B. ACTIONS TAKEN

00:17 14 APRIL 1992 ARRIVED FRANKFURT.

02:47 LEFT FOR INCIRLIK, TURKEY.

08:30 ARRIVED IN TURKEY.

HAD MUCH DIFFICULTY OBTAINING CLEARANCE FROM TURKISH
MILITARY TO LEAVE BASE TO GO TO ADANA FOR HOTEL. FINALLY,
TEAM JOINED UP WITH THE C-141 CREW AND AFTER OBTAINING
TURKISH MILITARY PERMISSION, WENT OFFBASE TO ADANA TO
HOTEL. RESTED UNTIL 22:30 AND LEFT FOR INCIRLIK TO RESUME TRIP
TO UZBEKISTAN. EXPECTED TO FIND USSR NAVIGATOR IN INCIRLIK TO
HELP STEER THE AIRCRAFT TO NAMANGAN BUT NAVIGATOR NOT
ALLOWED BY TURKISH GOVERNMENT TO ENTER TURKISH TERRITORY.
MISSION CHANGED TO FLY TO TASHKENT TO FIND NAVIGATOR AND
GO FROM TASHKENT TO NAMANGAN. DEPARTED INCIRLIK AFB AT
01:30 ON APRIL 15 TO TASHKENT. ARRIVED TASHKENT AT 08:30
AND PICKED UP NAVIGATOR. MET BILL HARRISON FROM US MISSION
AT AIRPORT. HARRISON, UNAWARE OF OUR ARRIVAL AND AT
AIRPORT FOR ANOTHER FUNCTION, SAID THAT CHARGE EXPECTED TO
BE IN NAMANGAN FOLLOWING DAY APRIL 16 AND WOULD NOT BE
ABLE TO MEET US TODAY BECAUSE OF CONGRESSIONAL DELEGATION
VISITING SAMARKAND. CLEARED CUSTOMS AT TASHKENT WITHOUT
DIFFICULTIES AND CONTINUED TOWARDS NAMANGAN AT 09:25.
09:50 OVERFLIGHT OF WELL ON C-141 ON APPROACH TO NAMANGAN
OBSERVED CLEAN BURNING OIL WELL, WITH PLUME HEIGHT AT ABOUT
4,000FT, COMPOSED OF VERY CLEAR WHITE SMOKE. COULD NOT
CONFIRM FROM AIR EVIDENCE OF LARGE POOLS OF OIL ON GROUND
AROUND WELL. VIDEO AND STILL PHOTOS TAKEN.

10:05 ARRIVED NAMANGAN. PROCEEDED TO UNLOAD EQUIPMENT
AND LUGGAGE TO TARMAC WITH HELP FROM USAF PERSONNEL ON
SITE WORKING ON LOADERS. OUR C-141 WAS THIRD AIRCRAFT.

ARRIVING AT UZBEKISTAN, BUT THE FIRST AIRCRAFT ACTUALLY CONTAINING EQUIPMENT TO BE USED FOR CAPPING THE WELL. MET AL BRIDGES FROM 362 ALC SQUADRON, FRANKFURT, WHO WAS SUPERVISING UNLOADING OPERATIONS BUT DID NOT EXPECT ANYONE TO BE ACCOMPANYING EQUIPMENT ON OUR C-141. BRIDGES HELPFUL AND LOCATED STORAGE FOR EQUIPMENT IN A "SECURE" LOCATION AT THE NAMANGAN AIRPORT.

MISSION TASHKENT TELEPHONED NAMANGAN ABOUT OUR IMPENDING ARRIVAL AND SOON AFTER UNLOADING OPERATIONS WERE COMPLETED WERE MET BY ISAMET DINOVI, NAMANGAN AIRPORT DIRECTOR, WHO ARRANGED FOR TRANSPORTATION AND PUT US IN TOUCH WITH NAMANGAN FOREIGN AFFAIRS DEPARTMENT TRANSLATOR HASSAN WHO HAS SINCE EARLY AFTERNOON CONTINUED TO HELP US GET AROUND. TEAM IS GUEST OF UZBEKI GOVERNMENT.

FROM AIRPORT TELEPHONED US EMBASSY IN TASHKENT AND ASKED ABOUT CHARGE VISIT TO NAMANGAN, AND WAS TOLD CHARGE EXPECTED TO BE WITH US FOLLOWING DAY IN NAMANGAN BUT HIS ACTUAL SCHEDULE NOT ESTABLISHED. NOTE GOOD NUMBER FOR US EMBASSY TASHKENT IS 771407.

WHEN LEAVING AIRPORT BY BUS TO HOTEL MET BOB CUDD AND CREW WHO WERE GOING TO AIRPORT TO EXAMINE EQUIPMENT. CUDD AND CREW STAYING AT HOTEL NAMANGAN ALSO AS GUESTS OF UZBEKI GOVERNMENT.

ARRIVED AT NAMANGAN HOTEL AND RESTAURANT IN NAMANGAN AT ABOUT 12:30 AND MET WITH LOCAL UZBEKI AUTHORITIES REGARDING OUR PLANS.

HAD LUNCH AND WENT FOR STROLL IN A VERY QUIET BUT FRIENDLY CITY. HASSAN TOOK TEAM TO PLACE WHERE WE WERE ABLE TO EXCHANGE DOLLARS FOR RUBLES AT EXCHANGE RATE OF 1:100.

RUTH ETZEL AND CHUCK GUTHRIE VISITED LOCAL HOSPITAL WHERE ONE OF CUDD'S CREW WAS HOSPITALIZED WITH THE CRUD. CREW MEMBER DOING WELL AND EXPECTED TO LEAVE HOSPITAL TOMORROW.

POLITICS OF CAPPING WELL APPARENTLY NOT TOTALLY IN SYNC AS THERE IS TALK THAT OLD SOVIET TEAM THAT WORKED ON THE

ORIGINAL WELL AND IS STILL AROUND TRYING TO CAP IT, AND IS INVOLVED IN THE OPERATION. ROLES RUSSIAN VIS-A-VIS CUDD NOT CLEAR.

20:45 ATTEMPTING TO CONNECT VIA SATELLITE AND TRANSMIT THIS POLREP.

C. FUTURE PLANS

09:00 TEAM WILL MEET WITH VLADIMIR KONUKHOV, FIRST DEPUTY CHAIRMAN OF UZBEKISTAN STATE COMMITTEE FOR ENVIRONMENT TO DISCUSS SPECIFICS OF OUR PLANS AND SOLICIT THEIR INTEREST AND COLLABORATION. AFTER MEETING, TEAM ACTIVITIES WILL BE SPLIT AS FOLLOWS:

RUTH ETZEL AND CHUCK GUTHRIE WILL VISIT CHIEF MEDICAL OFFICER FOR NAMANGAN REGION TO BEGIN TO EXAMINE HEALTH RECORDS FOR POSSIBLE SMOKE EXPOSURE, ETC.

REST OF TEAM WILL PROCEED TO VISIT THE SITE WITH FIRST DEPUTY AND CHARGE (IF CHARGE MANAGES TO ARRIVE IN NAMANGAN AT THAT TIME) AND TO "SECURE" STORAGE PLACE IN AIRPORT TO RETRIEVE AND CALIBRATE MONITORING EQUIPMENT.

POLREP THREE UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

THURSDAY APRIL 16, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN. CUDD WELL CONTROL, CONTRACTOR HIRED TO PUT OUT THE WELL, IS ONSITE. EQUIPMENT CONTINUES TO ARRIVE WITH FINAL FLIGHTS SCHEDULED FOR TOMORROW, APRIL 17, 1992. CONTRACTOR WILL REQUIRE FURTHER SHIPMENT OF EQUIPMENT POSSIBLY FROM THE UNITED STATE, KUWAIT AND OTHER LOCATIONS, DUE TO RUSSIAN FIRE FIGHTERS EFFORTS WHICH MAY HAVE WORSENERD PROBLEM BY SHOOTING WELLHEAD WITH TANK CANNON. NOT CLEAR THAT CUDD CONTRACT IS FULLY IN PLACE AND NOW SEEMS THAT THE UZBEKI GOVERNMENT HAS CHANGED ITS MIND AND IS NOT WILLING TO HAVE CUDD IN FULL CONTROL OF THE WELL OPERATION.

B. ACTIONS TAKEN

09:00 MEETING WITH DR KONJUKHOV, DEPUTY CHAIRMAN STATE COMMITTEE OF THE UZBEK SSR FOR NATURE PROTECTION. MEETING WAS BRIEF AND RATHER RUSHED AS WE WERE EXPECTING RIDE TO ARRIVE TO TAKE US TO THE WELL SITE.

09:30 RUTH ETZEL AND FRED STROUD RETURNED FROM HOSPITAL AFTER SEEING THE DISCHARGE OF CUDD EMPLOYEE, NOW FULLY RECOVERED FROM HIS STOMACH PROBLEM.

09:50 RIDE TO WELL SITE FINALLY CAME TO PICK US UP. MUCH CONFUSION REGARDING HOW WE WOULD ALL GET TO THE WELL SITE. WE ALL RODE WITH DR KONJUKHOV IN A VAN, WENT TO HIS DIRECTORATE AND FROM THERE TO THE AIRPORT TO PICK UP MONITORING EQUIPMENT AND PORTABLE TELEPHONES.

10:47 TONY JOVER MET MIKE MOZUR, CHARGE, WHO ARRIVED FROM TASHKENT IN C-141 BRING EQUIPMENT TO NAMANGAN AT AIRPORT. TONY, BERNY MCCONNELL (COL, USAF FOREIGN LIAISON ARRANGING THE OVERALL LOGISTICS OF AIRLIFT) AND MIKE MOZUR RODE TOGETHER TO WELL SITE. REST OF TEAM RODE WITH DR KONJUKHOV IN VAN.

12:15 ARRIVED AT WELL SITE TONY TO MEET WITH DEPUTY PRIME MINISTER KHAKOULOV, PERSON OVERALL IN CHARGE OF THE OPERATION AT THE SITE. DEPUTY PRIME MINISTER SOMEWHAT AUTOCRATIC IN HIS MANNER. MIKE MOZUR WILL BE COMMUNICATING ON THIS ISSUE VIA CABLE. NEVERTHELESS, MOZUR STRESSED TO THE DEPUTY PRIME MINISTER THE ENVIRONMENTAL SIGNIFICANCE OF OUR MISSION AND THE FACT THAT IS WAS MOUNTED IN RESPONSE TO THE DIRECT INTEREST OF THE PRESIDENT OF UZBEKISTAN. DEPUTY NODDED.

REST OF TEAM ARRIVED SOON AFTERWARDS AND IMMEDIATELY BEGAN TO SET UP COMMUNICATIONS, SURVEY SITUATION WITH VIDEO TAPING AND PHOTO. RUTH CONDUCTED PRELIMINARY HEALTH SURVEY AT SITE CLINIC AND LEARNED THAT OVER 535 PEOPLE HAD SOUGHT MEDICAL CARE SINCE MARCH 3 WHEN THE CLINIC WAS FIRST SET UP WITH PRIMARY PROBLEMS BEING BURNS, HEADACHES, MINOR INJURIES AND STOMACH PROBLEMS. EXACT BREAKOUT IN PERCENT VALUES WILL BE DEVELOPED BY OFFICIALS AT THE CLINIC BY TOMORROW. MONITORING CONDUCTED WAS REAL-TIME AEROSOL MONITOR FOR TOTAL PARTICULATES, WITH READINGS OF 0.008 MG/M3 OBTAINED AT VARIOUS LOCATIONS DOWNWIND OF THE FIRE. READINGS OF 0.14 MG/M3 WERE OBTAINED DURING HEAVY VEHICLE TRAFFIC. DURING STRONG WIND STORM WITH HIGH DUST LEVELS THE READING WERE 1.4 MG/M3 WITH A STEADY AVERAGE OF 0.25 MG/M3. THESE READING WERE CONSIDER HIGH DUE TO VERY HIGH LEVELS OF DUST IN BACKGROUND. NO NOTICEABLE ODORS OF SULFUR AND SIMILAR COMPOUNDS. MINIMAL VAPORS OF HYDROCARBONS DUE TO VEHICLE EXHAUST AS WELL AS RESIDUAL OIL ON THE GROUND.

CONDUCTED FIELD SURVEY. ON SITE SURVEY CONFIRMED REMOVAL LARGE TRENCHES OF OIL. BURNING OF RESIDUAL OIL EVIDENT AS WELL AS THE PRINCIPAL OIL WELLHEAD. OIL NOT BURNING AND STILL ON THE GROUND BEING PUMPED ONTO TRUCKS FOR SHIPMENT ELSEWHERE VIA OIL PIPELINE 5 KM AWAY. FIREFIGHTING WATER CONTAINMENT LAKE BEING CONSTRUCTED FOR RECOVERING WATER USED FOR SNUFFING OUT THE FIRE LATER. WE OBSERVED NO OILING IN BANKS OF ADJACENT CYR DARIA RIVER AND NO VISIBLE OIL ON THE WATER AT THE TIME. OBSERVED VERY LARGE AREA, AS LARGE AS 4 KM LONG AND 2 KM WIDE WHERE VEGETATION AND GROUND APPEAR TO HAVE BEEN SPRAYED BY BURST OF WIND-DRIVEN OIL EARLIER WHEN OIL ONLY GUSHING. THOUGH NOT CERTAIN, IT APPEARS THAT THE LARGE AREA COVERED BY THE OIL SHOWER WAS

THE RESULT OF A STRONG WINDSTORM AND WAS NOT A
CONTINUOUS SHOWER OF OIL. VIDEO AND STILL PHOTOS TAKEN.

ENVIRONMENTAL IMPACTS LOOKED FOR

•FOUNTAIN AIR VO'S

HUMAN HEALTH ODOR

SMOG FORMATION

BTX

HUMAN HEALTH AND CARCINOGENIC EFFECT

OIL DROPLETS

FILTH AND COST OF CLEANING PROPERTY

VEGETATION AND CROP DAMAGA

BIRDS AND HABITATS

WATER BTX AND VO'S

TOXICITY OF SOLUBLE MATERIALS

OIL

COATING OF SURFACE AND SHORELINE

SEDIMENT CONTAMINATION

SOIL BTX BO'S

NO IMPACT

OIL

SOIL CONTAMINATION TILL BREAKDOWN

HABITAT DAMAGE - TEMPORARY

•FIRE

AIR VO'S BTX, OIL

NO IMPACT

SOOT

DEPOSITION - NO AIR IMPACT

WATER SOOT

WELL FIRE BIG BUT NOT AS BIG AS SOME OF THE KUWAITI MONSTERS.
FIRE NOT SPEWING DROPLETS OF OIL AS MANY OF THESE FIRES DID IN
KUWAIT.

NOTE SENSITIVE INFORMATION FOLLOWS. HARRY AND TONY WERE
ASKED BY DEPUTY PRIME MINISTER TO BRIEF HIM ON ACTIVITIES.
DEPUTY NOT INTERESTED IN REPORT BUT ASKED IRRELEVANT
QUESTIONS ABOUT THE KIND OF BLOOD PRESSURE EQUIPMENT WE
BROUGHT AND WHETHER IT WAS THE JAPANESE TYPE THAT IS USED
IN THE FINGER. DEPUTY SOMETHING OF A OLD LINE STRONG MAN IN
THE AREA AND MOST UZBEKI OFFICIALS AROUND HIM APPEAR TO BE
SOMEWHAT AFRAID OF HIM.

DAY OBSERVATIONS LEAD TO CONCLUSION THAT THERE IS NO IMMINENT HEALTH OR ENVIRONMENTAL EMERGENCY IN THE REGION.

C. FUTURE ACTIONS

1. VERIFICATION AND DOCUMENTATION OF SCENARIO OF EVENTS EARLY MARCH, INCLUDING BOOM PLACEMENT AND OIL RECOVERY TECHNIQUES AND RESPONSE. UZBEKS SUGGEST VERY HIGH RECOVERY RATE.

2. BECAUSE SITUATION APPEARS TO BE UNDER CONTROL AND NOT ONE OF EMERGENCY NATURE TONY PLANS CONVERSATION BY PHONE WITH CHARGE FIRST THING AM TO DISCUSS PARTIAL DEMOBILIZATION OF TEAM. RETURNING TO USA WOULD BE USCG CONTINGENT AND PHIL. THERE IS CONCERN BOTH IN TASHKENT AND NAMANGAN ABOUT ABILITY TO TAKE VALUABLE EQUIPMENT FROM RUSSIA ON RETURN TRIP AND RETURNING PARTY WOULD BE CARRYING VALUABLE AND NOT NEEDED EQUIPMENT ON LAST OF THE SCHEDULED C-141 DEPARTING NAMANGAN AFTER 18:00 TOMORROW. USAF MAY BE RECEIVING REQUEST FROM UZBEKI GOVERNMENT FOR ADDITIONAL SHIPMENT OF EQUIPMENT AND IT IS POSSIBLE THAT REST OF TEAM MAY BE ABLE TO HITCH RIDE AT A LATER DATE THOUGH THIS IS FAR FROM CERTAIN.

3. IF ICE IS AVAILABLE IN NAMANGAN RUTH ETZEL WILL DRAW BLOOD FROM ABOUT 50 FIREFIGHTERS AND WORKERS THAT PRESUMABLY HAVE THE HIGHEST EXPOSURE. DISCUSSION WITH HEALTH OFFICIALS HAVE ALREADY BEEN CONDUCTED AND THEIR FULL COOPERATION IS PROMISED.

4. COLLECTION WATER SAMPLES IN THE RIVER AND DRINKING WATER RESERVOIR. COLLECTION OF AIR SAMPLES AT FIRE LINE, AT OIL PUMPING AREA AND ONE IN THE COMMAND POST.

5. MEET WITH NAMANGAN OFFICIALS AND SEE ABOUT OBTAINING HISTORICAL AIR DATA AND WATER QUALITY DATA AND WEATHER DATA FOR THE OIL FIELD AREA.

6. MEETING AT 09:00 WITH DR KONJUKHOV TO CONTINUE DISCUSSIONS AND SITE ACTIVITIES.

POLREP FOUR UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

FRIDAY APRIL 17, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN.

B. ACTIONS TAKEN

06:15 CONVERSATION WITH MIKE MOZUR REGARDING OUR PLANS TO CUT BACK OUR TEAM BY SENDING UNEEDED EQUIPMENT AND THREE OF OUR STAFF BACK HOME, TAKING ADVANTAGE OF THE LAST C-141 FLIGHT OUT OF NAMANGAN. MIKE AGREED AND SUGGESTED I WRITE A SHORT NOTE TO THE DEPUTY PRIME MINISTER KHAKOULOV INFORMING HIM ABOUT ALL THIS. MIKE ASKED ME TO ASSESS UZBEKI INTEREST IN BILATERAL ARRANGEMENTS IN ENVIRONMENTAL MATTERS IF THE OPPORTUNITY PRESENTED ITSELF.

08:00 DAY STARTED AS ALWAYS WITH BREAKFAST AT 08:00 FOLLOWED BY PICKUP BY HOSTS ON OR ABOUT 09:00 ONLY TODAY IS RAINING.

09:00 VISITED REGIONAL COMMITTEE OF THE UZBEK SSR FOR NATURE PROTECTION WITH DR. VLADIMIR GRIGORJEVICH KONJUKHOV, DEPUTY CHAIRMAN OF STATE COMMITTEE, DR MOUMAJANOV, REGIONAL DIRECTOR OF NATURE PROTECTION, DR RAKIMOV NASINJAN, REGIONAL HEAD OF DOCTORS AND OUR TRANSLATOR MOUMIKOV KELSUGAU, LECTURER STATE UNIVERSITY IN NAMANGAN, FOR MEETINGS AND TOUR OF FACILITY. FACILITIES VERY PRIMITIVE, MORE LIKE A JR HIGH SCHOOL LABORATORY THAN A GOVERNMENT OFFICE BUILDING. THERE ARE NO COMPUTERS, NO COPYING MACHINES.

THIS MEETING WAS PRODUCTIVE AND ALLOWED US TO GET MUCH BETTER ACQUAINTED WITH THE CIRCUMSTANCES OF THE UZBEKI PEOPLE AND DIFFICULTIES THEY HAVE IN MEETING THE BASIC ENVIRONMENTAL NEEDS OF THE COUNTRY. DR VLADIMIR KONJUKHOV CAME RIGHT OUT AND MENTION THAT HE WAS MOST INTERESTED IN ESTABLISHING SOME RELATIONSHIP WITH THE US ON ENVIRONMENTAL MATTERS, THE SORT OF BILATERAL RELATIONS THAT THE US HAD WITH THE USSR, BUT DIRECTLY WITH THE UZBEK

NATION AND NOT INVOLVING MOSCOW IN ANY FORM. THIS SORT OF INTEREST WAS THE KIND THAT MOZUR WAS LOOKING FOR AND WE WERE ABLE TO DISCUSS IN VERY GENERAL TERMS SOME OF THE KINDS OF TECHNICAL AID, SUCH AS INFORMATION, TECHNICAL BOOKS, THAT COULD BE MADE AVAILABLE.

WHILE RUTH, HARRY, FRED, RICH, AND TONY WERE IN ATTENDING MEETING, PHIL AND CHUCK WENT TO THE STORAGE AREA AT THE AIRPORT TO DROP OFF EQUIPMENT AND PICK UP ADDITIONAL EQUIPMENT NEEDED FOR THE DAY'S ACTIVITIES AT THE WELL SITE.

11:30 PHIL AND CHUCK RETURN FROM AIRPORT AFTER FRUSTRATING TIME IN OBTAINING ACCESS TO THE STORAGE SITE. RAIN FALLING DOWN AND FINALLY THE DECISION WAS MADE TO HAVE LUNCH IN TOWN INSTEAD OF AT THE WELL SITE, AS ORIGINALLY PLANNED. LUNCH WAS HAD AT THE HOTEL NAMANGA, WHERE WE ARE STAYING.

13:20 BECAUSE OF THE MORNING DELAYS AND THE RAIN, DECISION WAS MADE TO CONTINUE OUR MEETINGS WITH THE ENVIRONMENTAL SCIENTISTS AT THE AIRPORT SITE WHERE WE COULD DEMONSTRATE OUR EQUIPMENT AND BEGIN TO PACK UP PHIL CHUCK AND RICH ON LAST C-141 FLIGHT RETURNING TO TURKEY. SPENT AFTERNOON IN HANGAR EATING MRE'S WITH UZBEKIS AND TALKING UP A STORM, GETTING BETTER ACQUAINTED AND INSTRUCTING ON USE OF ENVIRONMENTAL MONITORING EQUIPMENT.

DURING AFTERNOON HAD BAD NEWS THAT THE AGREEMENT WE PREVIOUSLY HAD FOR RUTH TO DRAW BLOOD FROM OIL WORKERS COULD NOT BE HONORED WITHOUT THE DIRECT APPROVAL FROM THE MINISTER OF HEALTH. ATTEMPTED TO REACH MOZUR TO ASK FOR HIS ASSISTANCE IN REACHING THE HEALTH MINISTER BUT MOZUR WAS OUT OF MISSION IN MEETINGS AND STAFF WAS GOING TO DO WHAT THEY COULD.

17:45 C-141 DEPARTS WITH PHIL, CHUCK AND RICH TOWARDS TASHKENT TO DROP OFF RUSSIAN NAVIGATOR AND ON TURKEY, GERMANY, ETC. THE THREE WILL TRAVEL VIA C-141 AND CHANGE TO COMMERCIAL FLIGHT IF APPROPRIATE.

18:15 INVITED OUR HOSTS TO OUR ROOMS TO HAVE SOME COGNAC. THEY WERE PLEASED AND WE HAD A NICE TIME FOR THE NEXT 1 1/2 HOURS.

C. FUTURE ACTIONS

1. VERIFICATION AND DOCUMENTATION OF SCENARIO OF EVENTS EARLY MARCH, INCLUDING BOOM PLACEMENT AND OIL RECOVERY TECHNIQUES AND RESPONSE. UZBEKI SUGGESTED VERY HIGH RECOVERY RATE.
2. ATTEMPT TO HAVE HEALTH MINISTER AGREE TO BLOOD SAMPLING..
3. COLLECTION WATER SAMPLES IN THE RIVER.
4. MEETING AT 09:00 WITH DR KONJUKHOV TO CONTINUE DISCUSSIONS AND SITE ACTIVITIES.

POLREP FIVE UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

SATURDAY APRIL 18, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN.

B. ACTIONS TAKEN.

09:00 PICKED UP BY UZBEKIS TO GO TO WELL SITE. UZBEKIS BOUGHT AEROFLOT TICKETS TO TASHKENT FOR US AT THEIR OWN PRICE (ABOUT \$6.50) ROUTE TO SITE IS SORT OF ROUNDABOUT, SETTING OUT SOUTH FROM NAMANGAN AND VEERING WEST ON A WIDE CURVE TOWARDS DZHIDALIK AND THEN SOUTH CROSSING FIRST THE NARIN AND LATER THE KARA DARIA RIVERS, WHICH JOIN UP JUST WEST OF MINGBULAK TO FORM THE CYR DARIA.

LEARNED THE WELL SITE WAS NOT WHERE WE THOUGHT IT WAS, EAST OF THE FERRY THE CROSSING THE CYR DARIA, BUT MORE TO THE WEST. RATHER THAN GOING DIRECTLY TO THE HEADQUARTERS OF THE WELL OPERATIONS, WE CONTINUED ON THE MAIN ROAD THROUGH MINGBULAK TO OBSERVE THE CANALS WHERE THEY HAVE BEEN STORING OIL.

A SYSTEM OF CANALS THAT WERE BUILT DURING THE BREZHNEV ERA AND WERE NEVER ABLE TO BE UTILIZED BECAUSE ENGINEERING MISTAKES ARE NOW BEING USED AS TEMPORARY STORAGE AREAS FOR OIL. OUR INFORMATION IS THAT THE OIL FIRST POOLED AROUND THE WELL, LATER DITCHES WERE DUG CONNECTING THE WELL TO CANALS, AND PUMPS WERE USED TO BOTH PUMP OIL FROM THE OIL POOLS TO THE CANALS, AND ON TO EVERY POSSIBLE KIND OF TANK TRUCK THAT SHOWED UP TO PICK UP OIL. MOST OF THE OIL THAT WAS REMOVED WAS SENT BY TRUCK TO REFINERIES IN FERGANA, DIRECTLY ON THE OPPOSITE, SOUTHERN END OF THE VALLEY SOUTH OF NAMANGAN. MANY TRUCKS PICKED UP OIL THAT WAS NOT SENT TO THE REFINERIES, AND IT IS NOT CLEAR WHAT WAS DONE WITH THIS OIL. OUR HOSTS SAID THAT FARMERS USE THE OIL FOR HEATING, BUT WE ARE NOT SURE THIS IS POSSIBLE. WE OBSERVED MANY (AS SHOWN IN THE NEWS VIDEO) TRUCKS LINED UP EARLY IN THE MORNING WAITING FOR A LOAD OF OIL.

ALL AROUND THE WELL SITE, FOR A DISTANCE OF ABOUT 4 KM, THE LAND WAS COVERED WITH A THIN COATING OF OIL. THIS OIL WAS PROMINENT ONLY ON THE SIDE OF TREES AND BRANCHES DIRECTLY FACING THE WELL. THE OIL WAS BLOWN BY THE HEAVY WIND STORMS THAT OFTEN AFFECT THE AREA, AND CUDD ESTIMATED THAT GIVEN THE TYPE OF WELL IN MINGBULAK AND THE WINDS OIL WOULD BE CARRIED AWAY BY THE WIND FOR OVER 5 MILES.

IT LOOKED LIKE MOST OF THE OIL THAT WAS SPLATTERED AROUND THE WELL SITE AREA (5 SQUARE KM) WAS DEPOSITED PRIOR TO THE ADVENT OF SPRING. THE RESULT OF THIS IS THAT EVEN HEAVILY COATED TREES DON'T SHOW SIGNS OF BEING AFFECTED BY THE OIL, AND FRUIT TREES, WHICH ARE ABUNDANT IN THE AREA, CARRY SPRING FLOWERS IN QUANTITY. SOILED GROUND ALSO SHOWS HEALTHY GRASS CROPPING THROUGH THE OILY SURFACE, EVEN IN AREAS NEAR THE OIL WELL WHERE OILS WAS MOST HEAVY. UZBEKI TREATMENT OF SOIL COVERED WITH OIL WAS TO BURN IT, AND THEN BRING NEW SOIL TO THE SITE AND PUT ON TOP OF THE SOILED OIL, AND IN SOME CASES THEY TILLED IT.

OBSERVED STORK NESTS THAT WERE HEAVILY OILED. THESE NESTS WERE ON TOP OF POWER LINES AND WE ESTIMATED MAYBE ONE AND ONE HALF DOZEN SUCH NESTS WERE IN THE AREA. HAD THE STORKS BEEN NESTING THE EGGS WOULD HAVE BEEN WELL COVERED BY THE OIL AND PROBABLY POISONED. HOWEVER, ACCORDING TO DR KONJUKHOV, AT THE TIME OF THE WIND DRIVEN OILING, THE NESTS HAD NO EGGS. WE APPROACHED SOME NESTS AND SAW APPARENTLY HEALTHY STORKS. WE SUGGESTED DR KONJUKHOV RE-VISIT THE OILED NESTS LATER IN THE SPRING TO SEE IF THERE ARE CHICKS, AND NEXT YEAR AS WELL.

COLLECTED ONE SAMPLE OF CYR DARIA RIVER WATER UPSTREAM OF THE WELL, AT THE FERRY THAT CROSSES THE RIVER TO THE EAST. LATER WE COLLECTED A SECOND WATER SAMPLE AT THE DZUMASHUY BRIDGE OVER THE CYR DARIA, WHICH MAY HAVE BEEN 15 KM DOWN RIVER (WEST) OF THE OIL WELL.

PROCEEDED TO CHECK ON BOOMS IN THE CYR DARIA, DEPLOYED, ACCORDING TO THE UZBEKIS, WITHIN 4 DAYS OF THE BLOWOUT. THESE BOOMS (WE VISITED TWO SITES) WERE MADE OF STEEL PIPE, APPROXIMATELY 12" WIDE, FLOATED AT ABOUT A 45 DEGREE ANGLE UPRIVER AND REACHING ABOUT 2/3 THE WIDTH OF THE RIVER. THE BOOMS WERE COLLECTOR BOOMS AND CAUGHT TWIGS, ETC., WITH

THE RIVER CURRENT DRAWING THESE TO THE SHORE FOR PICK UP BY LABORERS. OILED TWIGS AND BRANCHES WERE THROWN INTO PITS AND BURNED. THE TWO BOOMS WE VISITED WERE (1) ABOUT 7 KM DOWN RIVER FROM THE WELLHEAD AND (2) AT THE BRIDGE OVER THE CYR DARIA JUST EAST OF THE TOWN OF DZUMASHUY. NO SIGNIFICANT AMOUNT OF OILED MATERIAL WAS DETECTED AT THESE SITES. THE SECOND BOOM, EAST OF DZUMASHUY, ALSO HAD GRASS SORBENT BOOMS SUSPENDED FROM THE BRIDGE. THESE GRASS BOOMS APPEARED HEAVILY OILED, BUT THEY HAD BEEN IN PLACE SINCE THE BEGINNING OF THE SPILL.

AFTER VISITING THE DZUMASHUY BOOM, WE TOURED PRINCE BABUR'S OLD CITY ON THE NORTH SHORE OF THE CYR DARIA, WHICH IS SLOWLY BEING EXCAVATED.

18:00 ARRIVED BACK AT THE NAMANGAN HOTEL. HOSTS ASKED IF WE WOULD JOIN THEM FOR DINNER AT 19:00. THEY WOULD COME BACK TO PICK US UP.

19:00 HOSTS CAME IN TWO CARS TO PICK US UP AND TOOK US TO THE COMMITTEE BUILDING. THERE THEY HAD ARRANGED A VERY NICE DINNER, WHICH WE THINK THEY COOKED THEMSELVES, AND WITH PLENTY OF RUSSIAN VODKA WE HAD A VERY WARM EVENING.

21:00 MANAGED TO GET PHONE CALL TO THE US TO BOTH KEN AND JIM AND REPORTED ON ACTIVITIES.

C. FUTURE ACTIONS

OUR INTERPRETER ASKED IF HE COULD BRING THE TEXTBOOK HE USES IN HIS UNIVERSITY COURSE AND HAVE US READ WHILE HE TAPES THE READINGS. INTERPRETER WILL SUBSEQUENTLY PLAY TAPES TO HIS STUDENTS. THIS IS PLANNED FOR 08:00 TOMORROW.

VISITS TO BAZAARS AND FINAL CONVERSATIONS EXPECTED TOMORROW, WITH DEPARTURE TO TASHKENT AT 14:30.

POLREP SIX UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

SUNDAY APRIL 19, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN.

B. ACTIONS TAKEN

08:00 MOUMIROV KELSUUJAU LECTURER OF STATE U IN NAMANGAN (TEL 2-90-59), OUR TRANSLATOR CAME TO HOTEL TO TAPE OUR READING FROM UNIVERSITY ENGLISH TEXT. WE TAPED ABOUT TWELVE READINGS, WHICH HE PLANS TO PLAY BACK TO HIS CLASS (REAL AMERICAN ACCENTS, HE SAID)

09:00 VLADIMIR KONJUKHOV, MUBLUBAYER TURQUNBAY, (TEL 6-60-45, 6-81-99 HOME) REGIONAL DIRECTOR AND INTERPRETER, CAME TO HOTEL TO TAKE US SHOPPING. WENT TO CITY MARKET AND BOUGHT SOUVENIRS, ETC., AND RETURNED TO HOTEL. REGIONAL HEAD OF DOCTORS RAKIMOV NASIMJAN (TEL 6-32-95, 2-98-45 HOME).

12:00 HAD LUNCH AND DEPARTED TO AIRPORT

14:30 DEPARTED NAMANGAN TO TASHKENT VIA AEROFLOT

15:30 ARRIVED AT TASHKENT. GUS FROM THE MISSION WAS WAITING FOR US IN WITH TWO MISSION CARS AND TOOK US TO THE COMPOUND WHERE THE EMBASSY STAFF LIVE. THIS COMPOUND WAS USED BY HIGH LEVEL MINISTERS AS THEIR SUMMER RESIDENCES, WITH DACHA TYPE HOUSES VERY ELEGANT. TONY, HARRY AND FRED STAYED WITH GARY FROM THE MISSION AND RUTH STAYED IN THE NEXT DOOR DASHA, WHICH WAS BEING USED BY LINDA, THE COMMUNICATIONS SPECIALISTS AT THE MISSION.

19:00 MIKE MOZUR ARRIVED FROM THE MISSION AND TOOK US TO DINNER AT THE COMPOUND RESTAURANT (IN ADDITION TO US STAFF, OTHER COUNTRIES APPEAR TO BE LIVING IN THE COMPOUND AND THE DINING ROOM SERVES DINNER IN A RESTAURANT LIKE SETTING). HAD WIDE RANGING DISCUSSIONS WITH MIKE REGARDING THE SITUATION IN MINGBULAK.

20:30 MIKE ASKED US TO PREPARE AND 1 PAGE SUMMARY WITH THE ISSUES WE THOUGHT MOST IMPORTANT, WHICH HE WOULD THEN USE WHEN DEALING WITH THE UZBEK GOVERNMENT.

C. FUTURE ACTIONS

1. DEPART EARLY NEXT MORNING FOR MOSCOW
2. VISIT US EMBASSY MOSCOW AND OBTAIN EMBASSY ASSISTANCE FOR TAKING OUT OF THE COUNTRY BLOOD SAMPLES, IN CASE THIS IS NEEDED.

POLREP SEVEN UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

MONDAY APRIL 20, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN.

B. ACTIONS TAKEN

05:30 DRIVEN BY TWO EMBASSY CARS TO TASHKENT AIRPORT,
ARRIVING AT AIRPORT SO EARLY THAT WE COULD HAVE TAKEN THE
EARLY FLIGHT TO MOSCOW. SAT AROUND AIRPORT FOR OVER 2
HOURS WAITING FOR OUR FLIGHT.

09:30 LEFT UZBEKISTAN FOR MOSCOW (MOSCOW TIME).

12:15 ARRIVED IN MOSCOW. FOUND NO EMBASSY HELPER WAITING
FOR US AND HAS MUCH TROUBLE GETTING A PHONE TO CALL
EMBASSY. EVERYONE OUT TO LUNCH AND NO HELP. WITH
ASSISTANCE FROM INTOURIST WE BOOKED TWO CARS AND SPACE IN
HOTEL UKRAINE. CAR FARE WAS \$55 FOR THE TWO CARS, HOTEL
\$135 PER NIGHT.

15:00 ARRIVED IN THE HOTEL. GRAND OLD HOTEL JUST NOW BEING
RESTORED, AT LEAST IN THE LOBBY. HOTEL FACING THE RUSSIAN
WHITE HOUSE.

16:30 CONFIRMED OUR RETURN TICKETS AND GOT EMBASSY TO
AGREE TO WRITE LETTER EXPLAINING BLOOD SAMPLES, JUST IN CASE
IT WAS NEEDED.

16:00 GOT CAB TO RED SQUARE TO TAKE A LOOK. UNABLE TO WALK
IN THE SQUARE AS THE RUSSIAN PARLIAMENT WAS ON SESSION AND
NO ONE ALLOWED IN. SPENT SOME TIME LOOKING AT THE GROWING
PRIVATE ENTERPRISE MARKETPLACE BEING DEVELOPED BY TEEN-AGERS
SELLING RUSSIAN DOLLS AND MUCH MORE.

19:00 KIRIN CAME TO PICK US UP FOR DINNER ACCOMPANIED BY A
FRIEND. WENT TO RESTAURANT FREQUENTED BY MOVIE FOLKS VERY
ELEGANT AND EXTREMELY INEXPENSIVE. TOTAL DINNER WAS UNDER
2,000 RUBLES (AT 1USD=100RUBLES).

22:00 RETURNED TO HOTEL TO PACK AND GET READY TO FLY BACK HOME.

C. FUTURE ACTIONS.

1. DEPART HOTEL AT 05:30 FOR AIRPORT ABOARD MINIVAN WE HIRED FOR THIS PURPOSE (\$50).

2. GET HOME

16:30 WALKED TO US EMBASSY FROM HOTEL (ABOUT 8 BLOCKS)

POLREP EIGHT UZBEKISTAN OIL WELL ENVIRONMENTAL AND HEALTH
ADVISORY PROJECT

TUESDAY APRIL 21, 1992

A. SITUATION

WELL FIRE CONTINUES TO BURN.

B. ACTIONS TAKEN

05:30 LEFT HOTEL UKRAINE FOR AIRPORT. NO PROBLEMS WITH
CUSTOMS OFFICIALS.

08:25 DEPARTED FOR FRANKFURT.

09:30 OLD MAN ON BOARD AIRPLANE ACCOMPANIED BY FAMILY
EMIGRATING TO US VERY ILL. PILOT ASKED FOR DOCTOR IN THE
PLANE TO PLEASE HELP. RUTH PROVIDED SOME ASSISTANCE, WITH
THE HELP OF FRED. RUTH RECOMMENDED TO PILOT THAT MAN BE
TAKEN TO HOSPITAL ASAP. PILOT AGREED IMMEDIATELY AND
ARRANGED FOR UNSCHEDULED LANDING IN WARSAW.

10:45 LANDED IN WARSAW WHERE AMBULANCE AND DOCTOR WERE
WAITING FOR SICK MAN. MUCH CONFUSION ABOUT WHAT THE REST
OF THE FAMILY WOULD DO, SINCE THEY WERE ABOUT 7 TRAVELING
WITH ONLY TWO GROUP PASSPORTS. AIRPLANE WAS REFUELED.
WHILE AWAITING PAPERS FOR DEPARTURE, PILOT ANNOUNCED MAN
WAS PRONOUNCED DEAD IN WARSAW HOSPITAL. WHOLE FAMILY
LEFT PLANE.

11:15 FRANKFURT TIME ARRIVED FRANKFURT. HARRY RUTH AND
FRED WERE ABLE TO CATCH THEIR FLIGHTS NOTWITHSTANDING THE
DELAY IN ARRIVING FRANKFURT.

C. FUTURE PLANS

1. TEAM WILL PREPARE DEBRIEFING AND SCHEDULE DEBRIEFING NEXT
WEEK SOMETIME.

PPENDIX G: CONTACT LIST

Uzbekistan Oil Well Incident
EPA Contact List

Name	Work Number	Fax Number
ENVIRONMENTAL PROTECTION AGENCY		
HARRY ALLEN, ERT	FTS 340-6747	FTS 340-6724
GORDON BINDER, AX	FTS 260-4700	
P. CAMPAGNA, ERT	FTS 340-6689	FTS 340-6274
DON CLAY, OSWER	FTS 260-4610	
D. DIETRICH, OERR/ERD	FTS 260-8720	FTS 260-9155
KIM FLETCHER, CEPPO	FTS 260-4794*	FTS 260-0154
BILL FREEMAN, OIA	FTS 260-3508	
KIM JENNINGS, CEPPO	FTS 260-5046	FTS 260-0154
TONY JOVER, CEPPO	FTS 260-2387*	FTS 260-0154
JOE LaFORNARA, ERT	FTS 340-6470	FTS 340-6724
JIM MAKRIS, CEPPO	FTS 260-8600*	FTS 260-0154
KEVIN MATHEWS	FTS 260-9806	FTS 260-4386
MARK MJONESS, OERR/ERD	FTS 260-2206	FTS 755-2155
ROYAL NADEAU, ERT	FTS 340-6743	FTS 340-6724
GEORGE PATRICK, CEPPO	FTS 260-4042	FTS 260-0154
BARBARA RAMSEY, CEPPO	FTS 260-4041	FTS 260-0927
KEN STROECH, CEPPO	FTS 260-9777*	FTS 260-0154
FRED STROUD, EPA REG. 4	FTS 257-3931	FTS 257-4464
JOEL WALLINGA, OC	FTS 260-8266	FTS 260-0084
BILL WHITEHOUSE, OIA	FTS 260-4898	FTS 260-4077
NANCY SMITH/KAREN MARGAVTCH POC EPA FOR STCC	FTS 260-3439	--

Name	Work Number	Fax Number
EPA EOC (INDIVIDUALS W/ * MAY ALSO BE REACHED AT THESE NUMBERS	FTS 260-3850	FTS 260-0154
TECHNICAL ASSISTANCE TEAM (IN-COUNTRY)		
VOICE	011 873 150 6162	
FACSIMILE	011 873 150 6163	
OTHER HQ NUMBERS		
JUDY COLLE, ICF, Inc.	(703) 934-3082	(703) 934-3156
RON DAVISON, ICF, Inc.	FTS 260-3850	FTS 260-0154
DENISE TURGEON, ICF, Inc.	FTS 260-3850	(703) 934-3381
DAVID EYER, EG&G, Inc.	FTS 260-7198	FTS 260-0154

DEPARTMENT OF STATE		
ELIZABETH CHENEY, AMBAS. ARMITAGE'S OFFICE	(202) 647-2413	(202) 647-2636
ARNIE SCHIFFERDECKER, OFF. OCEAN, ENVIR. & SCIENCE	(202) 647-9266	(202) 647-5947
RICK NELSON, AMBAS. ARMITAGE'S OFFICE	(202) 647-2414	(202) 647-2636
DOUG SILLIMAN, KATHY KARALEV UZBEK DESK	(202) 647-6731	(202) 647-3506

UNITED STATES COAST GUARD		
BIFF HOLT	FTS 267-0518	(202) 267-4085
D. LENTSCH	FTS 267-0518	
COMMANDER RICK SOFTYE	(919) 331-6000	(919) 331-6012
EM1 CHUCK GUTHRIE	(609) 724-0008	(609) 724-0232
CHIEF MIKE CREIGHTON	(919) 331-6000	

Name	Work Number	Fax Number
NATIONAL RESPONSE CENTER		
NRC	FTS 426-2675	

NATIONAL AERONAUTICAL AND SPACE ADMINISTRATION		
RANDY COFER	FTS 928-5692	
DEPARTMENT OF ENERGY		
RICH DAILEY	FTS 896-7117*	(202) 586-7979
DOE EOC	(202) 586-8100	(202) 586-7979

HEALTH AND HUMAN SERVICES, CENTER FOR DISEASE CONTROL		
FRANK YOUNG	(202) 245-6811	(202) 245-7360
KENT GRAY	(404) 236-0615	
RUTH ETZEL	(404) 488-4227	

DEPARTMENT OF COMMERCE		
DR. MICHAEL REYNOLDS	(206) 526-6317	(206) 526-6329

NOAA		
JEAN SNIDER	(202) 267-0418	FTS 340-6724

UNITED STATES ARMY		
FT. MEYERS TROOP SUPPORT DIV.		(703) 696-2755
FT. MEYERS COMMISSARY	(703) 696-3674	

Name	Work Number	Fax Number
DOD - PENTAGON		
LTC STEVE CARROLL	(703) 697-0744	(703) 614-2569
LTC JIM NEWTON	(703) 697-0744	
COL BARRY McCONNELL MISSION DIRECTOR	(703) 695-2251	

ANDREWS AIR FORCE BASE		
TSGT SULLIVAN - 93RD AERIAL PORT SQUADRON HANGAR 2 BLDS 1794	(301) 981-7441	
MSGT STEVENS - CAPABILITIES BRANCH	(301) 981-3831	

CONTRACTOR NUMBERS		
ICF EKO** (IN MOSCOW) DR. BORIS BEBCHUK	7095 283-3015	7095 255-6923
(IN DC) DR. EDWIN BERK	(703) 934-3250	(703) 934-3156
GARY TOMLINSON CUDD PRESSURE CONTROL INC.	(713) 622-9964	
JOE BOWDEN	(713) 353-5481	(713) 353-5480

** IN-COUNTRY ADDRESS ICF/EKO NOVOALEKSEEVSKA 20 A, 129626 MOSCOW, RUSSIA, CIS

APPENDIX H: OBSERVATIONS ON THE ACTIVATION OF EPA'S EMERGENCY OPERATIONS CENTER

1.0 INTRODUCTION

On March 30, 1992, the EPA's Emergency Operations Center (EOC) was activated to support the U.S. government response to an oil well blow-out in the newly formed republic of Uzbekistan. The staff in the EOC effectively responded to the incident by supporting EPA and the Technical Assistance Team sent to Uzbekistan; however, certain obstacles hampered support personnel from optimally performing necessary tasks. The majority of these problems fit into the following two categories:

- Equipment, furniture, and supplies; and
- Insufficient information on and procedures for organizing, preparing, sending, and supporting a team traveling to an incident outside the United States.

With each activation of the EOC, lessons are learned on how to improve the facility to effectively assist the federal government by responding to an incident and supporting officials working in the field. This document provides a list of observations made during the activation which highlight the obstacles personnel confronted. These observations are followed by recommendations developed to enhance the ability of the EOC staff in performing their duties. The recommendations focus on:

- Amending Standard Operating Procedures (SOPs) in the EOC Standard Operating Procedures (EOC SOPs) Notebook;
- Adding additional SOPs to cover areas not yet identified in the EOC SOP Notebook;
- Developing guidance papers on international travel considerations and basic EOC operations; and
- Improving the CONTACTS databases by adding travel-related information.

This document focuses on the functions and activities performed in the EOC: team support, logistics, communications, and information gathering and dissemination. It does not focus on the efforts of the team while in-country, other federal agencies' operations, or other EPA activities or operations conducted outside the EOC to support the Uzbekistan incident.

2.0 OBSERVATIONS ON EOC OPERATIONS DURING THE UZBEKISTAN INCIDENT

The following lists identify areas that, with a little improvement, could enhance the ability of EOC staff in performing their duties when responding to an incident. The lists summarize concerns or problems observed during the Uzbekistan activation of the EOC and are separated by issue areas.

2.1 Staff Issues

A. Roster for International Missions: Candidate rosters of people willing or able to participate in international missions are needed. Prior to this activation, a list of potential candidates was unavailable. Delays resulted from the need to track down necessary Social Security numbers and passport numbers of all individuals potentially available for travel.

B. Roster Updates and Distribution: The system for generating contact list updates and ensuring that Headquarters staff maintains the latest version needs to be improved. In particular, problems arose when several changes occurred in a single day. Confusion resulted after additions were made and revisions were distributed to staff. Individuals had a difficult time determining which revision was the most recent. Staff had a difficult time in updating the NICT roster with room numbers.

C. SOPs for International Missions: There is a need for SOPs which support the development of international travel tips for a particular country or region, lists of travel items, summary of local customs, background information, and other international travel considerations.

D. Identify Point of Contact (POC) for Personal Matters Involving team Members: SOPs are needed to identify point-of-contact(s) (POCs) for and phone numbers of team members' families in the event of an emergency.

E. Staff Knowledge of Software: Several staff members need additional training to use basic software.

2.2 EOC Issues

A. Equipment Maintenance: Scheduled maintenance checks on equipment prior to the activation would quicken the response time in initiating an activation.

B. Reception Area: The reception area was in transition. Maintaining important items in the reception area, such as telephone lists, back-up supplies, and keys for all doors, would enhance the performance of staff members working in the reception area.

C. Coordinating Preprogrammed Numbers in Fax Machines with Changes in Personnel Rosters: The group-dial telephone lists within the fax machines should be updated on a regular basis when the EOC is not activated to coincide with changes in the CONTACT database. Delays were incurred because personnel had to manually enter numbers to send material.

D. Coordinating Access to Teleconferencing Systems with Other EPA Offices: There was confusion in determining priority and authority for controlling and accessing video and teleconference systems, including:

1. Who can authorize "bumping" other groups;
2. Conditions for bumping other groups; and
3. Time window needed to make reservations.

E. Computer: Computer equipment/software is needed in the EOC, including:

1. "B" Drive for a computer;
2. Mice for the computers;
3. Freelance software;
4. Fonts on some computers;
5. Font cartridge for laserprinter.

F. Supplies: Supplies needed to be maintained in the EOC include:

1. Blank disks (formatted, 3.5"/5.25", DD/HD);
2. Empty files (Pendaflex, manilla, expanding), tabs;
3. Envelopes;
4. Pens/pencils;
5. Staples/stapler;
6. Legal/notebook pads;
7. Eraser for wipe-off board;
8. Current EPA directory;
9. Desk/wall calendar;
10. Dividers for notebooks; and
11. Letterhead, colored paper (stock was low).

G. Kitchen: Ensuring that the kitchen is properly stocked (e.g., coffee, tea, condiments) and maintained (e.g., the refrigerator and microwave) would enhance the effectiveness of staff employees working long hours in the EOC.

H. Classified Documents/Security: Several security issues were raised, including:

1. Access to secured material/areas;
2. Authority to open and close the EOC;
3. Authority to access the EOC during off-duty hours; and
4. Controlling theft.

2.3 Inter-Agency Issues

A. Working with Other Federal Agencies Not Directly Participating in team Activities:

The procedures for working with other agencies involved in the incident (State, DoD) but not directly involved in the team's activity need to be defined and should include:

1. Coordinating logistics;
2. Funding; and
3. Communications.

B. Military Personnel: Concerns were raised over U.S. military personnel involved in team activities, including:

1. Military uniforms in foreign countries; and
2. Current political relationship with affected country (i.e., concerns were raised as to whether the presence of military personnel would negatively affect the ability of the team to perform and would such a presence have political repercussions).

C. Coordinating Travel Plans Involving Several Agencies: EPA can make all reservations for an inter-agency team but each department/agency must produce their own Travel Authorizations.

D. Identifying Agencies for Team Membership: Obstacles were encountered in determining which Agencies should have representation on team. The obstacles included:

1. Political issues;
2. Technical expertise;
3. Procuring equipment.

2.4 On-Site Issues

A. Interpreters: The following areas on how to obtain/use interpreters need clarification:

1. Identifying people familiar with the field;
2. Determining whether the team should use interpreters from U.S. or procure services in-country; and
3. Determining if the U.S. Embassy in Uzbekistan could provide interpreters.

B. Other U.S. Citizens in the Affected Area: Issues were raised during team meetings on how to deal with other U.S. citizens in the area, including individuals:

1. Involved in the incident, such as clean-up crews;
2. Affected by the incident, such as students residing near the affected site; and
3. Available which may be tapped to assist the team, if needed.

C. In-Country Transportation: Procedures for obtaining in-country transportation requirements in the following areas need to be clarified:

1. Access to vehicles;
2. Size and number of vehicles;
3. Costs; and
4. Drivers.

D. In-Country Food and Water Requirements: Concerns raised prior to the team's departure included:

1. The availability and quality of food and water in Uzbekistan;
2. Whether the Department of Defense (DoD) would assist/allow for the purchase of a quantity of Meal Ready Equivalents (MREs); and
3. Determining back-up options if DoD MREs were not available.

E. U.S. On-Site Contractor Issues: Questions were raised on how to work with the U.S. contractors (hired by the Uzbeki Government) involved in site activity, including:

1. How many people are included in contractor team?
2. Who makes up the team (e.g., EMTs)?
3. How should EPA-led team interact with private responders?
4. Does the EPA-led team have authority to delegate tasks to the contractors of the Uzbeki government?
5. How should the EPA-led Team ensure that tasks are not duplicated?

F. In-Country Communications: SOPs covering the following in-country communications capabilities/requirements need to be clarified:

1. Standard communications;
2. Emergency communications; and
3. Secured communications.

G. Emergency Medical Concerns: SOPs for identifying Medical Evacuation (Medevac) teams to assist team members and communicating to the Medevac team in case of an emergency need to be clarified.

H. Affected Country Background Information: Ways of gathering information on in-country conditions need to be identified. Issues raised during meetings prior to the team's departure included:

1. Establishing POC on-site and experts in the U.S. to monitor conditions and current events (political/cultural context); and
2. Obtaining meteorological, seismic, and geographical data.

I. In-Country Lodging: Current procedures need to be updated to assist in identifying lodging for team members.

2.5 Travel Issues

A. Passports: Procedures need to be developed for ensuring potential team members had, or could quickly obtain, passports.

1. Not all of the potential team members had a passport;
2. Potential individuals would need to submit three photos with each application; and
3. It was not clear whether team members could use personal passports if they did not have an official government passport.

B. Visas: Procedures for obtaining a visa need to be updated (e.g., requirements, turnaround).

C. Cash Advances: Procedures to verify per diem rate and cash advance amounts need to be clarified and easily available:

1. Team was required to obtain cash advances from EPA before 3:00 p.m. deadline;
2. There was no individual assigned to coordinate cash advance activities (for Uzbekistan Charlotte Engler in Tony Jover's staff assisted the team in this matter); and
3. Procedures identifying all necessary forms, signatures, and requirements for inter-agency money transfers need to be easily accessible.

D. Hazardous Materials (Hazmats): Some of the equipment the team required in Uzbekistan required the use of hazmats, such as fuel for the generators, and chemicals for sampling. Obstacles were encountered in determining which materials were considered hazmats and what restrictions existed in transporting them.

E. Team Lodging While in Washington D.C.: There was some confusion encountered in obtaining lodging in Washington D.C. for team members from other parts of the country.

F. Logistics: Procedures for coordinating transfer to and from airports should be clarified and readily available.

G. Military Air Transport Requirements: For military transport, EPA needed body weight of team members.

H. Travel Logistics: Delays were incurred in determining travel arrangements for team, the organization through which to arrange travel (i.e., Omega Travel, government, or personal arrangements), and how to identify contacts to assist in processing the necessary forms, obtaining signatures, and providing general assistance.

I. Non-Duty Logistics: Procedures for obtaining Travel Authorizations and cash advances, and for addressing other logistical issues during non-duty hours need to be improved and readily available.

J. Medical Requirements: Medical concerns were raised during departure preparations. In preparing to send the team, concerns surfaced in determining:

1. Medicine that can be brought into the affected country;
2. Medicine that is available in the affected country; and
3. How to meet any special requirements of team members.

K. Returning to the U.S.: Problems occurred in coordinating the team's return to the U.S.

1. The debrief was not scheduled ahead of time. The team was expected to debrief upon arrival in the U.S., but this did not occur. Problems surfaced in coordinating the debrief because the team returned to the U.S. at different times and locations; and
2. Procedures that assist in identifying options for changes in plans and itinerary need to be clarified.

2.6 Equipment Cache Issues

A. In-Country Equipment: There was confusion in identifying the kind of equipment necessary to support the team.

1. Safety equipment/protective gear;
2. Communications; and
3. First aid kits.

B. Equipment Transportation Requirements: The team faced delays when it was revealed that the size and weight of each piece of equipment must be documented. Documentation is necessary to assist DoD in preparing transportation of the team and equipment.

C. Customs: Problems arose in determining how to return equipment from the affected country to the U.S.

1. Size and weight for return transport; and
2. Customs requirements of affected country.

D. Returning Equipment to U.S.: Options for returning the equipment need to be identified, established in an SOP, and readily available. Options which were presented included:

1. Contact the Department of State to mark equipment as diplomatic materials;
2. Negotiate with affected country to guarantee the return of equipment not marked as diplomatic property;
3. Ensure that the affected country's customs requirements do not prevent the team from returning equipment; and
4. Write-off the equipment and leave it behind.

These observations form the basis for the proposed recommendations provided in the following section. Attachments to this document provide proposed sample procedures and guidance papers and are based on the observations and recommendations made during the incident.

3.0 RECOMMENDATIONS BASED ON THE OBSERVATIONS

The following recommendations are separated by issue area and focus only on operations based in the EOC.

3.1 EOC Standard Operating Procedures

The draft EOC SOPs should be finalized as quickly as possible. Currently, activities are conducted based on individual knowledge gained from previous activations, and not on the basis of a formal system of procedures. Delays were incurred when new contract support personnel and a new receptionist were brought to the EOC to support EOC operations. These individuals needed to be trained while the EOC was activated. Time used in training these individuals could have been more efficiently spent supporting the activation. If completed, the SOPs could have been used by the new contract support staffer and the receptionist as a training guide, thus allowing for the completion of tasks in a more timely manner.

Additional SOPs and amendments should be added to the current draft document. The following suggestions should be considered:

A. Updating Fax Group Lists: The fax group lists should be updated when there is a parallel change in the CONTACTS database. Currently, the draft EOC SOPs Notebook (EOC SOPs) does not provide a procedure for this activity.

B. Document Distribution: When documents are distributed to key EPA officials, the NICT, or other groups and individuals, they should be distributed in descending order of authority (i.e., the Administrator's Office should receive documents prior to other groups or individuals). This requirement was known by the individuals working in the EOC during the activation but it is not currently formalized in the draft SOPs.

C. Unusual Events in the EOC: Procedures to provide guidance in the event of unusual conditions which prevent EOC staff from performing necessary duties should be considered. These should include contingency telecommunication procedures if

established systems are in use or disabled, emergency contacts in the event of accidents, and/or procedures for conducting operations during non-duty hours. Non-duty hour procedures should include obtaining travel authorizations and cash advances, teleconferencing with individuals not at EPA, and procuring maintenance support in the event that normal EPA maintenance support is unavailable.

3.2 Equipment, Furniture, Computer Systems, and Supplies

The current procedures in the draft EOC SOPs define material requirements and instructions for using the equipment, furniture, computer systems, and supplies in the EOC. However, additional requirements have surfaced from the experience gained from this activation. The SOPs focusing on equipment, furniture, computer systems, and supplies should be amended to reflect this additional experience. In particular, the SOPs require changes in the following two areas:

A. Checklists: Checklists in the EOC SOPs need to be amended, cleared through proper channels, and immediately implemented. Checklists assist in ensuring that maintenance is performed regularly and that items do not become lost or stolen. The checklists should be used on a regular basis to ensure that needed equipment, furniture, computer systems, and supplies are in place and operational prior to an activation.

B. Workstation Activation Boxes (WABs): Workstation activation boxes should be developed and assigned to each workstation in the EOC, including: both offices, the three workstations in the workroom, and the workstations in the backroom. The WABs should be filled with basic material requirements, such as computer disks, pens, staplers, and other basic supply requirements. A proposed SOP and a sample checklist of supplies to be placed in the WABs is provided in Attachment A.

3.3 Travel Guidance Notebooks

A Travel Guidance Notebook should be developed and placed in the EOC. Proposed information to be placed in the Notebook is provided in Attachment B. This information is designed as quick reference material needed to assist in developing, sending, assisting, and returning a team involved in an international incident.

3.4 General Information Guidance Papers

General guidance papers, or quick reference sheets should be developed and placed in the EOC. These documents should be designed to provide training on how to perform basic tasks necessary to successful EOC operations. A sample guidance paper, "Creating and Using Tables in Wordperfect" is provided in Attachment C. Additional examples of quick reference papers could include:

- Other computer and software uses (e.g., the CONTACTS Database, Wordperfect file management, Freelance Graphics);
- Programming the fax machine;

- Operating telecommunication systems; and
- Operating video systems.

3.5 CONTACTS Database

The CONTACTS database should be reprogrammed to accept information needed for international travel. Additional fields should include passport number, Social Security Number, and availability. Availability is based on the willingness to travel and medical and physical limitations, and could include other factors such as language skills and expertise.

APPENDIX H, ATTACHMENT A WORKSTATION ACTIVATION BOXES

Workstation Activation Boxes (WABs) are containers of supplies placed at each workstation in the EOC. The boxes should be marked with a warning that the material inside should only be used in the event of an activation. A sample SOP on Workstation Activation Boxes is provided below. On the following page, a proposed checklist identifies the supplies which should be placed in the WABs.

Category:	Supplies
SOP Title:	Workstation Activation Boxes
Purpose:	Ensure that each workstation has adequate supplies for initial activation requirements. Verify, on a regular basis, that designated workstation supplies are maintained in boxes.
Location:	At each workstation in the EOC.
Who Is Responsible:	EOC Manager
Procedures:	<p>Each workstation should be supplied with a workstation activation box that contains supplies required for an activation.</p> <ul style="list-style-type: none"> ● The EOC Manager should designate support personnel to verify supplies and locations of Workstation Activation Boxes. ● Workstation Activation Checklists are kept at the receptionists desk located in the EOC. The designated individual should obtain and fill out a checklist each time the procedure is performed. ● The designated individual should perform this procedure on a regular basis. ● The designated individual should sign the checklist and return the completed form to the EOC Manager. ● If items are missing or damaged, the EOC Manager should instruct the designee to procure the missing/damaged items. ● The EOC Manager should maintain a file of all completed checklists.

Workstation Activation Box Checklist

Each Workstation Activation Box should be supplied with the following items:

_____ Pens, pencils	_____ Files (Pendaflex, manilla, expanding); tabs
_____ Highlighters	An activation box is required at each workstation location. Verify that activation boxes are situated at the following locations:
_____ Notepad	
_____ Notification Information Update Forms	
_____ Stapler	
_____ Staple remover	_____ Director's Office
_____ Paper clips	_____ team Leader's Office
_____ Rubber bands	_____ Work Room Workstation #1
_____ Phone message pads	_____ Work Room Workstation #2
_____ Scissors	_____ Work Room Workstation #3
_____ Computer disks	_____ team Room Workstation #1
_____ 3 1/2	_____ team Room Workstation #2
_____ 5 1/4	_____ team Room Workstation #3
_____ Computer disk holders	_____ team Room Workstation #4
_____ Tape (Scotch, masking, mailing)	_____ team Room Workstation #5
_____ Scotch tape dispenser	
_____ Mailing labels	

Signature of reviewer

Date of review

APPENDIX H, ATTACHMENT B PROPOSED GUIDANCE DOCUMENT FOR INTERNATIONAL TRAVEL CONSIDERATIONS

This attachment provides suggestions and guidance in assisting to organize and send government representatives to international locations. The focus is on logistical issues.

1.0 Selecting team Members

The criteria for selecting team members fall into two general categories: incident-specific considerations and personnel selection. Incident-specific circumstances include:

- The conditions at the site (both long and short term conditions need to be considered, especially in terms of scientific considerations);
- The U.S. government's objectives;
- Financial options;
- The personnel skills necessary to respond to the incident and accomplish the U.S. Government's objectives; and
- The feasibility of sending a team (e.g., political and financial concerns,).

Team member selection will be based on a consideration of which agencies are involved in an operation and what personnel are available with the required skills. Several variables need to be considered in identifying individuals within the government who are eligible for team selection, including:

- Required documentation (e.g., passports, visa photographs);
- Skills and expertise;
- Medical condition;
- The potential length of the mission;
- Family considerations;
- Cultural influences in the affected region;
- Availability to travel; and
- Willingness to travel.

EPA representatives on the team could consist of On-Scene Coordinators, Headquarters personnel, regional officials, potential contractors, and other individuals. The names of these

individuals should be placed in the CONTACTS database which is easily accessible. The database should be updated whenever changes occur. The database will need the following information on potential travellers:

- Names;
- Telephone numbers (work, home, 24-hour, fax emergency contact);
- Passport number; and
- Social Security number;
- Medical requirements/limitations; and
- Level of security clearance.

Other information, such as language skills and expertise which could assist the team in ways not directly related to the mission (e.g., diplomacy, contingency planning, administration management) should also be considered.

2.0 EPA Travel Policies and Requirements

EPA has developed specific requirements for travel procedures. The following information summarizes these procedures and should be used as a quick-reference guide to expedite travel activity and is separated into two categories: travel during normal and non-duty hours.

EPA policy stipulates that EPA personnel pay travel costs directly. Travellers are reimbursed for these costs after expense reports justifying travel costs are submitted. Most often for domestic flights, flight plans can be changed; however, certain costs may accrue.

2.1 Travel Procedures during Normal Business Hours

The following information highlights travel procedures during normal business hours.

A. Travel Authorizations. All official international travel requires EPA authorizations if federal funds are spent. To obtain travel authorizations, EPA Form 2610-1 must be completed. After the form is filled out, it must be signed by an Assistant Administrator in the Administrator's office. The following information will be needed for travel authorizations:

- Name and professional information, such as title and work location, of the traveller;
- Dates of travel;
- Purpose of trip;

- Approximate cost of the trip; and
- Mode of travel.

B. Team Logistics. Logistical matters will vary depending on the circumstances of an event, the time-frame during which activities are happening, and the size and scope of the activity. Issues and requirements which have been addressed in past activations include:

- Travel from U.S. location to EPA Headquarters in Washington D.C. Requirements for getting the team to Washington D.C. include funding for domestic travel and travel authorizations from regional location to Washington
- Lodging while in Washington D.C. Requirements include identifying hotels, space for equipment, and funding for hotels while team members are in Washington.
- Transportation to and from EPA Headquarters and airports. The team might require taxis, vans, or large trucks depending on the equipment they are bring to the airport.
- Determining equipment and supplies needed by the team; The team will need assistance in identifying the location of equipment needed for the mission, possibly including:
 1. The purchase of new equipment and accessories;
 2. Borrowing equipment from other agencies involved in the operation;
 3. Renting or leasing equipment from private sources;

Funding for equipment requirements will also need to be addressed.

- Identifying and coordinating equipment storage and care. Depending on the types of equipment, certain special arrangements will need to be made to ensure that the equipment is maintained in good working order prior to the team's departure.
- Scheduling meetings, briefings, work space, and other needs for the team. The team will require access to computers, conference rooms, teleconference and communication systems while developing strategies, coordinating schedules, and other activities prior to departing for the affected site.

C. Cash Advances. Cash advances are provided to individuals when it is expected that significant costs will accrue due to travel. Cash advances must be authorized by an authorized official in the Administrator's office. Cash advances must be picked up in person at the EPA's cashier office no later than 3:00 pm each working day. Persons obtaining cash advances must provide identification and sign, in person, for the advances.

2.2 Travel Procedures during Non-duty Hours

EPA is currently in the process of developing specific procedures for travel during non-duty hours. The following section provides information and options which are available until the cedures have been developed and finalized.

A. Travel Authorizations. Under certain circumstances, teams may need to organize and depart the country during non-duty hours. The following sections provide guidance on how to expedite international travel during non-duty hours.

B. Team Logistics. Coordinating the Team's activities will be more difficult during non-duty hours. Issues which will need to be addressed include:

- Travel from different U.S. locations to a specific meeting place either in Washington D.C. or at a specified location. The Team may need to meet and coordinate logistical matters at a location away from EPA headquarters (a particular international airport, for example).
- Lodging while in Washington D.C. Requirements include identifying hotels, space for equipment, and funding for hotels while team members are in Washington.
- Transportation to and from different locations and airports. The team might require taxis, vans, or large trucks depending on the equipment they are bring to the airport.
- Identifying and coordinating equipment storage and care. In addition to the concerns listed above, it may also be necessary to find alternate staging areas, storage facilities, and means of transportation for equipment and supplies.
- Accessing facilities to conduct meetings and briefings, identifying work space, and other needs for the team. The team may require access to computers, conference rooms, teleconference and communication systems while developing strategies, coordinating schedules, and other activities prior to departing for the affected site.

C. Cash Advances. Steps should be taken by all individuals likely to respond to an incident to ensure that cash advances are available or that some other means of supporting the Team financially is available prior to an incident.

3.0 Travel Logistical Information

Omega Travel located on the North side of Waterside Mall on the street level is contracted to handle commercial carrier reservations and ticketing for the EPA. Omega will require the following information on domestic flights:

- EPA Travel Authorization(s);²
- Flight plans including anticipated departure and return times;
- Travellers' names; and

² Travel Authorizations are explained in Section 3.1 of this document.

- Credit card numbers.

For international travel, the following additional information will be required:

- Passports or passport numbers;
- Visas, when applicable; and
- Other foreign country requirements which might exist (e.g., proof of inoculations, listings of equipment for customs).

3.1 Passports

All EPA personnel travelling on official business should obtain a U.S. government passport. Passports require a recent photograph and personal information on the traveller, including:

- Name;
- County and country of origin;
- Date of birth; and
- Government affiliation (?).

EPA personnel travelling on official business should not use a personal passport.

3.2 Visas

Many countries require that all foreigners obtain a visa in order to enter their territory. Visa requirements may be identified by contacting Omega travel, a foreign embassy, or the U.S. Department of State. To obtain the actual visa, the following information is required:

- Personal information about the traveler (e.g., name, date of birth);
- Purpose of visit;
- The length of the visit;
- The planned location of the foreigners while in-country; and
- Other data such as verification of required shots, amount of money, types of materials or equipment, or medicine being brought into the country.

In emergency situations, EPA may ask the U.S. Department of State to assist in speeding the process and obtain the required visas quickly. The country or regional desk within the U.S. Department of State can provide the specific requirements necessary for travelling to those

countries under their purview. To contact the State Department call the main operator at (202)647-4000. Ask the operator to direct you to the particular desk.

All potential international travelers should have three passport photos made and filed in case quick departure time is needed. Health information should also be kept for easy access to ensure that all necessary foreign country requirements can be checked and verified.

3.3 Flight Logistics: Using Government Transport

Air travel can be arranged through commercial or federal carriers. The events surrounding an incident will dictate the type of carrier that will be used. Typically, commercial travel is preferred; however, during certain kinds of incidents, it might be less expensive and more efficient to use military aircraft. This is especially the case when the team will require large or many types of equipment. The advantages to using military aircraft under these conditions are twofold. First, military aircraft are more accommodating and better equipped for handling equipment than commercial carriers. Second, by using military aircraft, the team can place the equipment under diplomatic protection. Diplomatic protection is beneficial when returning equipment to the United States. (For example, the team was able to clear their equipment through Uzbekistan customs because it had been marked as diplomatic property of the United States. The U.S. contractor working at the well site did not have this protection and had difficulty returning their equipment.)

One drawback to military transport is that certain airfields cannot accommodate military airplanes. The individual in charge of coordinating travel logistics should contact the U.S. Department of State and/or Department of Defense and verify that airstrips near the incident site can accommodate the carrier which will be transporting equipment and supplies.

During both Operation Desert Storm and the Uzbeki Oil Well Incident, team members used military transport. These two events were similar in that the EPA coordinated their departures with pre-planned military flights to the region.

When EPA personnel use military transport to fly internationally, they are required to have a passport, obtain a visa (where applicable), and maintain a listing of equipment. They are also required to report their individual weight.

To obtain transport on military aircraft, the CEPPO official designated to coordinate mission logistics should identify a liaison in the Department of Defense. The type of transport available will depend on the conditions of the event. A large oil spill in the international waters or in the territorial waters of a foreign state will require the use of Coast Guard or Navy vessels, while an inland disaster such as an earthquake or major hazardous substance release will require the use of Air Force aircraft. Initial contact numbers for obtaining information on military transportation is provided in the following table (703) 545-6700.

0 Field Equipment Considerations

If the team is required to survey an incident on site, Headquarters staff will be required to provide logistical support to coordinate, gather, and deliver equipment needed for response efforts. The following information highlights common equipment concerns.

4.1 Types of Equipment/Supplies Needed

In the past, four types of equipment/supplies were required by teams travelling abroad:

- Sampling, Monitoring, and Assessment. For both Desert Storm and Uzbekistan, the teams' mission plans included monitoring and assessment. The technical experts on the team should provide a list that identifies the types of equipment that will be required to perform monitoring tasks. Items could include monitoring equipment, analyzing equipment, hand held recorders for field observations, and other related supplies. The official in charge of coordinating equipment and supplies should use this list to verify that the team's equipment requirements are available.
- Data Management. The team will need access to computer systems to record data obtained from field and other sources. The official coordinating equipment and supplies will need to determine the types of computer systems available at the affected site and procure any additional data systems the team might need. This may include:
 - Personal and/or portable (laptop) computers;
 - Printers;
 - Faxes;
 - Storage disks; and
 - Accessories (e.g., cables, adapters, paper).
- Communications. The team will need to have the capability to communicate with Headquarters and other entities on a 24-hour basis. Depending on the circumstances and conditions in the affected country, communications requirements may include secured lines, mobile/satellite systems, and long-distance calling cards. The official coordinating equipment and supplies should verify the types of communications equipment available on-site and determine if any additional communications systems will be required.
- Personal Support. Personal equipment includes items needed to support the team but are not directly related to the specific tasks in the mission plan. These personal items could include medical supplies, clothing, bedding, food, water, and shelter, such as tents and wind tarps.

4.2 Obtaining Equipment on Loan from Other Federal Agencies

Other federal departments and agencies have assets which may be used by the team. At an early stage in coordinating the team's mission, EPA should contact involved agencies to determine if any equipment (e.g., cellular/satellite communications systems or video equipment) needed by the team is available. It will be important to determine and resolve liability issues covering other Agencies' equipment prior to the team's departure.

4.3 Contracting Equipment for Emergencies

In some cases, it may be more efficient and less costly to procure equipment from private sources. For example, if a piece of equipment is only going to be needed for a single mission, it may be less expensive to lease it from private sources. After equipment needs have been identified, efforts should be undertaken to determine the most cost effective and quickest means to procure the needed equipment.

4.4 Transporting Equipment in and out of Foreign Countries

The following three areas typically need to be addressed:

- Size, weight, and hazards (i.e., chemical) associated with the equipment, in terms of air carrier freight restrictions;
- Foreign country customs requirements; and
- Damage prevention while in transit.

The size and weight of equipment could limit the transportation options available. Certain carriers are unable to transport large items. Many carriers will not transport hazardous materials.

It is necessary to verify with customs officials in the foreign country (through the State Department, or the foreign embassy in the U.S.) that any equipment brought into the country can be returned to the U.S. If it appears that problems could exist, the U.S. Department of State should be contacted and efforts should be made to label the equipment as diplomatic property.

4.5 Verifying Operational Status of Equipment Prior to Departing to the Incident

Prior to departing to the affected site, team members should test all equipment to ensure that it is in working order. The team should also verify electrical and other requirements (such as the availability of gasoline for generators) prior to leaving.

5.0 In-Country Logistical Requirements

Logistical requirements for international response efforts will vary among incidents. The variations result from the unique circumstances and conditions, such as geography, language, customs, technological capability, and relations with the United States, of the affected country. This section is designed to identify those items or activities which will need to be addressed prior

a team's departure. The following list of items should be reviewed early in the activation process.

A. Background Information. The team will need to be aware of the political and cultural structure of a society, the geographical and meteorological characteristics relevant to the incident, as well as other types of information, such as customs and religious concerns. There are many sources of information from which the team may acquire this information, including:

- State Department Country Profiles, Cables and Advisories;
- Geographic and meteorological sources within the Government (U.S. Mapping Agency, NOAA, NASA);
- Expert knowledge from within EPA, contractors, academia; and
- Local libraries.

The team will also require incident specific information, such as amount and chemical content of a spill or gas release, the size of the affected population, medical facilities in the region, affected water sources, climate conditions, and geographical access.

B. Emergency Contacts. Headquarters staff should determine, prior to the team's departure, contact phone numbers in the affected country. These should include the Embassy phone number, the hotel phone number (when applicable), and satellite or other communication numbers that the team will have access to. Especially important is ensuring that the EOC staff know the country codes for communicating to the team (to obtain country codes, dial the international operator at "00"). Emergency communication channels should be established with the following entities prior to the team's departure:

- Embassy/Government Officials Emergency communications may be made through the U.S. Embassy. Headquarters and field personnel should have the Embassy telephone number as well as an Embassy Point-of-Contact (POC) (either within the Embassy, or at the Headquarters, U.S. Department of State). Communications between the Embassy and the Department of State are reliable.
- In-Country Emergency Numbers: The Embassy staff should identify in-country emergency numbers (e.g., hospital and police) for the team prior to departure. These numbers should be kept by the team and at the EPA EOC.
- United States: The team should maintain a list of emergency telephone numbers for communicating information to the United States. These should include:
 - The EOC phone number: (FTS) 260-3850;
 - The National Response Center 24-hour number: (202)-426-2675; and
 - Other important numbers, such as team members' home phone numbers.

C. Hazardous Materials. The U.S. State Department or the affected country's Embassy should be contacted to determine if any of the materials the team intends to bring are restricted. If so, it should be determined if any procedures exist which can be followed to exempt these restrictions. Air carriers might also have hazardous materials restrictions. The carrier should be contacted to determine the procedures for transporting needed materials. If the carrier will not transport such materials, alternate carriers should be considered. It might also be necessary to find alternate field materials.

D. Lodging. The team's lodgings need to be secured prior to the team's departure. Lodging could be provided at hotels, in military provided facilities, or tents near the incident site.

E. Medicine and Drugs. Foreign state restrictions to any of the drugs or medicine the team might be transporting should be reviewed prior to finalizing any list of equipment or supplies. If a team member requires certain types of drugs or medicine, staff should check if it will be available in country.

F. Meals The team will need adequate food and water supplies for the duration of their stay in the foreign country. This might require releasing cash advances prior to the team's departure, procuring food and water supplies from the military or a private contractor, or some other method. It is important to know the conditions surrounding the site in advance -- such as water quality -- to ensure the team's health.

G. Translators If the team might need translators, it should be determined whether their services should be procured within the United States or in the effected country. If the team are guests of a foreign country, the country might provide translators. The U.S. Embassy in the affected country might also be able to provide translators.

H. Transportation: Transportation in the affected country, the team's transportation requirements, and the most effective means to procure transportation all need to be addressed prior to the team's departure. Issues will include, air, ground, and sea transport, when applicable.

APPENDIX H, ATTACHMENT C
SAMPLE PROPOSED GUIDANCE PAPER
CREATING AND USING BOXES IN WORDPERFECT

The following instructions provide a brief summary of how to develop tables in Wordperfect. For complete descriptions, review the Wordperfect User's Manual.

Creating a Table

- Press Alt-F7.
- Select "2 Tables".
- Select "1 Create".

Defining the Table

Define the table parameters by selecting the number of columns and rows you wish to have. The computer first asks how many columns you wish to have in the table:

- Select the number and press "enter".

The computer now asks for the number of rows.

- Select the number and press "enter".

The table will now appear on the screen with the top left field highlighted. You can move about the table by using the arrow keys. Notice the bottom of the screen. A list of different commands are presented. These can be used to tailor the table for your specific needs.

Note: You are still in the Tables mode of operation and will not be able to enter text at this time. To exit the Tables Mode, press F7. (However, do not do so at this time)

Changing the Column Width

To change the width of the column press the control key and the left or right arrow.

The column with the highlighted cell will grow or shrink (the right arrow enlarges, the left arrow shrinks). All rows will be affected by the change in column width.

Creating Headers

As in the normal wordperfect mode, it is possible to block sections within the table mode. If you want to create a header row for the table:

- Position the highlight in the upper left hand cell of the Table.
- Press "F12".
- Using the right arrow key, extend the highlighted section across the entire row.
- Select "4 (Header)".
- The computer will ask how many rows. Press "1".

You will note that when you are in the header row, a star ("*") now appears in the bottom right corner of the screen. If you move the cursor down to the next row, the star disappears.

Creating Titles for the Columns

To leave the Table Mode, enter F7. The highlighting cell disappears and is replaced by the flashing cursor. With a few exceptions, working in tables is identical to working in normal Wordperfect mode. Centering (Shift-F6), will center text into the middle of a column. Indent (F4) will indent within a cell.

Note: The Tab does not move to the next tab, but rather to the next column.

Move between cells by using the arrows. Position the cursor in the top left cell. Type in the header information you want.

Note: The Star in the bottom right corner indicates that this row is a header row. This row will print out at the top of each page, BUT, it will not be visible on the screen, except on the first page.

Filling Out the Table

Just as in Wordperfect normal mode, type in the information. Move between columns and rows by using the arrows or the tab key.

Returning to Tables Mode

If you want to return to the Tables Mode, press "Alt-F7" and the cursor will reappear. Normally, this is to readjust cell size or to add or delete rows and columns.

Adding and Deleting Rows and Columns

To add columns or rows:

- Re-enter the Tables Mode (Press "Alt-F7");
- Press the "Insert" key.

In the bottom left corner of the screen, the computer will ask 1-Rows, 2-Columns.

- Select the appropriate number ("1" to add rows, "2" to add columns);
- Select the number of rows or columns you want to add.

Note: Make sure you are in the proper location within the table when adding. For example, if you add rows while you are in a Header row, the additional rows will also become header rows.

Deleting rows and columns is basically the same procedure: however, instead of selecting the "insert" key, select the "delete" key.

Note: When deleting rows, or columns, be sure that you are located in the proper highlighted field. The computer will delete the number of rows and columns you select starting with the field you are in.

For additional information about tables in Wordperfect, consult the Wordperfect User's Manual.

..ATTACHMENTS

ATTACHMENT 1: UZBEKISTAN BACKGROUND PAPER**THE STATE OF UZBEKISTAN:
FACTS, FIGURES, AND AN OVERVIEW OF THE AREA
SURROUNDING THE OIL WELL BLOW OUT IN THE FERGANA BASIN****INTRODUCTION**

This document provides a summary profile of Uzbek, an independent state that was once one of fifteen Soviet Socialist Republics with the USSR. The profile focuses on four issues: geography, demographics, political units, and Uzbekistan's international relations with other nation-states in the region.

The oil well blow out is situated in the eastern part of Uzbekistan in the Fergana Basin within the Namangan Oblast. An oblast is a political territory often defined by population, culture, or other demographic considerations. They are comparable to counties in states. The capital city of the region is also named Namangan. The area is approximately 300 kilometers east of Tashkent, the nation's capital. The Syr Darya flows northerly through the region. The area is Uzbekistan's most economically productive region and is well populated. All of Uzbekistan's cotton, the country's most important crop and commodity, is grown in the basin. The area supports limited oil and gas mining production. The population in the area is primarily Uzbek, with small enclaves of Tajiks and Russians.

GENERAL OVERVIEW

Uzbekistan was formed on October 27, 1924, from the territory which formerly belonged to Turkestan (to the South and West) and the Soviet People's Republics of Bukhara and Khorezm (two western autonomous oblasts within Uzbek). On 1936, the Kara-Kalpak ASSR (Autonomous Soviet Socialist Republic) was incorporated into Uzbekistan extending the republic's border west to the Aral Sea (See Figure 1). In June 19, 1990, the Uzbekistan government declared its independence from the Soviet Union by issuing the decree that republican law would take precedence over Soviet law. After the August coup, the Russian government recognized Uzbekistan's independence. Currently, Uzbekistan is member of the newly formed Commonwealth of Independent States (CIS). However, elements within the population and the government have indicated a the desire to withdraw from the CIS.

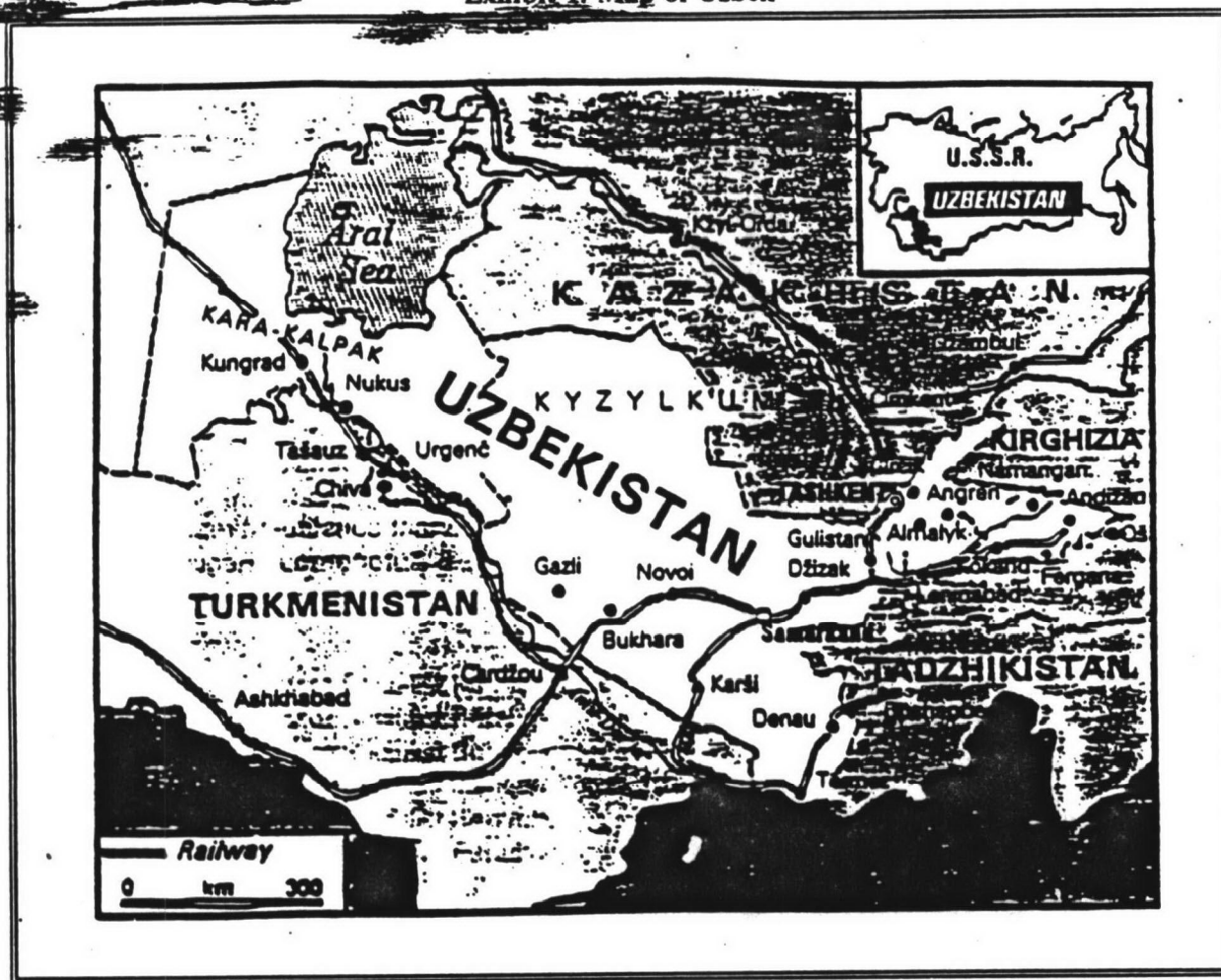
Geography

Uzbekistan is a 447,400 square kilometer land mass (approximately the size of California) in the Southern portion of the former Soviet Union (See Exhibit 1). The country borders the former Soviet republics of Kazakh (North), Kirgiz, (East), Tadzhik (South and East) and Turkmen (South and West). The Aral Sea borders the country to the North. The Amu Darya river separates Uzbekistan's southern-most border from Afghanistan.

Nearly eighty percent of Uzbekistan's territory is desert. The country's deserts are located in the northern- and western-most territories of Kara-Kalpak and Bukhara. The country rises from sea level in the West to over 7,000 feet to the East. The Pamirs and Tien-Shan mountain ranges begin their ascent along the borders of Uzbek, Tadjik, and Kirgiz. The eastern oblasts, located in this area, are more humid, and ~~these are~~ ideal for producing certain crops, particularly cotton (see below).

The Amu Darya and the Syr Darya are the two major rivers flowing northerly from the Pamirs mountain range through the former republic. The Amu flows northwesterly and separates Uzbekistan from its southern neighbor Afghanistan and portions of Turkmen. The Syr Darya flows virtually due north entering from Tadjik near Leninabad and exits the country west of Tashkent, near the city of Syr Darya.

Exhibit 1: Map of Uzbek



Both rivers flow into the heavily polluted and rapidly declining Aral Sea. The Aral Sea's water table has declined steadily over the past two decades as a result of irrigation demands in the region.

The region is highly vulnerable to earthquakes. Earthquakes have been reported in and around both the Pamirs and the Tien-Shan mountain ranges.

Agriculture

Only nine percent of Uzbekistan is arable land. As previously noted, Cotton is by far the country's most important crop. Over sixty percent, or roughly 4.86 million tons, of all Soviet-produced cotton came from Uzbek. Uzbekistan's economy is primarily based on cotton production. State requirements for cotton and poor farming and management practices, have combined to magnify soil depletion problems resulting in decreased yields in recent years. Other crops are fruit (primarily melons, grapes, and tropical plants) and grain (wheat, rice, maize). Livestock raised in Uzbekistan include sheep and cattle. The silkworm industry in the western region is well developed. Overall, Uzbekistan cannot feed its population and must import foodstuffs from other former union republics and foreign countries.

Minerals

Uzbekistan has large gas deposits, especially around Bukhara, Gazli, Kagan, and in the Fergana Basin; minor oil fields exist in Bukhara and the Fergana Basin (the Basin is situated in the eastern most portion of the former republic). In addition, coal, lignite, non-ferrous metals, and gold are mined in the territory.

Industry

The majority of industrial production in Uzbekistan is also based on cotton. The machine industry focuses on farm machinery for cotton harvesting and processing. The garment industry is also well-established. Other industries include iron and non-ferrous metal works and mining. Local natural gas and coal are the primary energy sources.

Demographics

The 1989 census identified Uzbekistan's population to be over 19,906,000. The majority of the population lives in the central and eastern portions of the country. Over 20 distinct ethnic groups live in Uzbek. The ethnic breakdown of this population is presented in Exhibit 2.

The official language of the former republic is Uzbek, a Turkish language related to the Osmanli and Azerbaijani languages. Sixty-eight percent of the population use Uzbek as their primary language. Other languages spoken in the region include Russian, Kazakh, Tadzhik, and Tatar.

Exhibit 2: Ethnic Character of Uzbek

Ethnic Group	Percentage of Population
Uzbeks (primarily non Muslims)	68.7
Russians	10.8
Tartars	4.2
Kazakhs	4.0
Others*	12.3

*Includes Iranians, Tadzhiks, Kara-Kalpaks, Koreans, Kirgiz, Ukrainians, Turkomens. and others.

The combination of Muslim tradition and a primarily rural population, both of which promote large families, account for a growth rate of 2.3 percent per annum, a figure well above the former Soviet Union's average. As a result of this growth rate, Uzbekistan's population as a percentage of the Soviet Union's grew from 6.6 percent in 1979 to 6.9 percent in 1989.

Four cities have populations of over 1 million: Tashkent, Samarkand, Andizhan, and Namangan. All of these cities are located in the eastern half of the former republic. However, the country's population is predominantly rural.

Political Units

Structure

Uzbekistan maintains a hierarchial political structure headed by a republican government which consists of executive, parliamentary, and judicial branches. Uzbekistan is separated into eight provincial governments (oblasts and/or Autonomous Republics), each with its own capital. The Kara-Kalpak ASSR is an independent autonomous region which, theoretically, has more local control over internal affairs than the other seven political units. The capital city of Uzbekistan is Tashkent. Located in the Northeast, near the border of Kazakh, Tashkent is also the largest city in the former republic.

Under provincial governments are rural and city political units. The institutional roles and positions within these units are similar to those of mayors and city councils in the U.S..

Political Affiliations

Muslim culture has resurfaced as a significant political force in Uzbek. Also, as is similar to the other Central Asian republics, communism remains a strong force as compared to the disintegration of the Party in other regions of the former Soviet Union. Other political units are based on ethnic culture (for, example, there are strong Iranian enclaves throughout the republic),

especially in the central regions of Bukhara and Khorezm. Nationalistic, Democratic and Green movements have also surfaced in the area.

International Relations

Since the August Coup, three aspects relating to Uzbekistan's international relations should be considered. First, Uzbekistan has maintained its relations with Russia and nine other former Soviet Republics through its membership in the CIS. Uzbekistan has many similar cultural and ethnic features with the four republics immediately surrounding the country (Kazakh, Kirgiz, Tadzhik, and Turkmen). Uzbekistan along with these four republics are often referred to as the Central Asian republics. Like the other Central Asian republics, Uzbekistan has initiated efforts to establish economic and political relationships with countries in the region, primarily Iran, Iraq, and Afghanistan. Turkey has also stepped up activity in the region as a hedge against excessive Iranian and Iraqi influence in Central Asia. The third major international issue is the consideration being given by the former Central Asian republics, including Uzbek, in forming a new central state, Turkestan, which would have a single central government and several provincial governments. Recently, delegates from Central Asia and neighboring republics met to discuss the formation of a Turkic state with a boundary running from the shores of the Black Sea to just inside Russia in the West and North, and to China in the East. These predominately Muslim republics now see the possibility of forging a single entity uniting the various Turkic and Iranic Muslims within a unified greater Central Asia. Opinions appear to be split as to whether this new concept was designed to coordinate economic and cultural activity or as a means of stemming possible future Russian control in the area.

Due to Uzbekistan's economic dependence to cotton and it's inability to feed the country's population, it is likely that the republic will maintain its current economic and political links in the short term. Also, because Uzbekistan's infrastructure remains entangled with the established Soviet infrastructure, for the short term, it is doubtful that any new political alliances will emerge outside of economic agreements.

ATTACHMENT 2: NEWS ARTICLE ON CENTRAL ASIA

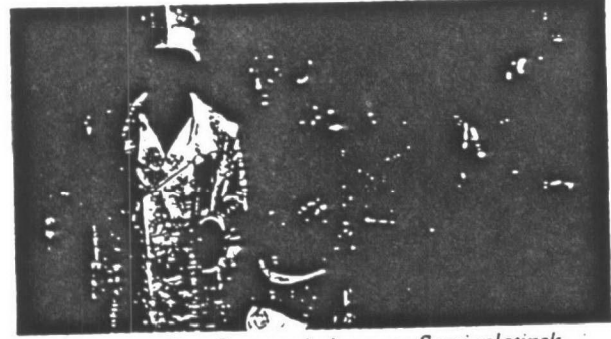
The articles on the following pages provides a general overview of the former Soviet Union's Southern Republics.

TOXIC WASTELAND

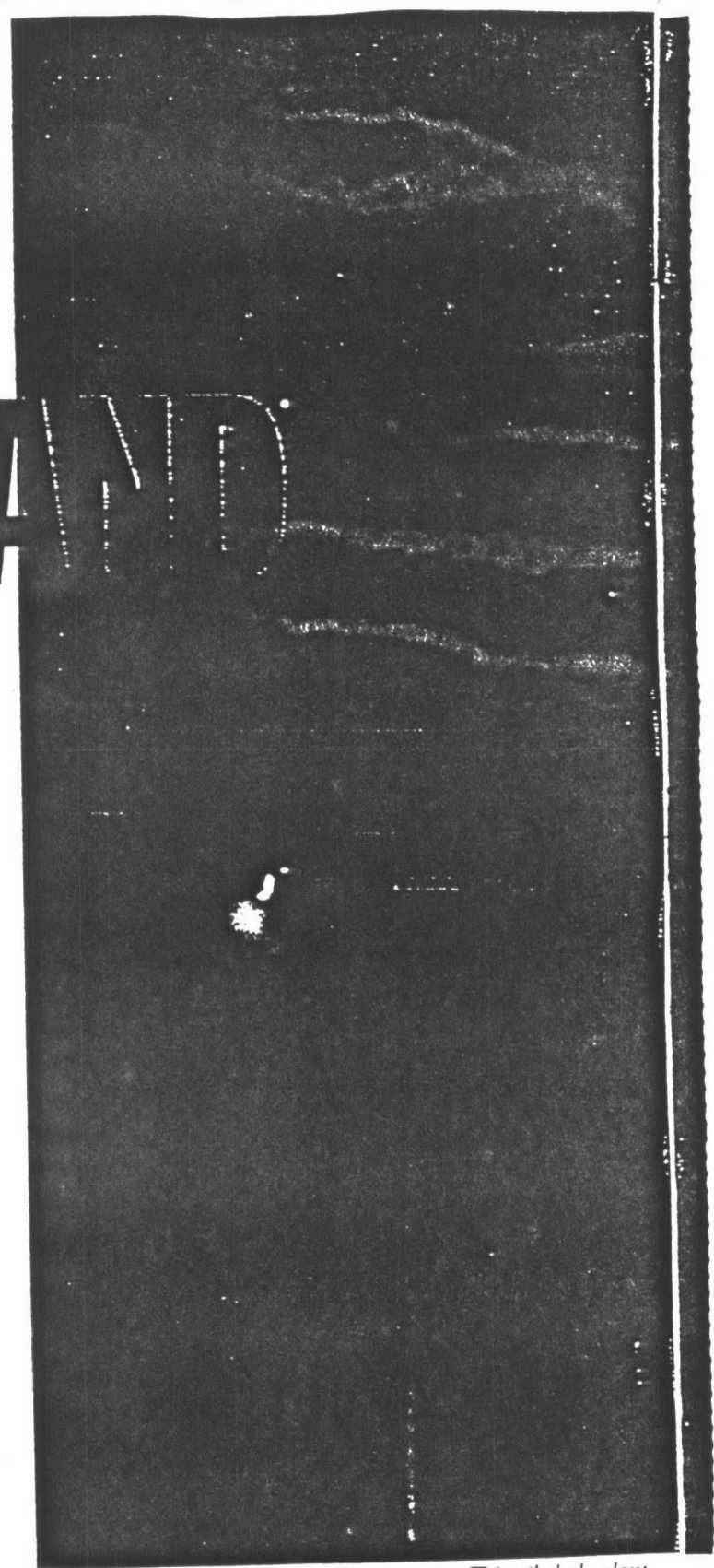
In the former Soviet Union, economic growth was worth any price. The price is enormous

In satellite photos of the Eurasian landmass at night, the brightest pools of light do not emanate from London, Paris or Rome. The largest glow, covering hundreds of thousands of acres and dwarfing every other light source from the Atlantic to the Pacific, can be found in the northern wilderness of Siberia, near the Arctic Circle. It comes from thousands of gas flares that burn day and night in the Tyumen oil fields, sending clouds of black smoke rolling across the Siberian forest. During the past two decades, the steady plume of noxious sulfur dioxide has helped to ruin more than 1,500 square miles of timber, an area that

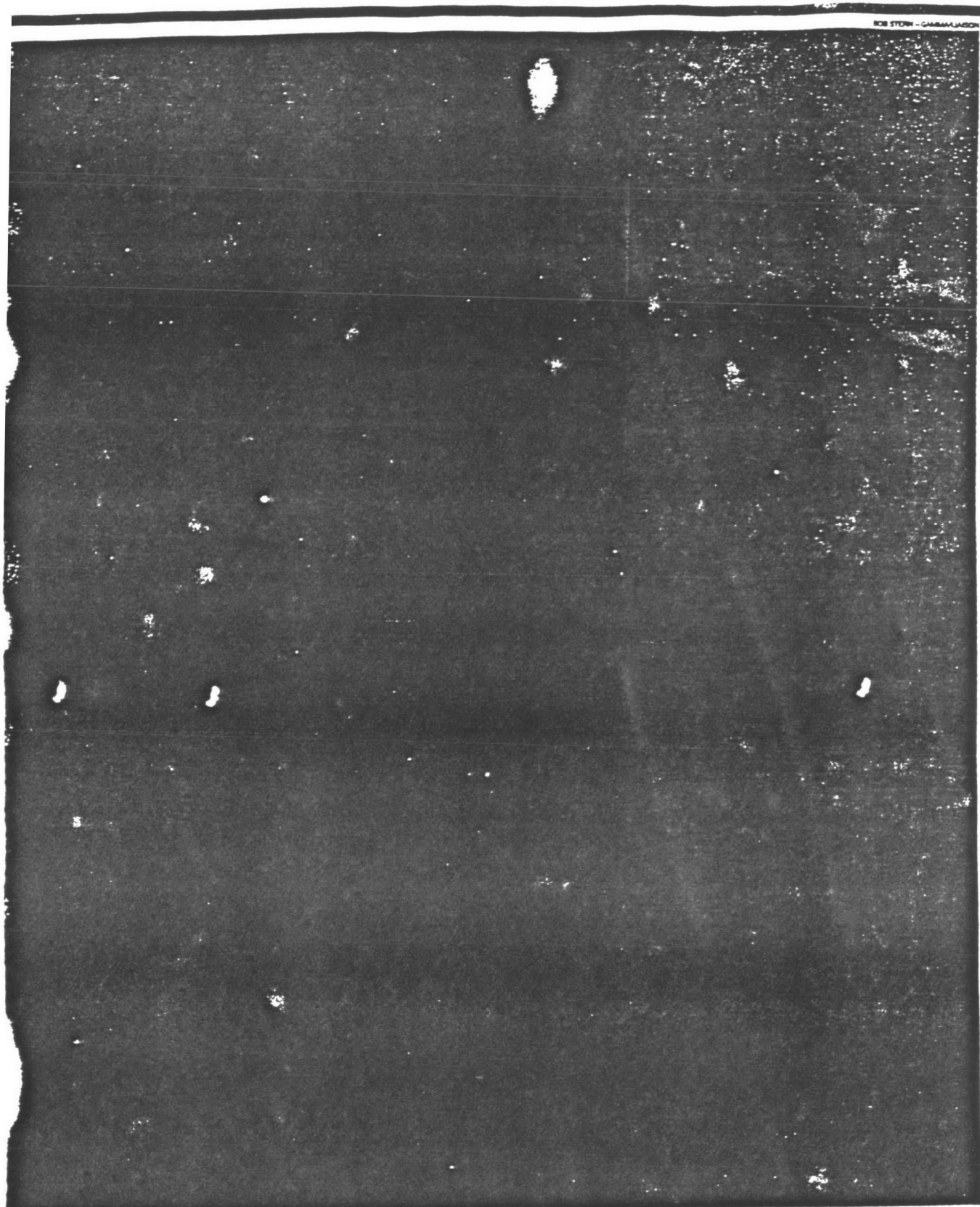
ALAN MOORE—SPINA



Cold war casualty. Cancer victim near Semipalatinsk



Poisoned air, poisoned land, poisoned water. This oil shale plant



on the Baltic coast in Estonia dumps untreated cooling and cleaning fluids and tons of industrial waste into a sea nine nations share.

WORLD REPORT

is half again as large as Rhode Island. Siberia's acid rains are just one more environmental catastrophe in a land where man has run roughshod over nature and is now facing the deadly consequences. The former U.S.S.R. had no monopoly on pollution and environmental neglect, as residents of Minamata, Mexico City and Love Canal can testify. But Soviet communism's unchecked power and its obsessions with heavy industry, economic growth, national security and secrecy all combined to produce an environmental catastrophe of unrivaled proportions.



**SOVIET
LEGACY**

"When historians finally conduct an autopsy on Soviet communism, they may reach the verdict of death by ecocide," write Murray Feshbach, a Soviet expert at Georgetown University, and Alfred Friendly Jr. in their new book, "Ecocide in the U.S.S.R." (Basic Books, \$24). "No other great industrial civilization so systematically and so long poisoned its air, land, water and people. None so loudly proclaiming its efforts to improve public health and protect nature so degraded both. And no advanced society faced such a bleak political and economic reckoning with so few resources to invest toward recovery."

In name of progress. Communism at the 290 million people of the former Soviet Union to breathe poisoned air, eat poisoned food, drink poisoned water and, all too often, to bury their frail, poisoned children without knowing what killed them. Even now, as the Russians and the other peoples of the former U.S.S.R. discover what was done to them in the name of socialist progress, there is little they can do to reverse the calamity: Communism also has left Russia and the other republics too poor to rebuild their economies and repair the ecological damage at the same time, too disorganized to mount a collective war on pollution and sometimes too cynical even to try. Even when the energy and the resources needed to attack this ecological disaster do materialize, the damage is so widespread that cleaning it up will take decades. Among the horrors:

■ Some 70 million out of 190 million Russians and others living in 103 cities breathe air that is polluted with at least five times the allowed limit of dangerous chemicals.

■ A radiation map, which has never been released to the public but which was made available to U.S. News, pinpoints

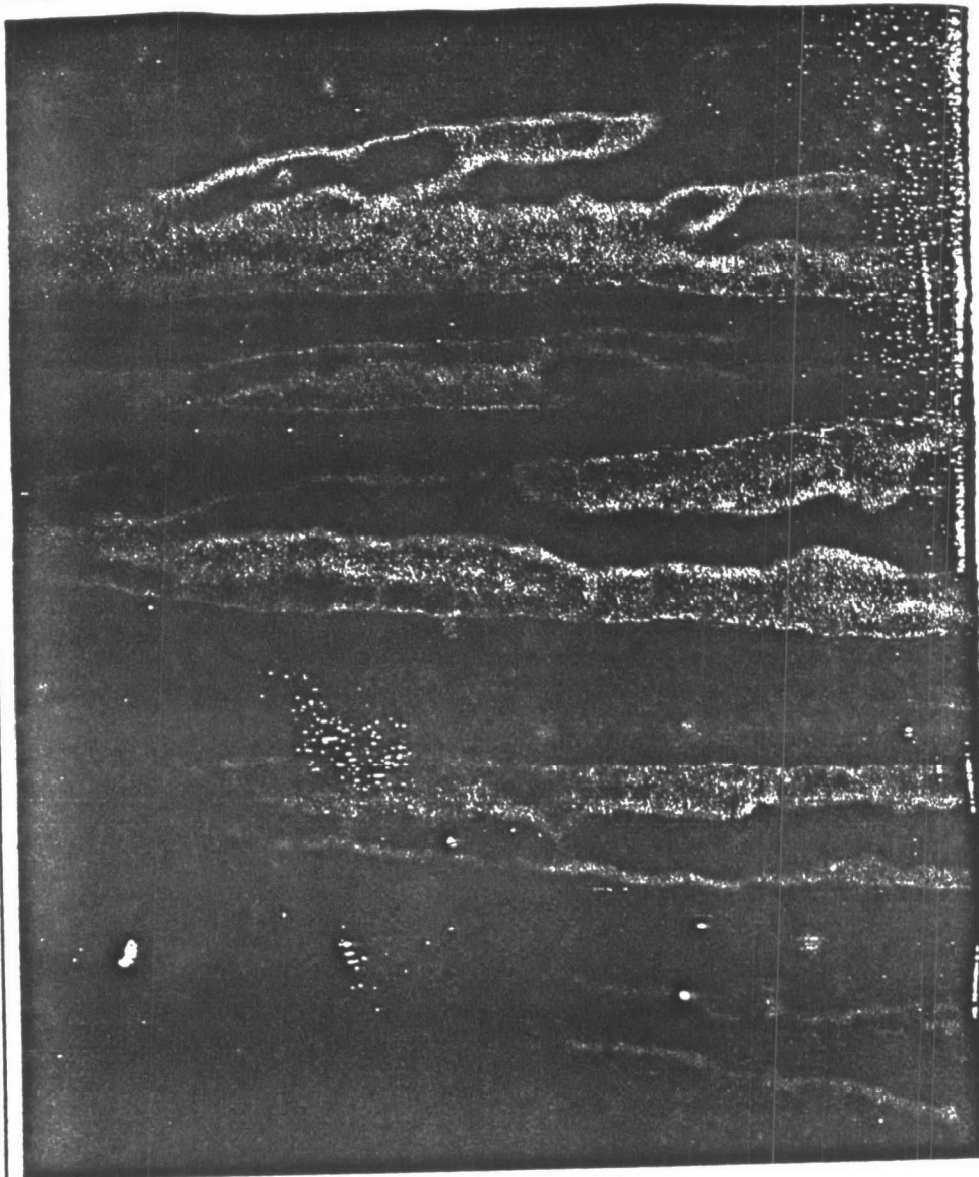
more than 130 nuclear explosions, mostly in European Russia. They were conducted for geophysical investigations, to create underground pressure in oil and gas fields or simply to move earth for building dams. No one knows how much they have contaminated the land, water, people and wildlife, but the damage is almost certainly enormous. Red triangles on the map mark spots off the two large islands of Novaya Zemlya where nuclear reactors and other radioactive waste were dumped into the sea. Tapping one location, Alexei Yablokov, science adviser to Russian President Boris Yeltsin, says a nuclear submarine sank there 10 years ago, its reactor now all but forgotten. "Out of sight, out of mind," he says with disgust.

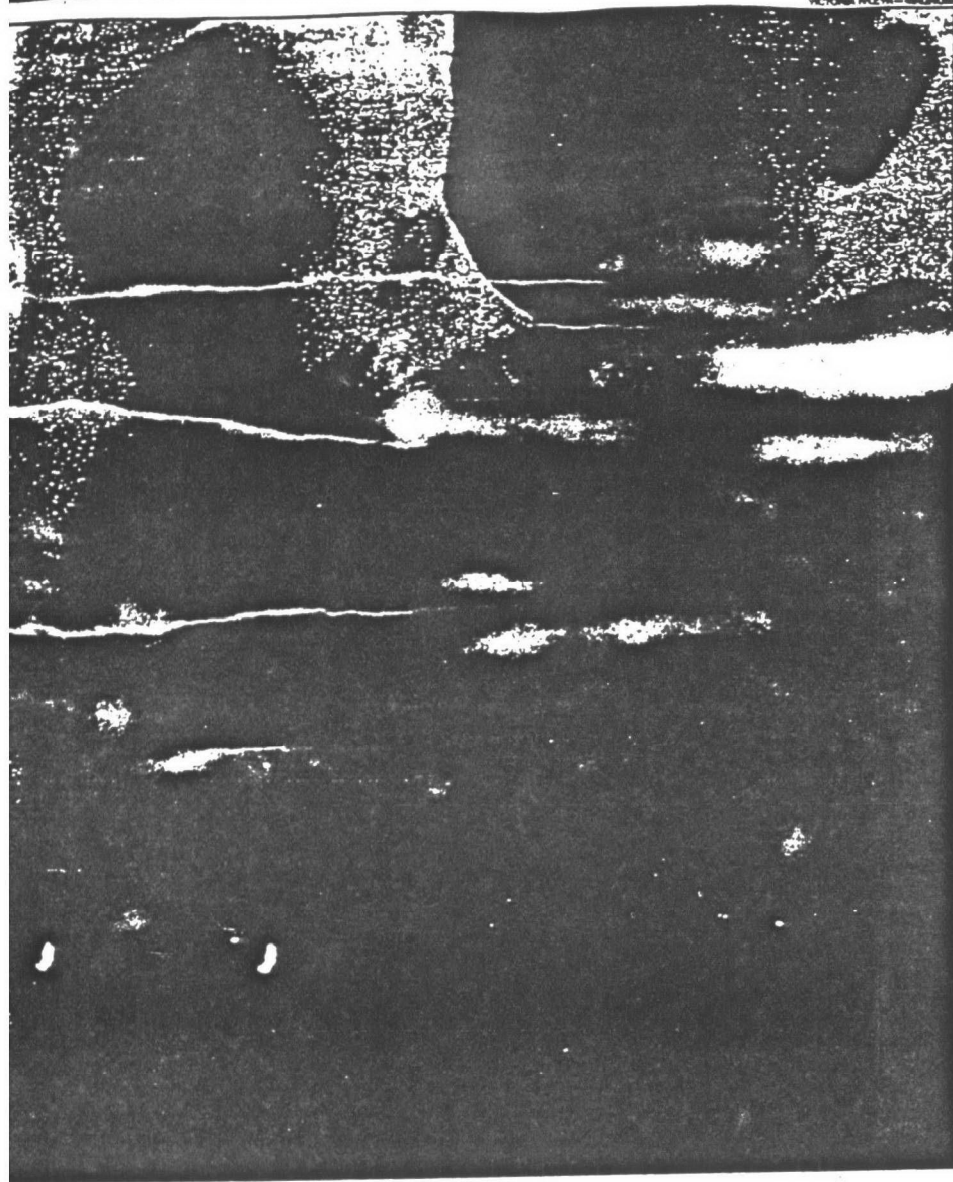
**THIRTY
PERCENT OF
ALL FOODS
CONTAIN
HAZARDOUS
PESTICIDES**

■ Some 920,000 barrels of oil — roughly 1 out of every 10 barrels produced — are spilled every day in Russia, claims Yablokov. That is nearly the equivalent of one Exxon Valdez spill every six hours. To speed up construction of oil pipelines, builders were permitted to install cutoff valves every 30 miles instead of every 3, so a break dumps up to 30 miles worth of oil onto the ground. One pool of spilled

oil in Siberia is 6 feet deep, 4 miles wide and 7 miles long.

■ According to Yablokov, the Siberian forests that absorb much of the world's carbon dioxide are disappearing at a rate of 5 million acres a year, posing a bigger threat to the world environment than the destruction of the Brazilian rain forests. Most of the damage is caused by





VICTORIA MEYER—MAGNUM



PIERRE KOHLER—SYGMA

Innocent victims. Young casualties of the Chernobyl nuclear accident await treatment in a Minsk hospital, left. Above, scientists measure the effects of radiation near Chelyabinsk, where a 1957 nuclear explosion was covered up.

pollution and by indiscriminate clear-cutting, mostly by foreign companies, in soil that can't tolerate such practices.

■ Because the rivers that feed it were diverted, the Aral Sea is evaporating, altering rainfall patterns, raising local temperatures as much as 3 degrees and releasing so much salt and dust that the level of particulate matter in Earth's atmosphere has risen more than 5 percent.

■ Officials in Ukraine have buried 400 tons of beef contaminated by radiation from the Chernobyl nuclear accident. An additional 920 tons will be buried in June.

A confidential report prepared by the Russian (formerly Soviet) Environment Ministry for presentation at the Earth Summit in Rio de Janeiro this

summer blames the country's unparalleled ecological disaster primarily on a policy of forced industrialization dating back to the 1920s. The report, a copy of which was obtained by *U.S. News*, notes the "frenetic pace" that accompanied the relocation of plants and equipment to the Urals and Siberia during World War II and their rapid return to European Russia after the war. This, the report says, created a "growth-at-any-cost mentality."

The communist state's unchallenged power also was reflected in its obsession with gigantism and in its ability to twist science into a tool of politics. The late Soviet President Leonid Brezhnev planned to reverse the flow of the Irtysh River, which flows north, in order

**TWO
KINDERGARTENS
IN ESTONIA
WERE BUILT ON
A RADIOACTIVE
WASTE DUMP**

to irrigate parts of arid Central Asia for rice and corn growing. But to redirect 6.6 trillion gallons of water each year would have required building a 1,500-mile canal. Critics warned that the project would alter world weather patterns, but Soviet officials gave up only after spending billions of rubles on the plan. "Soviet science became a kind of sorcerer's apprentice," write Feshbach and Friendly.

Unexplained anthrax. Not surprisingly in a nation obsessed with national security and secrecy, another culprit was the military-industrial complex, which the Environment Ministry's report says "has operated outside any environmental controls." In 1979, some 60 people died in a mysterious outbreak of anthrax near a defense institute in Sverdlovsk (now renamed Ekaterinburg). After years of Soviet denials of any link with defense matters, the Presidium of the Supreme Soviet voted in late March to compensate the victims of the incident and conceded that it was linked to "military activity."

At the same time, the report says, communism's reliance on central planning and all-powerful monopolies produced an "administrative mind-set" that created huge industrial complexes that overtaxed local environments. The report says the emphasis on production over efficiency has led to some 20 percent of all metal production being dumped—unused—into landfills. Nor did Soviet industries, shielded from competition, feel any need to improve efficiency or switch to cleaner, more modern technology.

Worse, it became virtually impossible to shut down even the worst offenders, because doing so could wipe out virtually

WORLD REPORT

an entire industry. In Estonia, for example, the Kohtla-Järve chemical plant, a major water, squeezes 2.2 million barrels a year from shale and provides 90 percent of the energy for the newly independent country. Environment Minister Tanis Kaasik says flatly that it is "impossible" to shut down production.

Terrible secrets. A pervasive secret police force, meanwhile, ensured that the people seldom found out about the horrors visited on them in the name of progress and that, if they did, they were powerless to stop them. It took Soviet officials more than 30 years to admit that an explosion had occurred at a nuclear storage site near Chelyabinsk in 1957. The blast sent some 80 tons of radioactive waste into the air and forced the evacuation of more than 10,000 people. Even with *glasnost*, a cult of silence within the bureaucracy continues to suppress information on radiation leaks and other hazards. Indeed, the No. 1 environmental problem remains "lack of information," says former Environment Minister Nikolai Vorontsov.

Even now, with the fall of the Communist Party and the rise of more-democratic leaders, there is no assurance that communism's mess will get cleaned up. Its dual legacy of poverty and environmental degradation has left the new political leaders to face rising demand for jobs and consumer goods, growing consternation about the costs of pollution, and too few resources to attack either problem, let alone both at once.

Although 270 malfunctions were recorded at nuclear facilities last year, economic pressure will make it difficult to shut down aging Soviet nuclear power plants. In March, radioactive iodine escaped from a Chernobyl-style plant near St. Petersburg, prompting calls from German officials for a shutdown of the most vulnerable reactors. Yeltsin adviser Yablokov warns that "every nuclear power station is in no-good condition, a lot of leaks." In the short term, Russia has little choice but to stick with nuclear power, which provides 60 percent of the electricity in some regions.

Environmental consciousness has permeated only a small fraction of society, and rousing the rest will require breaking the vicious circle of social fatalism. "We haven't got any ecological culture," says Dalia Zukiene, a Lithuanian official. Russian aerosols still contain chlorofluorocarbons, though Russia has now banned them, but if a Russian is lucky enough to find

A swath of destruction

The environmental destruction wrought by the Soviet state stretches across thousands of miles—from radioactive soil in Ukraine to poisoned fish in the Volga to disappearing forests in Siberia.

a deodorant or mosquito repellent, he will grab it—regardless of the consequences to the ozone layer. "We still bear the stamp of *Homo sovieticus*—we're not interested in the world around us, only in our own business," says Zukiene. Adds Alla Pozhidayeva, an environmental writer in Tyumen, in the oil fields of western Siberia: "Sausage is in the first place in people's minds."

Despite the mounting toll, the environmental activists who rushed to the barricades in the early days of *glasnost* have largely disappeared. When the Social Ecological Union recently tried to update its list of environmental groups, it found that more than half of them had disbanded in the past year.

SIX MILLION
ACRES OF
PRODUCTIVE
FARMLAND
WERE LOST TO
EROSION

Radioactive contamination
More than 50,000 square miles were contaminated by radioactive material released in the Chernobyl disaster alone.

Aging nuclear reactors
Ten Chernobyl-type reactors and six other poorly designed power plants in Russia.

Air pollution
Occasionally, 103 cities exceed air pollution limits by a factor of 10.



"If people go to a meeting at all, it isn't for the sake of ecology," says Vladimir Loginov, an editor of *Tyumen Vedomosti*, a newspaper in the Tyumen oil region. "They have to eat."

In fact, the crisis of leadership afflicting much of the former Soviet Union poses a whole new set of threats to the environment. The loosening of political control from Moscow already has turned the provinces—especially Siberia—into the Wild West. Local authorities, particularly in the Far East, have extended vast timber-cutting rights to



foreign companies, especially Japanese and South Korean, without either imposing strict controls on their methods or requiring reforestation. "The economic chaos here presents enormous opportunities for local administration, without any government control, to cut forest, to sell it abroad and to receive some clothes, cars, video equipment," says Yeltsin adviser Yablokov. "If you visit the Far East forest enterprises, you will be surprised how many Japanese cars you will find."

The breakup of the Soviet Union is adding to the tensions. Despite Chernobyl, Ukraine, facing an energy crisis as the price of the oil it imports from other regions rises to world levels, is quietly contemplating building new nuclear power plants. But a stepped-up Ukrainian nuclear power program would create its own problems: Krasnoyarsk, the tra-

ditional dumping ground in Russia for nuclear waste, is refusing to accept Ukraine's spent reactor fuel because Ukraine is demanding hard currency for its sugar and vegetable oil.

In the mountainous Altai region of Russia, which recently declared itself autonomous and elected its own parliament, newly elected officials are trying to revive a controversial hydroelectric project on the Katun River. Victor Danilov-Danilyan, the Russian minister of ecology and natural resources, says local officials in Altai, many of whom are former Communist Party leaders, are now trying to cast the battle over the project as a nationalist issue. He says local authorities have deliberately ignored the danger of increased toxic wastes in the water and intentionally

underestimated both how much the project will cost and how long it will take to build. "They're just deceiving people," Danilov-Danilyan charges. "They just want to grab as much as they can while they're in power, to build *dachas* for themselves."

Still, there are some glimmers of progress, including the recent creation of three new national parks in Russia. In February, President Yeltsin signed a new environmental law that empowers local officials or even individuals to sue an offending enterprise and demand its immediate closure. It also holds polluters, not some distant ministry, responsible for their actions. The new law further permits aggrieved parties to sue for damages, not just fines. The environmental ministry's report notes that over the years, "few ministries, if any, chose to clean up their act and didn't go beyond paying lip service to the need to protect the environment." In most cases, polluters got off with small fines or escaped punishment altogether by passing the buck to government ministries.

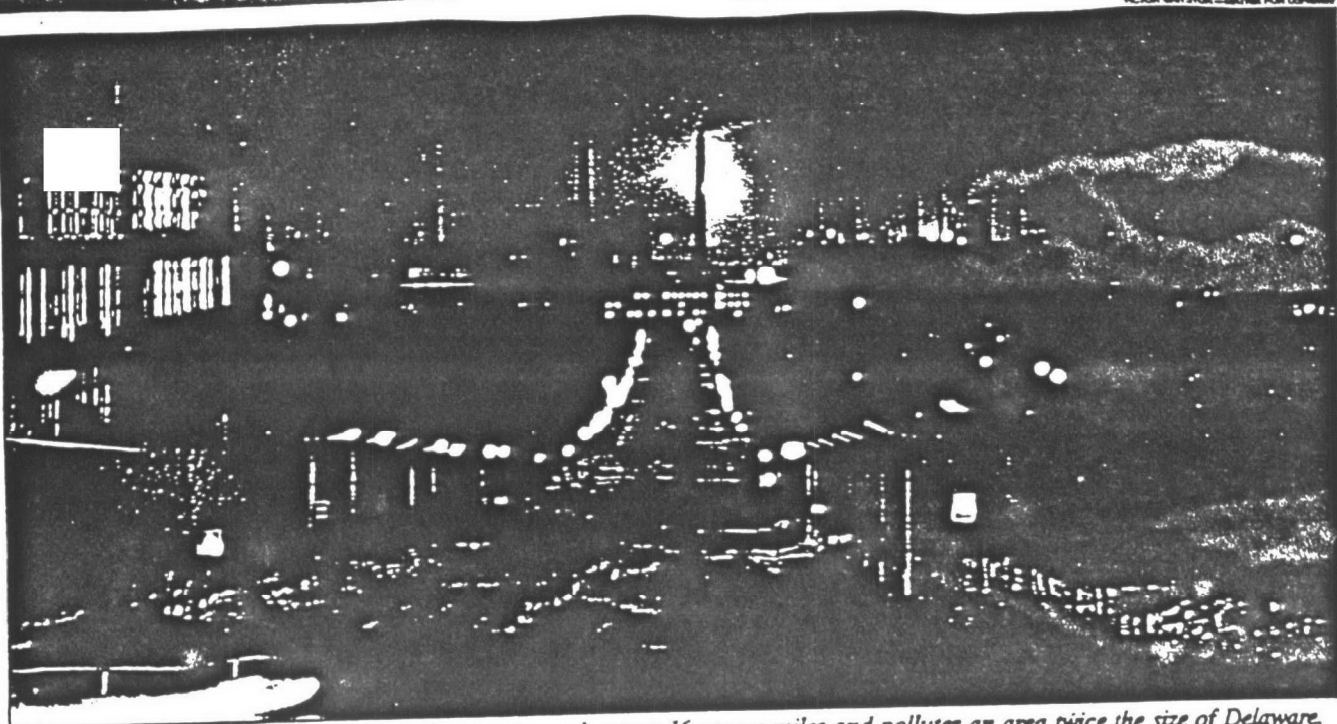
But Vladislav Petrov, a law professor at Moscow State University and the main author of the new legislation, says that if it is strictly enforced, the law would shut down 80 percent of the country's factories overnight. In the sooty steel town of Magnitogorsk, in the Urals, an independent radio journalist says he will try to force the Lenin Steel Mill, which employs 64,000 people, to close. He doubts he will succeed.

Growth industry. Moreover, while the new, 10,000-word statute has teeth, only a handful of lawyers, and even fewer judges, are familiar with environmental law. Petrov says the courts are ill-equipped to handle claims from individuals and would be overwhelmed if people tried to collect damages from polluters. "In order for this article of the law to be effective, the whole court system should be changed," he says.

Still, environmentalism is a growth industry in the former Soviet Union. Many scientists in fields such as nuclear physics hope to recast themselves as ecologists. Mindful that the Russian government does not have the funds for large projects, they are looking for foreign partners to join them in cleanup projects. So far, most Western groups have offered advice but not much money.

Some Western input may be

**SCIENTISTS
RECENTLY
FOUND 11
MORE AREAS
POISONED BY
CHERNOBYL**



Steeltown blues. The Lenin Steel Works in Magnitogorsk covers 16 square miles and pollutes an area twice the size of Delaware.

necessary, however, to prevent the environmental effort from succumbing to its own form of gigantism. One Central Asian academic's plan for saving the Aral Sea, for example, calls for building a 270-mile canal from the Caspian Sea to divert water into the depleted Aral Sea because the Caspian Sea is low. In the Aral, the water would have to be pumped into the canal, and

**THE SOVIETS,
WITH 10% OF
AMERICA'S
CARS, HAD 67%
OF U.S. AUTO
POLLUTION**

that would require considerable electricity. The proposed solution: Build a network of solar power stations.

The spreading ecological disaster may yet force change on an impoverished and cynical people. "We

have a Russian saying: The worse, the better," says Yablokov. "This situation has now become so obvious for all people that I feel that a lot of decision makers began to turn their minds in this direction." The Stalinist idea, he says, was to build socialism at any cost because afterward there would be no more problems. "It was an unhealthy ideology," he says. "Now I feel that my people are coming to understand the depths of this tragedy."

BY DOUGLAS STANGLIN WITH VICTORIA POPE IN MOSCOW, ROBIN KNIGHT IN TYUMEN, PETER GREEN IN TALLINN, CHRYSTIA FRIEDLAND IN KIEV AND JULIE CORWIN

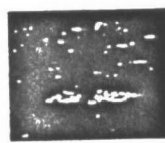
Breathing sulfur and eating lead

Magnitogorsk's children need oxygen cocktails

A faded red-and-white sign, tucked away in a drift of blackened snow near the entrance to the Lenin Steel Works in Magnitogorsk, still issues the old Soviet call to arms: "To you, our beloved motherland, we give our labor and our hearts." And our lungs as well, it might have added.

Encased in a perpetual cloud of red, white and purple gases spewing from two dozen smokestacks, the 60-year-old steel plant, located on the banks of the Ural River, is both life and death for this city of 440,000—an economic boon that provides jobs for 64,000 workers and an environmental disaster that saps the health of all for miles around. Magnitogorsk's children's hospital is crowded with bronchial asthma cases. Doctors say that two thirds of the diseases they treat are linked to respiratory problems.

The Lenin Steel Works, the world's largest, is a communist dream come true—and that is the problem. Only a



**SOVIET
LEGACY**

Stalinist system that could both rouse and frighten the masses could have built such an industrial monster in the middle of the icy Russian wilderness, 670 miles east of Moscow.

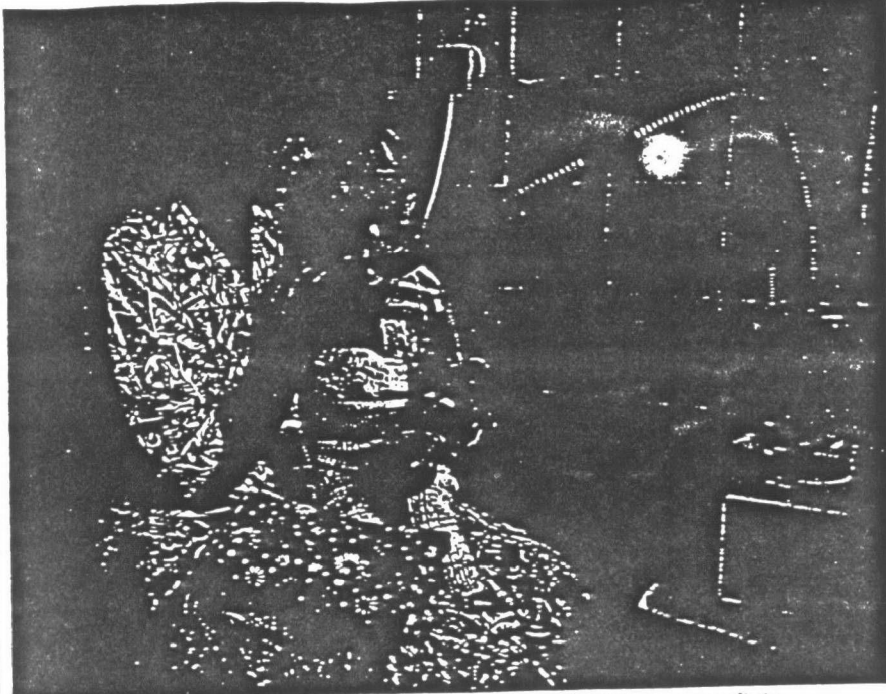
Named for the "Magnetic Mountains," which are rich in iron ore, Magnitogorsk is the anchor of a huge industrial belt that was founded east of the Ural Mountains in the 1930s to help the Soviet military-industrial complex turn out tanks and rifles. In World War II, the equipment of 24 entire steel related factories was transported to the Magnitogorsk plant almost overnight from European Russia, ahead of advancing German troops. During the war, the Lenin Steel Works produced half of all the Soviet Union's tanks and 1 out of 3 of its artillery shells. Today, relying largely on the same 50-year-old equipment, the open hearths of the sprawling, 16-square-mile factory produces 20 percent of Russia's steel.

But with the demise of Soviet propa-

**THE BREAST
MILK OF SOME
MOTHERS IS
POISONED
WITH
PESTICIDES**

THE BREAST gray. At night, the taste of sulfur settles thickly on the tongue.

The hospital is adding a new rehabilitation center for respiratory patients, but it still won't be able to keep up with a caseload that has jumped from 270 patients a year a decade ago to more than 500. Fewer than 1 percent of the city's children are estimated to be in good health. Irina Cuerednicher '20, the director of the hospital's respiratory diseases department, says heavy pollution, exacerbated by poor diet, is the primary culprit.



Pollution's toll. A mother helps her child inhale vaporized drugs at a clinic.

To treat the worst respiratory cases, doctors administer an "oxygen cocktail" made of fruit juice, sugar and egg white

infused with pure oxygen—an elixir that, while nutritious, is more wishful thinking than serious medicine, according to Western experts on respiratory disease. Faced with an acute shortage of medical supplies, the hospital can handle only a fraction of those in need. Even the “cocktail” mixer is out of service for lack of a rubber belt. To provide treatment to less critical patients, one group of mothers is trying to raise

THE DEATH OF THE BALTIC

Turning a sea into toxic soup

The Baltic Sea is dying. A quarter of

Amundsen sea. The Baltic, in reality a vast estuary of brackish water, is particularly vulnerable to pollution. Flushed from the ocean only through the narrow Danish straits, it takes the sea up to 50 years to exchange all its water. Because its freshwater content is so high, the Baltic supports few plant

None of this worried Soviet plant test engineer Vladimir Likhin's second-in-command, who has no experience at all and most other cities in the Baltic republics have only rudimentary treatment plants. Construction of small facilities in Lithuania was halted after the Soviet Union collapsed, and their machinery evaporated.

Officials of the Helsinki-based Baltic Marine Environmental Commission are due to unveil a comprehensive cleanup program this month. Finnish experts calculate that cleaning the dying Baltic could cost at least \$1 billion a year for 20 years.

BY: PETER GREEN IN LITHUANIA AND
ESTONIA AND DAVID BARTAL IN SWEDEN
AND DENMARK

money to open a private therapy center. Nor would a better diet of local vegetables and milk help much. "For 20 miles all the way from the mill, the soil and air have been contaminated by heavy metals for many years," says Cherednichenko. "Parents can only get contaminated products."

Low priority. But there is little taste in Magnitogorsk for attacking the source of the problem. "If they close this plant, it would be a catastrophe for the city as well as the people here," says Pyotr Bibik, head of the factory's trade union. "The whole town is dependent on it." Igor Yegorov, a 31-year-old steelworker standing near the outstretched arm of Lenin at the factory gates, puts the environment low on his priority list. "These days it's more important to earn money and buy something for your family than to think about health," he says.

Plant officials say they are gradually cutting back on toxic emissions and building a new section that will use newer, cleaner technology. But they say curbing pollution is costly and they can't

SEVENTY
PERCENT OF
THE FISH IN
THE VOLGA
CONTAIN
MERCURY

afford to pay for it. Closing the plant, they add, would imperil 500,000 jobs, both in Magnitogorsk and among 80 suppliers throughout the country.

Most residents seem oblivious to the sulfurous air. Marina Malutina, a 26-year-old steelworker's wife, moved her family from the polluted bank of the Ural River to Metzovaya Ploshadka, a small hillside community downwind of the smokestacks. She says she would rather live with their young son in a three-room wooden house, pollution and all, than share a cramped apartment with her parents in a healthier environment. "Our friends are envious," she smiles.

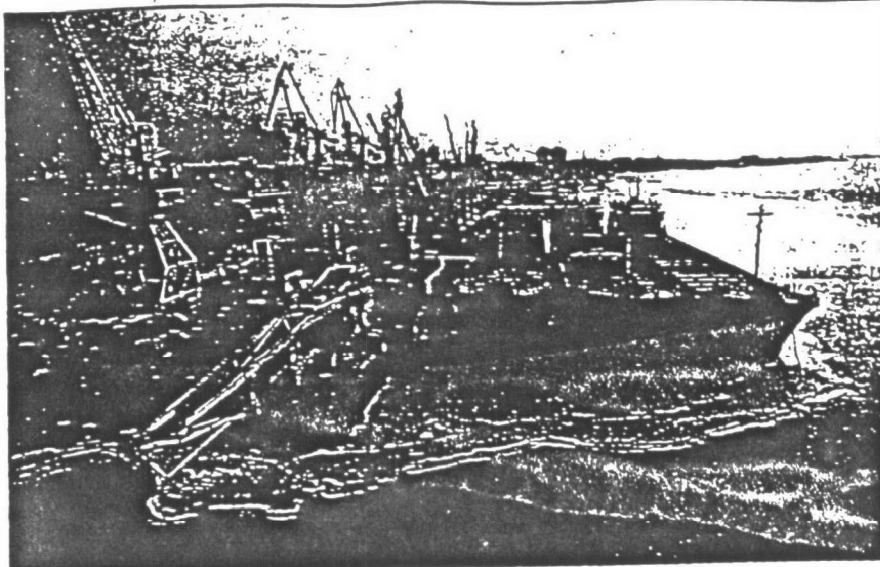
In 1990, report Murray Feshbach and Alfred Friendly Jr. in their new book, "Ecocide in the U.S.S.R.," Soviet central planners and the Metallurgical Ministry deferred all cleanup action and asked the people of Magnitogorsk and other industrial towns in the Urals to understand "the difficult situation in the country."

Passivity still hangs in the air as heavily as the acrid smoke. The same Soviet power that willed this industrial town and thousands of others like it into being reduced its citizens to the role of cog in the socialist machine. "For 70 years we only thought about the state, never ourselves," shrugs one hospital worker. A little smoke is not likely to change that.

BY DOUGLAS STANGLIN IN MAGNITOGORSK

WORLD REPORT

KLAS REBINDER - BLACK STAR FOR USHAKOV



Heavy traffic. A shipyard at Astrakhan, where the Volga's delta begins

Poisoning Russia's river of plenty

The once abundant Volga has fallen victim to dams, power plants, chemicals and sewage

The word *ekologiya*—ecology—has come to the Russian town of Ik-raynoye on the banks of the Volga River near Astrakhan. The residents of the town, which takes its name from the Russian word for the caviar produced by the river's once abundant sturgeon, pronounce the foreign-sounding term with hesitation. But they need it to explain why so many dead fish are strewn across their muddy footpaths as the river ice begins to melt this spring. "They say it's the ecology," says Alexandra Shishkov, in front of her wooden cottage.

"They say the sturgeon is sick, that it has become kind of soft. We don't really know what this means." Her husband greets her cheerfully, clutching two fish in his hands. Friends have given him wild carp, a rare catch these days.

The mighty Volga is no longer a river of plenty. Chroniclers through the centuries remarked on its bounty, especially where the river reached the wide Russian plains called the steppes. When the

Mongols and Tatars invaded the area around the present-day cities of Volgograd and Astrakhan, they traveled light, knowing the area teemed with fish and game. Later, ethnic German farmers cultivated fruit, vegetables and grain on the riverside land. Most of them were evicted from their farmsteads as a punitive action during World War II.



SOVIET
LEGACY

Killing the goose. The riverbanks where the famous Volga boatmen once pulled their barges by rope are now crowded with factories, dams and hydroelectric plants. The Volga is the heart of the Soviet military-industrial complex, and its factories were able to pollute with impunity. In the name of national security, cities such as Saratov and Nizhni Novgorod (Gorky) were closed to foreigners until recently.

The Soviet Union's veil of secrecy also covered its environmental problems. But new data show that some 3,000 factories dump 10 billion cubic yards of contaminated waste and other effluents into the

WORLD REPORT

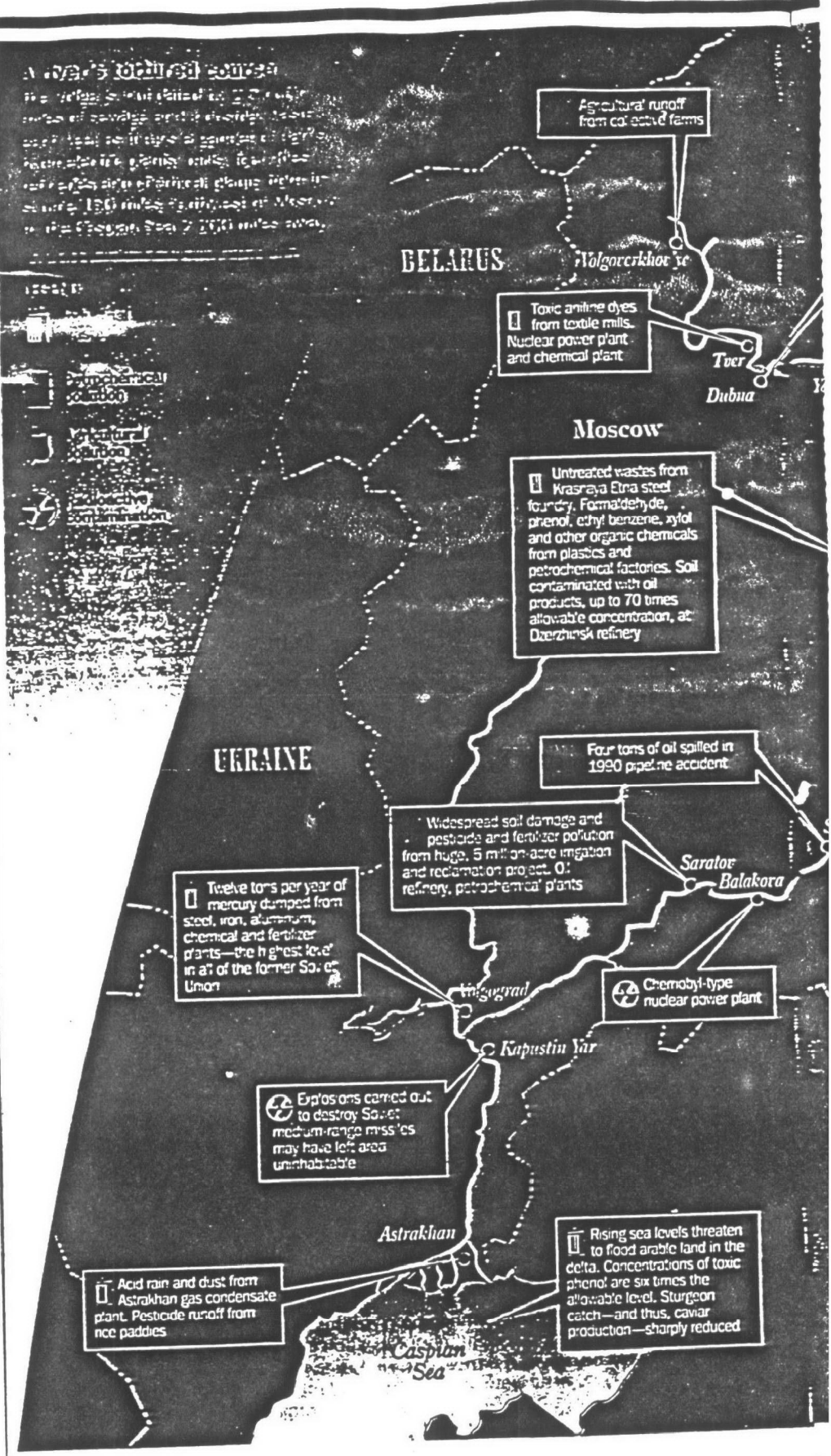
river every year. The air in many riverside cities and towns is peppered with sulfur, hydrocarbons and other chemicals.

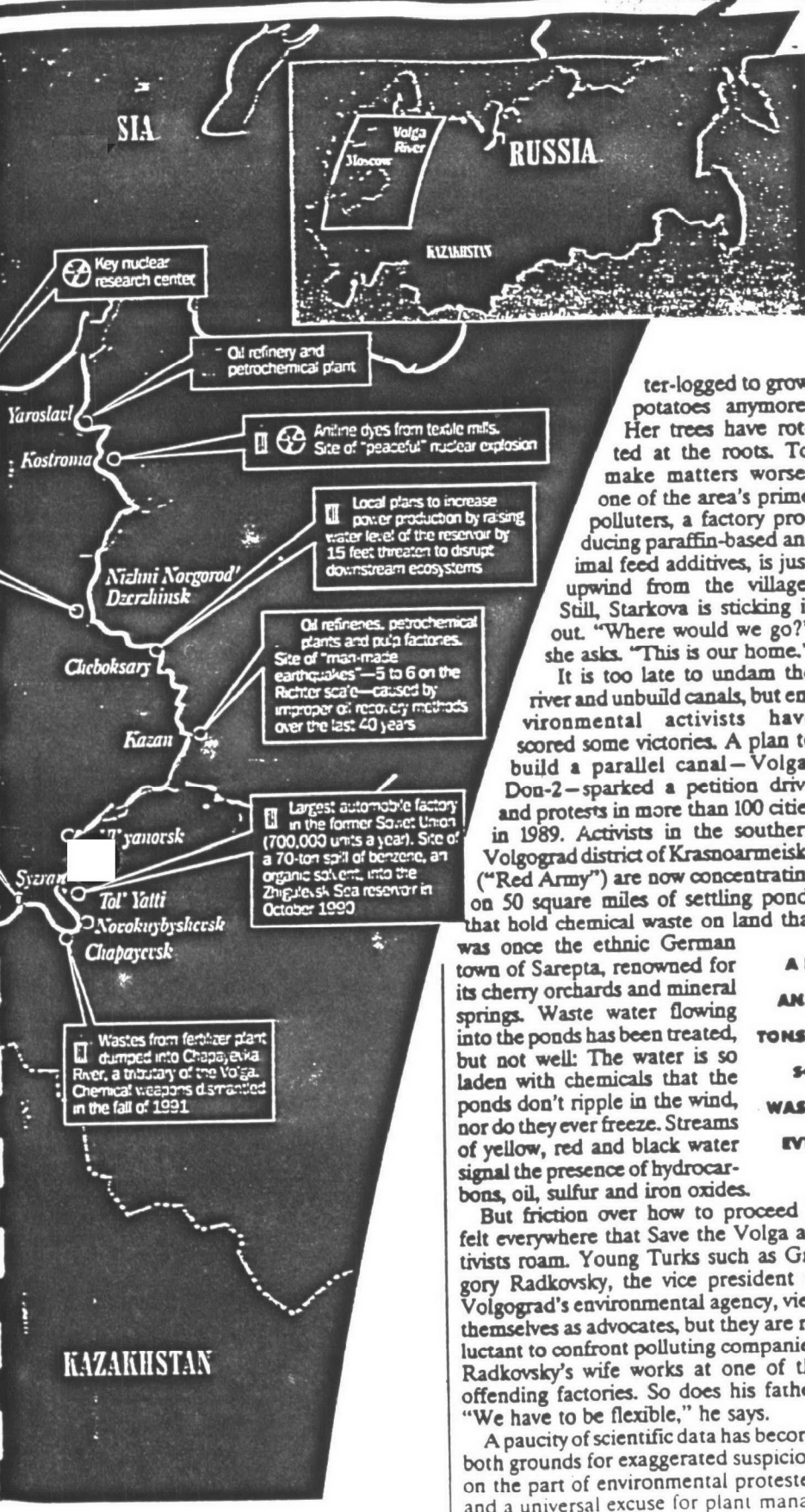
But ecologists say the Volga's real problems began not with pollution but with a frenzy of dam building in the 1950s and '60s. It used to take 50 days for the river water to travel the 2,300 miles from source to estuary. Now it takes a year and a half. The slower pace causes pollutants to accumulate in eight vast man-made reservoirs along the river's course and to settle on the riverbed and in its delta. On some stretches of the now sluggish Volga, petroleum byproducts have reached concentrations 100 times the allowable limit or greater. When it reaches the Caspian Sea, the river receives one final insult, from the Kirov district of the city of Volgograd: 40,000 cubic yards of raw sewage every year.

Sturgeon, the source of Russia's famous black caviar, have been hard hit by this breakdown of the river ecosystem. Biologist Vladimir Zhukov, a leader of the Save the Volga Committee, says toxic chemicals are eating away the flesh of the fish and deranging their metabolism and nervous systems. Val'ry Vinogradov, the procurator of the Volga Inter-Regional Nature Protection Office, says foreign firms won't buy Volga sturgeon anymore because it is too soft to slice. The sturgeon die younger and produce smaller roe. In 10 years, Russia's sturgeon catch has decreased by almost 60 percent, says Vladimir Izmaylov, head of the fisheries department of the Russian Ministry of Agriculture.

Is extinction next? More than pollution is killing the fish. Like America's dwindling Pacific Northwest salmon, many die in the water intakes of hydropower stations. Although fish farms replenish the stock, "the sturgeon is threatened with extinction," says Zhukov.

The state's grandiose plans to harness the flow of the river have had other unforeseen, and now possibly irreversible, consequences. The Volga-Don Canal near Volgograd was built directly across the adjacent Sarpa River, which was blocked with three dams in order to separate the two waterways. But the lake created out of the Sarpa has turned into a swamp, and the water tables of the nearby villages of Tsatsa and Dubovoy Ovrage are rising sharply. Some residents already have abandoned their homes, but most remain. In Dubovoy Ovrage, Nadezhda Starkova says the soil is too wa-





ter-logged to grow potatoes anymore. Her trees have rotted at the roots. To make matters worse, one of the area's prime polluters, a factory producing paraffin-based animal feed additives, is just upwind from the village. Still, Starkova is sticking it out. "Where would we go?" she asks. "This is our home." It is too late to undam the river and unbuild canals, but environmental activists have scored some victories. A plan to build a parallel canal—Volga-Don-2—sparked a petition drive and protests in more than 100 cities in 1989. Activists in the southern Volgograd district of Krasnoarmeisky ("Red Army") are now concentrating on 50 square miles of settling ponds that hold chemical waste on land that

was once the ethnic German town of Sarepta, renowned for its cherry orchards and mineral springs. Waste water flowing into the ponds has been treated, but not well: The water is so laden with chemicals that the ponds don't ripple in the wind, nor do they ever freeze. Streams of yellow, red and black water signal the presence of hydrocarbons, oil, sulfur and iron oxides.

But friction over how to proceed is felt everywhere that Save the Volga activists roam. Young Turks such as Grigory Radkovsky, the vice president of Volgograd's environmental agency, view themselves as advocates, but they are reluctant to confront polluting companies. Radkovsky's wife works at one of the offending factories. So does his father. "We have to be flexible," he says.

A paucity of scientific data has become both grounds for exaggerated suspicions on the part of environmental protesters and a universal excuse for plant manag-

ers and officials. Irina Belay, an environmentalist in Krasnoarmeisky, angrily calls her village a "second Chernobyl." She says that when the head of a local collective farm washed his car with water from a pond, it took off the finish. Krasnoarmeisky is no Chernobyl, fumes Radkovsky. For starters, he points out, there is no radioactive fallout in the area. He accuses the activists of playing on emotions and of being "not scientific."

Blaming mosquitoes. But Svetlana Umetskaya, a deputy in the Russian Supreme Soviet, recalls that health officials chided her for claiming pollution was making residents of Krasnoarmeisky chronically ill with respiratory ailments. She still bristles over a deputy health-care minister's comment that the main source of health problems in her district was an overabundance of mosquitoes. Other officials blamed vodka.

Even Russian environmental officials have found themselves pilloried when they have tried to act. Viktor Danilov-Danilyan, the minister of ecology and natural resources, minces no words about the appalling conditions at a huge gas-condensate plant in Astrakhan: "The complex is already polluting 90 miles around the city. The level of toxic agents is very high, based on the measurements of workers' health we have taken. Economically the plant is unprofitable. Now instead of installing cleanup filters, they are talking of building the second stage of the plant. This is madness."

The plant's technical director, Vladimir Nazarko, responds: "The worst thing is when people who don't know what they are talking about become judgmental. I am firmly convinced that until professionals start doing what they are supposed to, we'll have a miserable existence in this country." Nazarko admits a recent visit by a government environmental impact assessment team was rocky. "They are biased, more emotional than technical," he complains.

Mother Volga has always stirred Russian emotions, but usually because of its bounty and its purity. Irina Belay recalls that her family, like many asthma sufferers, moved to the area in the 1950s for its clean air and dry climate. Another Volgograder says his mother, penniless after World War II, depended on the river to survive. The merchants wouldn't give her bread on credit, but they did give her caviar from the Volga. The family ate it from a large jar with soup spoons. Now, plentiful caviar, like clean air, is only a memory. ■

**A BILLION
AND A HALF
TONS OF FERTILE
SOIL ARE
WASHED AWAY
EVERY YEAR**

BY VICTORIA POPE ON THE VOLGA

GOLOB'S

OIL POLLUTION BULLETIN

24 Apr. 1992
Vol. IV, No. 9

The International Newsletter on
Oil Pollution Prevention, Control, and Cleanup

From World Information Systems and
the Center for Short-Lived Phenomena

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Well continues to burn out of control in Uzbekistan

A massive well blow-out in the Mingbulak farming area near Namangan, Uzbekistan, "does not pose a serious environmental threat to the nearby Syr Darya River at this time, as all of the escaping oil is burning cleanly," according to Tony Jover, who was the leader of a U.S. technical team that recently returned from a mission to the area. The well has been losing an estimated 35,000 to 75,000 barrels of heavy crude oil per day since it blew out on 2 March. The oil spilled into the surrounding agricultural fields until early April, when the gushing oil ignited. Since then, the well has been burning out of control, although well-control teams have been attempting to cap it. A major concern has been the proximity of the well to the Syr Darya River, which flows about 100 yards from the site. This river is the "lifeblood of the Fergana Valley," according to Jover, providing the primary source of water for irrigation and drinking water in the area. However, Jover said that, as long as the well continues to burn, the river does not appear to be at risk. He did note that, during the period before the well ignited, large volumes of oil accumulated in the surrounding fields and that an undetermined amount of oil entered the Syr Darya.

The wild well represents the first major oil discovery in Uzbekistan, which has always been an oil importer. Some observers believe that the discovery is a sign that Uzbekistan may have substantial oil

Continued on page 3

Tanker spills up to 3,500 tons of oil off Mozambique

Up to 3,500 metric tons of heavy fuel oil spilled from the damaged Maltese tanker Katina P into the Indian Ocean off southern Mozambique after a freak wave struck the 69,992-DWT tanker during the night of 16 April and breached the vessel's No. 3 starboard tank. At the time of the accident, the Katina P was anchored at a position of 25°36' S, 32°59' E, or about 26 miles northeast of Maputo, Mozambique. This incident is the second major oil spill involving the 26-year-old Katina P. On 7 June 1982, the vessel—then named Katina—ran over the anchor chain of the French ore carrier Pengall west of the Hook of Holland and spilled about 1,200 metric tons of heavy fuel oil into the North Sea.

During the first two days after the recent spill, the Katina P suffered additional damage, and the hole in the tanker's No. 3 starboard tank opened to about 80 feet by 40 feet, raising fears that the tanker might break up and lose her cargo of about 66,000 metric tons of heavy fuel. The Katina P's 20 crew members were evacuated, and the vessel owner, Polembros Shipping (London, U.K.), contracted Pentow Marine (Cape Town, South Africa) to stabilize and salvage the vessel. Estimates of the spill size have varied widely from about 150 tons to 3,500 tons, the contents of the damaged No. 3 tank. Part of the uncertainty in the amount of oil spilled is due to the fact that the Katina P's crew reportedly attempted to transfer oil from the damaged tank to other tanks. A precise estimate of the loss will probably not be available until a survey

Continued on page 5

● **International legal issues:** The Task Force recommended that EPA, NOAA, and other U.S. agencies "provide full assistance" to the United Nations Compensation Commission in its work to define compensable environmental damage. In particular, according to the Task Force, U.S. agencies should help develop models "for determining both the extent of damage and how liability is to be measured if restoring preexisting conditions is not possible." The Task Force also recommended that the United States support international efforts to prosecute the Iraqi officials who were responsible for wartime environmental damage and to "encourage negotiations and enact domestic legislation making environmental terrorism a universally prohibited crime." Such legislation would allow the U.S. government to prosecute environmental terrorism regardless of where the act occurred or where its effects were felt.

"Protection of the environment and areas of unique natural heritage are independent values due certain deference in the conduct of hostilities," according to the Task Force. The report recommended that the U.S. President and the international community endorse the principles of Protocol I of the 1977 Geneva Convention prohibiting widespread, long-term, and severe environmental damage during war. In addition, the Task Force urged the United Nations to begin negotiations on an agreement to protect "environmentally unique areas" from attacks during wartime. Such an agreement might establish a system for designating environmentally unique areas and might require that warring groups refrain from attacking these areas. For a copy of the 74-page report, entitled *The Environmental Aftermath of the Gulf War* (S. Prt. 102-84), at no cost, contact: Paul Chimes, Document Clerk, Environment and Public Works Committee, U.S. Senate, Washington, DC 20510; Tel: 202-224-7841.

Well blow-out in Uzbekistan continued from page 1

reserves and that the republic could become a wealthy oil producer. Others have criticized Uzbekneft, the republic's state-owned oil company, for conducting exploration activities without the necessary safeguards to prevent a blow-out and, in the event of an accident, to deal effectively with the resulting pollution.

In response to a request from the Republic of Uzbekistan for technical expertise, the U.S. government dispatched a seven-person team under EPA's direction to the well site to help assess the environmental and public health impacts of the well blow-out and to develop a spill response if the oil entered the Darya. The team consisted of Tony Jover, director of information management at EPA's Chemical Emergency Preparedness and Prevention Office in Washington, D.C.; two members of EPA's Environmental Response Team in Edison, New Jersey; a senior on-scene-coordinator from EPA Region 4 in Atlanta, Georgia; two members of the USCG's National Strike Force, including Commander Richard Softye, executive officer of the National Strike Force Coordination Center in Elizabeth City, North Carolina; and an environmental medicine specialist from the Centers for Disease Control in Atlanta, Georgia. The team departed from the United States on 12 April, arrived in Uzbekistan on 15 April, spent five days there, and returned home on 22 April.

In addition, the U.S. government made available seven military C-141 cargo planes to transport well-control equipment for Cudd Pressure Control, Inc. (Houston, Texas), which was asked by the Uzbekistan government to participate in the response to the blow-out. According to the U.S. State Department, five C-141s transported capping and firefighting equipment, a sixth C-141 carried personnel for offloading the equipment, and a seventh transported the offloading equipment. The State Department noted that "the unique nature, bulk, and shape of various pieces of equipment meant that the items could not be packed in smaller size loads." In addition to the well-control equipment, Cudd Pressure Control dispatched to the well site a nine-person team, including Bob Cudd, president of Cudd Pressure Control, and Robert Grace, president of Grace, Shursen, Moore & Associates, Inc. (Amarillo, Texas), a petroleum consulting engineering firm.

● **Well blow-out and fire:** The cause of the well blow-out on 2 March was probably the discovery of oil at a shallower depth than expected. According to Duncan Robinson, OPB correspondent in the Commonwealth of Independent States, the drilling had reached about 17,000 feet when the blow-out occurred; that depth was about 2,000 feet less than Uzbekneft had anticipated, Robinson reported. For the month of March and during the early part of April, the well gushed a massive amount of oil onto the surrounding fields. According to Robinson, who visited the well site in mid-April, the flow rate has increased since the initial blow-out, but the estimates of the current flow rate have varied dramatically. Jover told OPB that, based on available

information, the U.S. Geological Survey speculated that the flow rate was up to 35,000 barrels per day, while Joe Bowden of Wild Well Control, who was at the well site in early April, said the flow rate was approximately 72,000 to 75,000 barrels per day. Robinson said that Uzbekneft made an estimate of up to 100,000 barrels per day, although most OPB sources regard that estimate as too high.

When the well ignited in early April, the immediate threat of continuing oil spillage ended, as the fire consumed all of the escaping oil. Whether the well fire was the result of a concerted decision or an accident, it solved the pollution problem. OPB received two conflicting reports about the origin of the well fire. According to one account, Uzbekneft made a decision to ignite the well in order to prevent any further oil spillage, especially into the Syr Darya; according to the other account, while workers were removing the drilling rig from the gushing wellhead, a spark accidentally ignited the oil, and the melted remains of the drilling rig remain nearby the wellhead.

● **Spill response:** The two primary objectives of the initial spill response were to prevent the spilled oil from entering the Syr Darya River and to collect as much of the oil as possible for processing. According to Commander Softye, the Uzbeks built a large berm in the form of a triangle around the wellhead; each side of the triangle measured about 0.5 mile long, and the berm height varied between about 4 and 6 feet. In addition, they used front-end loaders to push soil up against a natural berm along the river banks to reinforce it. Commander Softye told OPB that these berms seemed to have been effective in minimizing the amount of oil that entered the Syr Darya. He noted, however, that the Uzbeks did not have any cleanup equipment, such as booms, skimmers, and sorbents, to respond to the spilled oil in the Syr Darya. EPA's Jover said that they improvised, making both sorbent booms out of vegetation and diversion booms from pipes. Jover told OPB that, within 3 to 4 days after the initial blow-out, 12-inch pipes were deployed in the river to divert oil and oily debris towards the banks; he also said that, about 7 miles downstream from the well site, he observed booms made from bundled grasses suspended from a bridge.

The Uzbeks used irrigation canals in the fields surrounding the well to collect the spilled oil for eventual pumping, according to Commander Softye. He said that one diked-off canal measuring about 10 to 15 feet wide contained oil to a depth of 4 feet for about 0.5 mile. Since the oil was very viscous, the Uzbeks used two large steam-heating units to facilitate its recovery. For removing the heated oil and transferring it to tank trucks they had two pump trucks. Commander Softye told OPB that "perhaps more than 200 tank trucks" participated in the recovery operation. He noted that "very few of these trucks had their own pumping capabilities," and so they had to rely on the two pump trucks for loading the oil. According to Jover, the trucks transported the oil either directly to refineries in Fergana to the south or to a 7-mile-long pipeline near the well site. This pipeline carried the oil to a railway center in Akhriash, where it was loaded onto rail cars for the trip to the Fergana refineries, according to Robinson. He told OPB that this pipeline was constructed following the initial blow-out to assist in transporting the spilled oil, and after the blow-out is brought under control, it will be used to carry oil from the producing well.

In addition, the Uzbeks are building two holding ponds near the well for use in collecting runoff water from the firefighting operation. Commander Softye noted that these ponds could also serve as a collection point for any oil spilled during the well-control operation when the fire is extinguished. He also said that the Uzbeks were spraying the fire with at least two streams of water from one side of the well in an effort to cool down the area; a series of storage tanks for use once the well begins producing were under construction in that area, Commander Softye noted.

At the height of the response to the blow-out, at least 1,700 people were involved in all aspects of the operation, from building the pipeline and constructing the berms to removing the oil from the irrigation canals and transporting the oil by truck, according to Robinson. He said that, by mid-April, the number had decreased to 1,300. Robinson noted that about 600 of the people involved were working on the pipeline construction. Commander Softye told OPB that he observed about 200 people working at the well site alone.

● **Well blow-out control:** The well continued to burn out of control as of 24 April, according to Abduchukur Rachidov, deputy general director of Uzbekneft. The well-control operation suffered a serious setback on 14 April, when a Russian team used an armored tank to blast the wellhead five times in an attempt to remove the coke buildup. Instead of improving the situation, the tank blasts apparently damaged the wellhead itself and ruptured the piping. Before the tank blasts, the well-control operation would have taken a few days to complete, but now it will likely take much longer, perhaps as much as a few months, according

to blow-out specialists at the site. Robinson reported that the well fire intensified after the blasts, and Commander Softye said that the flames reached a height of about 300 feet high and that, when he was about 0.25 mile from the well, the heat of the fire "was burning" his face.

A major reason for the delay involves the need to bring in additional equipment to deal with the new situation. Cudd Pressure Control had assembled its initial stockpile of equipment on the assumption that the wellhead and piping were intact. The wellhead was blasted while the Cudd personnel and equipment were en route to the well site, and now that the situation has changed, much of Cudd's equipment is no longer appropriate for the operation, according to William Scott, vice president at Grace, Shursen, Moore & Associates. Scott told OPB that the well-control operation will involve digging down around the well below the rupture and then cutting through the intact piping and attaching a blow-out preventer (BOP) to stop the oil flow. This operation will require not only different sizes of BOPs than initially anticipated, but also a backhoe with a long arm to dig the hole, as the work area is now on fire.

As of 24 April, the Cudd team was simply "standing around" at the well site, according to Richard Hubbell, president of RPC Energy Services (Atlanta, Georgia), the holding company that owns Cudd Pressure Control. He said that Cudd had not yet received a formal contract from Uzbekneft to conduct the well-control operation; he noted that often, in a well blow-out situation, Cudd will arrive on-site without a firm contract, as it did in this case, but usually an agreement is reached by this time. Hubbell told OPB that "Cudd has been trying to be as patient as possible" and that the Cudd team has been staging the equipment that has already arrived. He said that he hopes the United States will assist in transporting the additional equipment needed to control the well, as it did with the first shipment.

- **Environmental impact:** Although the oil gushing from the well during the month before it ignited caused some environmental damage, the long-term environmental impact will probably not be severe as long as the well continues to burn, according to Commander Softye. Based on their survey of the area, U.S. team members said that the berms constructed around the well appeared to have been effective in preventing the tens of millions of gallons of spilled oil from entering the Syr Darya River. Although they did not see any free-floating oil in the river, the team members did observe some minimal oiling along the banks; however, Robinson said that he saw oil in the river over 5 miles downstream from the site. Apparently, at some point during March, spilled oil entered the river, but it has been carried downstream since then. The State Committee of the Uzbek Republic for Nature Protection, headquartered in Tashkent, said that there were no deaths or kills in the river, and during their mission, the U.S. team saw local residents fishing along the river banks.

While the well was gushing oil, the prevailing winds deposited the airborne oil over an oval-shaped area that was centered on the well and that had a long axis extending about 2.5 miles from the northeast to the southwest and a short axis extending about 1.25 miles, according to Jover. He noted that oil was found on the opposite bank of the Syr Darya and that, as a result, some oil was undoubtedly deposited into the river by the winds. According to Jover, in the deposition area, only the sides of the trees, shrubs, and other vegetation facing the well were affected. He said that, as the spill took place before the onset of spring, its apparent impact on vegetation has not been severe. He observed that the oiled trees had "perfect blossoms" and that "grasses were growing without difficulty."

When the U.S. team took real-time measurements of the total particulates in the air, they found only 0.008 milligram per cubic meter downwind of the well fire. Most of the air pollution did not originate from the burning well, according to Jover, but rather from the vehicles involved in the oil recovery operation. He said that, due to vehicle traffic along a nearby dirt road, the total particulates were 0.14 milligram per cubic meter. Jover told OPB that "the oil from the well was burning very clean," with no odors of sulfur or other gases detectable.

- **Recommendations by the U.S. team:** The Uzbekistan government "needs to develop spill prevention programs and contingency plans," according to Jover, as "this incident seems to have caught them by surprise." He said, however, "the Uzbeks managed to deal with the spill with their own ingenuity and resources." Commander Softye noted that they did not have any cleanup equipment, such as booms, skimmers, and sorbents, and relied only on makeshift equipment in their response. In addition, Jover said that the U.S. team recommended increased attention to reducing worker exposure to the spilled oil. He also said that, since the Fergana Valley is a major agricultural center in Uzbekistan, the government will need to factor environmental considerations into its efforts to develop the oil resources in that region.

2/9/2
0381026 DIALOG File 624: McGraw-Hill Publications Online
HOUSTON FIRM WORKING ON UZBEKISTAN BLOWOUT
Platts Oilgram News April 7, 1992; Pg 2; Vol. 70, No. 68
Journal Code: PON ISSN: 0163-1284
Dateline: Houston
Word Count: 142

TEXT:
Wild Well Control of Houston is sending a five-man team to bring under control a burning exploratory well in Uzbekistan that is gushing 62,000 to 80,000 b/d of oil, according to Wild Well Control president Joe Bowden.

The company is shipping equipment by air and hopes to start work in the next two days, Bowden said, adding that the blowout probably will be brought under control in a couple of weeks.

The Russian news agency Itar-Tass reported the government-owned well, located in a farming area at Mingbulak near the Syr Darya River east of Tashkent, has been out of control for about a month, and about 3-million bbl of oil has spewed out.

The Tass report said the workers had set the fire intentionally so that the gushing oil would not spill into a nearby river, though that could not be confirmed.

2/9/4
0375819 DIALOG File 624: McGraw-Hill Publications Online
UZBEKISTAN
Platts Oilgram News March 17, 1992; Pg 6; Vol. 70, No. 53
Journal Code: PON ISSN: 0163-1284
Section Heading: News Briefs: International
Word Count: 91

TEXT:
A new wildcat discovery well in the Fergana Valley has been gushing oil uncontrollably, Moscow's Channel 1 TV says.

Oil workers from Tajikistan and Kyrgyzstan, as well as oilwell capping specialists from the Uzbekneft Assn. are trying to harness the gusher. "Many years of searching for oil in this region have been crowned with this powerful, at present uncontrollable, gusher," the TV said. "It's too early to talk about the reserves of the field, but one thing is clear: there is a lot of oil in the republic," the report says.

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April 27, 1992

SECTION: DRILLING/PRODUCTION; Pg. 25

LENGTH: 376 words

HEADLINE: Huge blowout reported in Uzbekistan

BODY:

Moscow reports one of the largest oil well blowouts recorded on the territory of the former Soviet Union remained out of control during late April in Uzbekistan's Fergana Valley (OGL, April. 13, Newsletter).

The newspaper Trud said the well, now on fire, was flowing nearly 20,000 metric tons/day (146,000 b/d) of oil with a pressure of 10,300 psi.

Located near the town of Mingbulak in Mamanganskaya province, the well is near the Syr-Darya River. Initially unreported by the Moscow media, the blowout occurred Mar. 2.

Besides personnel from Azerkaijan and other areas of the nonwealth of Independent States, Uzbekistan invited American specialists to provide advice on how to control the blowout. However, Uzbek authorities had no hard currency to pay western firms.

A U.S. Environmental Protection Agency team has begun assessing environmental damage from the big blowout. EPA information placed the flow at 35,000-62,000 b/d. The local government asked EPA to develop a health strategy for the area and contingency plans for the effects of a possible spill into the Syr-Darya River.

When the well caught fire, flames reached a height of 100 m (328 ft), Trud reported. Earthen dams were built to contain part of the spill. Trucks have removed about half of the oil. Surrounding farmland has been polluted, and nearby residents were evacuated.

If the estimated flow of 146,000 b/d is accurate, the well's production is nearly three times Uzbekistan's entire oil flow of 56,000 b/d last year.

The wild well is in the Fergana Valley's northern tectonic zone, where 10 oil and gas fields have been found. Total number of oil and gas fields in the valley is close to 50, most relatively small and lying along the valley's southern tectonic zone.

Well depth when the blowout occurred was about 17,000 ft, indicating that the hold was one of the deepest drilled in the

Fergana Valley. Deepest pay previously reported was in the Eocene at 16,600 ft. Until now, the best initial flow from a Fergana well was about 2,900 b/d.

First Fergana oil was found in 1880, and the first field -- Chimion -- began production in 1904. Production is mainly from Tertiary reservoirs, although there is some Jurassic and Cretaceous pay.

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Oil & Gas Journal

April 13, 1992

SECTION: OGJ NEWSLETTER; Pg. 4

LENGTH: 130 words

BODY:

Uzbekistan's state oil company Uzbekneft has discovered oil with a wild well near Namangan in Fergana Valley after 4 years of exploration, Nezavisimaya Gazeta reports. Productive capacity has not been determined, but the blowout is flowing oil into the Syrdarya River, and Azeri oil workers have been called in to control it

Gaz de France, under its Spbvergaz joint venture with Russia's Lengaz, has signed a cooperation agreement with St. Petersburg to revamp the gas pipeline network there, boost exploration, and study and carry out all projects related to the gas industry. The agreement is similar to that signed with Mosgaz and Mostieploenergo in Moscow. And through its Oukrfragaz joint venture, GDF is revamping and expanding Ukraine's natural gas grid.

Uzbeks

Shirin Akiner

BACKGROUND

The Uzbeks are a people of predominantly Turkic origin, with a significant admixture of Iranian and Turkicised Mongol elements. They speak Uzbek, a language which evolved out of Chagatai, the chief literary medium of the eastern Turkic world (contemporary and counterpart to Ottoman Turkish in the west). The Uzbeks are Sunni Muslims of the Hanafi school, as are the majority of Soviet Muslims, and also of Muslims outside the Soviet Union.

The Uzbeks, by far the largest group of Muslims in the Soviet Union, are also the third largest Soviet nationality, ranking after the Russians and Ukrainians. Today they number some 16,686,000. Over 14 million, approximately 85 per cent of the total, live within the Uzbek SSR; a further 7 per cent, some 1 million, in the Tadzhik SSR; 3.5 per cent, approximately half a million, in the Kirghiz SSR, and close on 2 per cent each, some 300,000, in the Turkmen and Kazakh SSRs.¹ Outside the Soviet Union, there used to be a colony of some 1.5 million Uzbeks across the border to the south, in Afghanistan; many of these fled to Pakistan during the Soviet occupation of 1979–89, and some moved still further afield, to begin new lives in Turkey. None have so far returned to Afghanistan. There are another 20,000 Uzbeks to the west, in the Xinjiang-Uighur Autonomous Region of the People's Republic of China. Cross-border contacts have become easier in recent years, but are still fairly limited and restricted, in the main, to close blood relations.

The Uzbeks are descendants of the nomadic tribes of the Golden Horde who settled in Transoxiana in the fifteenth to sixteenth centuries and there intermingled with the sedentary population. Independent rival khanates emerged, the most powerful of which came to be centred on Bukhara, Khiva and Kokand. Tsarist troops invaded the region in the second half of the nineteenth century. They met with little resistance from the local rulers who, distracted by internecine struggles, failed to

present a coordinated resistance. Bukhara became a Russian protectorate in 1868, Khiva in 1873; Kokand was annexed, and its independence abolished, in 1876. However, Russian rule proved to be less onerous than that of most other colonial regimes, and, for the most part, the indigenous population continued to live much as before.² The social and material changes introduced by the Russians were relatively few, and limited to the main urban centres. Almost despite themselves, though, they provided a channel for new ideas into a society that had previously been isolated and closed for many centuries. Of even greater significance was the fact that, once part of the empire, the Central Asians came into close contact with other 'Russian' Muslims, notably the Tatars of the Volga and Crimea, and the Azerbaijanis. Far more progressive than the Central Asians, it was they who introduced the *jadid* (reformist) movement to Central Asia. They pioneered a more modern type of education. Many of the privately owned vernacular newspapers that appeared in Central Asia from 1905 onwards were *jadid* publications.³

Tsarist rule in Tashkent was replaced by Soviet government in late 1917, but not finally consolidated until April 1919. Nevertheless, in April 1918 the Turkestan ASSR was proclaimed (within the RSFSR), comprising most of Soviet Central Asia. Meanwhile, a fierce struggle was waged between Bolshevik and anti-Bolshevik forces, interventionists and native *basmachis* (lit. 'robber') bands (themselves disunited, with disparate aims). The former protectorates of Bukhara and Khiva were transformed into nominally independent People's Soviet Republics in 1920, then incorporated into Turkestan in 1923–24.⁴

UZBEKS UNDER SOVIET RULE

Whereas the tsarist administration consciously restricted its efforts to change Central Asian society, the Soviet administration, by contrast, sought drastically to remould it. Possibly the most fundamental innovation was the creation of national administrative units. These were based on ethno-linguistic divisions. It would be an exaggeration to say that such divisions did not exist (though this is indeed a view held by some), but certainly prior to this they had had no political significance. Traditionally, religion had provided the key element in self-definition: 'Muslim' as opposed to 'non-Muslim'. The ethonym 'Uzbek' was scarcely used. The most common terms were those derived from place-names, for example, *Namanganlyq* 'someone from Namangan'; the colonial administration referred to the native sedentarised population as *Sart*, a word of Sanskrit origin meaning 'trader'. By the early years of the twentieth century a handful of intellectuals had begun to raise the question of ethnic identity, but in a vague, tentative way. There was nothing in their discussions, nor in the subsequent turmoil of civil war,

that in any way prepared the ground for the National Delimitation of the Central Asian Republics of 1924–25, as a result of which the Uzbek SSR and other Central Asian republics were created. Far from being a response to a popular, indigenous demand, the Delimitation was an administrative decision imposed on the region from the centre – part, some would say, of a ‘divide and rule’ policy.⁵

The Uzbek SSR, which came into being on 27 October 1924, encompassed the districts of Amu Darya, Syr Darya, Samarkand and Ferghana, part of the former Bukharan state, and part of the Khorezm (Khivan) state. It included the Tadzhik ASSR until 1929, when this acquired full union republic status; it acquired the Karakalpak ASSR (originally part of the RSFSR) in 1936. Uzbeks represented 66 per cent of the total population (they are approximately 70 per cent today). A

Language and Literacy

The creation of separate administrative units was but the first step in the process of nation-building. The development of distinctive national literary languages, literatures, histories, rituals, symbols and art forms were concomitant necessities. It was not an easy task. It was not that the Central Asians lacked traditions, but that their shared heritage was so great that efforts to parcel it up into ‘nationalist’ packages led to distorted and grossly anachronistic interpretations of history, not to mention awkward rivalries over medieval scholars. However, artificial though they were, in time these devices achieved a measure of success, and a degree of national pride, even of nationalism, was born. The Uzbeks, for example, have come to believe that they have a unique hereditary claim to the brilliant achievements of ancient Transoxiana. This, along with their numerical superiority, has reinforced their view of themselves as the natural leaders of Central Asia today. The neighbouring republics regard this cultural aggrandisement as yet another expression of ‘great Uzbek chauvinism’.

Easily comprehensible literary languages, full literacy and a plentiful supply of printed material were required in order to reach out to the masses, to communicate the new ideology to them and involve them in the new political system. The Uzbeks, unlike some other peoples of Central Asia, already had their own literary language, Chagatai (also known as Old Uzbek). However, it was a refined, learned medium far removed from the spoken dialects of the region. Moreover, and perhaps more importantly, it was firmly associated with the pre-Revolutionary period. In the 1920s there was a struggle between the so-called ‘bourgeois nationalists’, who mostly supported the continued use of Chagatai, and the pro-Russian group, who were in favour of developing a new literary form based on the dialects of Tashkent and Ferghana.⁶ These were the dialects of the economic and political centres of the new republic, and also of the burgeoning print language

However, they were atypical of the main body of Uzbek dialects (and most other Turkic languages) in that they had little vowel harmony. Nevertheless, they were adopted as the base for the national language. Terms drawn from Russian were introduced to convey new concepts in such fields as ideology, technology and the general Soviet ‘way of life’. The change of scripts gave visual emphasis to the new orientation. The Arabic script continued to be used up to 1930, when it was replaced by the Latin. This in turn was superseded by the Cyrillic in 1940.

One of the chief reasons advanced for the abolition of the Arabic script was that it was an impediment to the spread of literacy. That is a debatable point, but it is undeniable that the literacy rate rose with astonishing speed under Soviet rule. According to the 1926 census, literacy among Uzbeks stood at a mere 3.8 per cent; by 1932, 52.5 per cent of the population were said to be literate. The curve continued to rise, until today it is claimed to be over 99 per cent. There may be some over-optimism in this, but even so what has been achieved is remarkable, and far outstrips literacy rates in neighbouring countries such as Pakistan, Afghanistan and Iran. It required an extraordinary level of organisation and coordination, since virtually everything had to be created from scratch, from the construction of school buildings to the training of teachers, from the compilation of basic textbooks to the provision of paper and printing facilities.⁷ Yet there were also losses. The changes of script have meant that the Uzbeks have been bereft not only of the whole of their pre-Revolutionary written culture but also of first-hand acquaintance with sources relating to the formative first decades of Soviet rule. Literacy has given them access to only a small and carefully edited segment of their history.

Islam

In November 1917 the Soviet government issued a declaration ‘to all the toiling Muslims of Russia and the East’ that henceforth their beliefs and customs would be considered ‘free and inviolable’.⁸ At first this promise was fulfilled reasonably well. By the end of the 1920s, however, the situation had changed. In Uzbekistan, as in other parts of the Soviet Union, a fierce anti-religious campaign was unleashed. Muslim schools and courts were phased out (initially, since there were few acceptable alternatives, they had been allowed to continue functioning); mosques were closed, often to be turned into clubs or cinemas, religious literature confiscated and destroyed, religious functionaries persecuted. The Arabic script, which had been used for the literary languages of Central Asia for close on a thousand years, and is precious to Muslims all round the world because it is the script in which the Qur’ān was originally recorded, was replaced by the Latin. In short, as far as possible all visible signs of the religion were wiped out and it became dangerous to admit to being a Muslim.

However, it was impossible to eradicate overnight something that had for centuries been the very essence of life. Quite apart from the role the religion had played in shaping the culture and history of Central Asia, almost every custom and tradition had its roots in Islam. The claim that the religion survived owing to the activities of secret Sufi (mystic) organisations is surely too extreme. Even if there had been such activity (which has not been proved convincingly) it could not have been effective had there not been a widespread, deeply ingrained belief that to be a Central Asian was synonymous with being a Muslim. To have abandoned such practices as, for example, circumcision and the special burial rites would have been to cut oneself off from one's ancestors, to become an isolated individual rather than a member of a living community of past, present and future generations.⁹

During and after the Second World War the government adopted a slightly more conciliatory attitude towards Islam. Four regional Muslim Spiritual Directorates were created, to regulate such formal aspects of Islam as were allowed to reappear at this time. The largest and most important directorate had its seat in Tashkent, the Uzbek capital. The first two (until 1989 the only) *madrasa* (religious colleges) in the Soviet Union were reopened in Bukhara and Tashkent. A small number of mosques were also gradually reopened and a few religious publications sanctioned, their print runs tiny and circulation tightly controlled. Some twenty to thirty carefully chosen pilgrims (drawn from the whole of the USSR) were allowed to make the annual *hajj* to Mecca, one of the basic precepts of Islam. These changes were mostly cosmetic and did little to bring greater freedom of worship to ordinary believers. Their primary purpose was to impress foreign Muslims, to pave the way to better relations with Muslim states in Africa and Asia.

Social and Economic Change

Soviet rule brought drastic changes to the social and economic life of the Uzbeks. Under the tsarist administration there had been some industrial development of Central Asia (chiefly the extraction of petroleum, coal and copper), also a substantial expansion of the cultivation of cotton. Short-staple native cotton had long been grown locally, but it was the introduction of higher-yielding American seed in 1884 that revolutionised production and transformed the region into the principal supplier of raw material to the Russian textile industry (the simultaneous extension of the railway system solved the transport problem). The 'great leap forward' in economic development, however, was initiated during the first two Soviet five year plans (1928-38). In order to accomplish this, large numbers of professionals and skilled technicians were brought in from other parts of the Soviet Union. By the 1930s, some 85 per cent of the industrial workforce was composed of immigrants from European Russia. During the war years, a number

of industrial enterprises from the western parts of the Soviet Union were relocated in Central Asia, over 100 in Uzbekistan alone; this further helped to accelerate the economic development of the region (and brought in yet more immigrants). After the war, the industrial growth rate remained high for a time, but by the mid-1950s had begun to decline sharply. This downward trend has since continued, occasioned to a large extent by the lack of sufficient capital investment in the post-war years. There was, however, a temporary upturn in the 1970s; this was closely related to an increase in cotton production from 1965 onwards.¹⁰ In 1980 Uzbekistan reputedly produced over 6 million tonnes of raw cotton; in 1983 it almost rivalled the output of the whole of the United States of America. Since then, though, there has been a decrease in production. In 1989 it accounted for just over 5 million tonnes.

The workforce in the cotton fields is entirely Uzbek. Despite all the hardships and lack of facilities in the rural areas there has as yet been very little urban drift; the great majority of the population have remained in their ancestral villages. This has been a very important factor in preserving the traditional way of life, at least within the confines of the family. In the late 1920s there was a vigorous campaign to socialise women; known as *hujum* ('attack'), it sought to draw women out of the home, to give them an education (only 1 per cent were literate), and to turn them into wage earners. It was responsible, too, for causing women to stop wearing the veil. The *hujum* had a lasting effect on the lives of urban women, many of whom now work outside the home, some as highly qualified specialists. In the villages, however, there has been little change. The desperate, hopeless conditions cause several hundred women a year to commit suicide through self-immolation.¹¹

UZBEKS IN THE GORBACHEV PERIOD

Perestroika and *glasnost* have been slow to come to Uzbekistan. Even now they can scarcely be said to be much in evidence. Fear and distrust, legacies of the terror of the 1930s, are to some extent responsible for this. There is also confusion and uncertainty about the true intentions of the centre. No one quite knows what is expected of them. The most powerful reason, however, surely lies in the nature of the society itself. The Uzbeks have a tradition of deferring to those who are senior to them in age or status. Criticism of the *aqsaqaly* ('white beards') is considered unseemly and a fault in the person who shows such temerity, no matter how justified the criticism might be. This attitude, when combined with a system that itself provides few checks and controls on those in power, creates an elite who are doubly insured against the need to account for their actions. The word 'mafia' is frequently used of the ruling cliques in Uzbekistan, not least by the Uzbeks themselves, who suffer acutely

from this blight on their society and yet are impotent in the face of it. Virtually every organisation and every neighbourhood is plagued by this phenomenon. It is impossible to characterise a typical 'mafia' member; they are found at every level of society, drawn from every nationality. Inevitably, though, the great majority are native Uzbeks, nurtured, supported and tied into the local networks of power. Loyal neither to Moscow nor to their compatriots, but to themselves alone, their stranglehold on society is very nearly as strong as it was in the days of 'stagnation'. Consequently even the modest moves towards democratisation that have taken place elsewhere in the Soviet Union have hardly begun to make an appearance in Uzbekistan.

Nevertheless, since the late 1980s there has been slightly greater freedom of the press and more opportunity to discuss publicly subjects that were formerly forbidden. It is mainly the writers who have led the struggle for greater openness, but academics, painters, film-makers and other creative artists have also made an important contribution. Social and environmental issues have been widely discussed. It has come as a painful shock to many to discover how serious are the problems that now confront the republic. The catalogue of disasters is vast; it includes the abysmal level of health-care and housing in rural areas (where some 80 per cent of the Uzbeks live); widespread disease, malnutrition and poverty; high infant mortality; a colonial-type economy that uses the indigenous population almost as slave labour to produce raw materials which are purchased at prices far below the world market level, then exported to other parts of the Union to be processed; high unemployment, leading to inter-ethnic tensions; ecological calamities that are making large tracts of land uninhabitable. There is a growing indignation over the extent to which their culture and history have been distorted and manipulated. As in other parts of the Soviet Union, there is a demand for the rehabilitation of those liquidated in the purges of the 1930s; also, for the filling-in of the 'blank spots' of history. Yet by no means everything is open for discussion; the *jadid* period – the period of the first stirrings of political awareness in the early years of the twentieth century – remains a sensitive topic. So, too, does the establishment of Soviet power in the region, the incorporation of the Bukharan and Khivan states into Turkestan, and the whole of the civil war period.

Environmental Issues

The largest and most complex environmental problem is that of the Aral Sea. Not only is the region itself fast being reduced to an irredeemable wasteland, but the effects of the devastation are beginning to be felt, it is reported, as far away as in Pakistan to the east and along the Black Sea coast to the west. It is a cycle of disaster comparable in scale to that of the cutting down of the Amazonian rainforests. In recent years climatic

changes have been observed, possibly caused by the shrinking of the sea; dust storms, fiercer and more frequent now, scoop up salts from the exposed seabed and scatter them far and wide; some are deposited on the glaciers, again to be carried down to the sea by the snow melt, but in a yet more concentrated form. Highly toxic and non-biodegradable, these salts are the residue from the fertilisers and pesticides used to boost the cotton crop. The effect of long-term exposure to these chemicals is believed to be similar to that caused by exposure to radiation. Scientists speak of a catastrophe of greater proportions than that of Chernobyl. Physical and mental abnormalities abound. Doctors fear that a genetic mutation has taken place and that the local population is, quite simply, beyond the help of medical science. Some political activists are openly calling it genocide.

Evidence of the approaching calamity has long been available to the authorities, yet they chose to ignore it. Once again, it was left to the writers to force the matter out into the open. A Society for the Protection of the Aral Sea was created under the auspices of the Writers' Union in 1989. It has done much to raise public awareness of the disaster. Solutions to the problem, however, are still very far away.¹²

The plight of the Aral Sea, like so many of Uzbekistan's problems, has its roots in the mono-culture of cotton. The drive for higher productivity initiated by Khrushchev in the 1950s developed a mad momentum of its own during the Brezhnev era. It turned into a fantastic charade, with the centre setting ever more outrageous targets and the republican leadership readily concurring. The strain on the republic was unbearable and every aspect of life suffered. Precious water resources were squandered with no thought for sustainable development; intensive irrigation led, on the one hand, to the creation of saline swamps; on the other, to a severe depletion of the rivers that feed the Aral Sea and, eventually, to the drying up of the sea itself.

It is now openly acknowledged that the mono-culture of cotton has been responsible for some of the worst health problems of the republic. As more land was turned over to cotton, so other forms of agriculture were neglected. Crop rotation declined, leading to an impoverishment of the soil. Less space was available for the cultivation of fruit and vegetables; pasture land, too, was reduced. Basic foodstuffs became scarce and expensive, and the diet of the population suffered accordingly. Vitamin, protein and iodine deficiencies are widespread, resistance to infection low, especially among children; the official infant mortality rate in some parts of Uzbekistan is 118 per 1,000 live births, the actual rate probably higher (cf. the Soviet average of 25.4).

Further health hazards are created by the vast quantities of chemical fertilisers and pesticides that are used on the crop (according to Uzbek scientists, some 54 kilograms per hectare). These have seeped into the soil and the water supply, poisoning both; in many parts of the republic there is no clean drinking water. The food cycle has been contaminated

to such an extent that, in the worst affected regions, even the breast milk of nursing mothers shows traces of toxic salts. Butyfos, the most dangerous of the defoliants, was banned in 1987, but others, almost as lethal, are still legal, and continue to be used. It is the women and children, who harvest the crop by hand, who are exposed, without any form of protective clothing, to the full force of these chemicals. The harm they do in the short term is all too obvious, but it is feared that the long-term effects will be even more serious. Apart from the damage to their health, it has been estimated that Uzbek children and young people lose 2 to 3 months out of every academic year, from the beginning of their schooling through to the last year of university, by working in the cotton fields. They are thus seriously disadvantaged in their education.¹³

The cotton mania has brought many other troubles to Uzbekistan. The most spectacular was a giant embezzlement conspiracy linked to the falsification of cotton statistics. It has emerged that in the Brezhnev era some of the plantations, and consequently their harvests, existed only on paper. The profit, however, was real enough and went to highly placed pockets in Moscow and Tashkent. Some of the ringleaders were brought to trial and convicted in 1988, but the 'Uzbek affair', as it has come to be known, remains very much alive, with new rackets and swindles still coming to light. Many thousands of people have been arrested. It is a vivid exposition of the workings of the 'mafia', revealing not only colossal greed, but also total indifference to the sufferings inflicted on others. It shows, too, the international aspect of such operations, involving not only those within the republic, but also those outside. Many Uzbeks deeply resent the manner in which the all-Union press has laid such stress on their part in the affair, as if they alone were guilty. Their indignation is understandable, and to an extent justified; nevertheless, it does seem that corruption and lawlessness flourish more easily in Uzbekistan, behind its many still closed doors, than in most other parts of the Soviet Union.

'Popular Front' Movement *Birlik*

The Uzbeks have no experience of democratic self-rule. In the time of the khanates power was concentrated in the hands of a tiny few; this was followed by a half-century of colonial rule, replaced, in turn, by another, in many ways yet harsher form of external control. It is small wonder that they find it difficult to formulate a coordinated response to the current situation. Having no political culture of their own, they are forced to look elsewhere for models. The central question is one of orientation: are they Uzbeks who, having accepted the nationality thrust upon them in 1924, now seek to carve out a future for a nationally based republic? Or do they belong to a larger grouping; for example, the 'Turkestan'? Or Turan? And are they Muslims, striving to create a society organised on Islamic precepts, or do they find inspiration in Western

systems? As yet there are no clear answers. The questions themselves are too new.

The intelligentsia are pulled in two directions. Many have a profound respect for Islam, but few have any real understanding of it; now, after seventy years of Communist rule, it has become an alien philosophy. For all their instinctive sympathy for it, they find it hard to comprehend how, in practical terms, Islam could provide the basis for contemporary life. Everything in their education predisposes them towards Western models, and within the Soviet experience, to the example of the Baltic republics; of Moscow, of the Ukraine. *Birlik* ('Unity'), the largest of the contemporary political movements in Central Asia, founded in Tashkent in November 1988 by a group of Uzbek intellectuals, was closely modelled on popular front movements in other parts of the Soviet Union, in particular, that of Lithuania's *Sąjūdis*. The movement grew rapidly under the chairmanship of Abdurahim Pulatov, a lecturer and research scientist in cybernetics at Tashkent University. Thanks to his energy and organisational skills, it succeeded in attracting supporters from all walks of life; at its height it numbered some 500,000 members. It put forward a candidate, the poet Muhammad Salih, in the elections of March 1989 for the Congress of People's Deputies. Despite *Birlik*'s popularity, however, and despite Salih's own very considerable following, he was unsuccessful, defeated by the underhand and highly unconstitutional tactics of the local Party and government representatives.

Nevertheless, the movement persevered and continued to campaign on a number of issues. The struggle to obtain legal recognition for Uzbek as the state language of the republic provided them with their chief platform. Legislation enshrining this in the Constitution was passed in October 1989. Almost simultaneously, *Birlik* disintegrated. To some extent this was the result of personality clashes within the leadership, but collapse was undoubtedly hastened by the strain inflicted by the authorities, who pursued a cat-and-mouse policy, sometimes inviting cooperation from *Birlik* members, sometimes clamping down on them, often intimating that official registration of the movement was imminent, but never actually granting it. The members were politically too inexperienced to withstand such pressure. There are those, like Muhammad Salih and his faction who seem inclined to create a new pan-Turkestan party, while Abdurahim Pulatov is tending towards a more nationalist approach. A number of other small organisations have sprung up recently; none have clearly defined aims and at present are little more than discussion groups.

Islam

Official attitudes towards Islam are ambivalent. In the press, especially the organs of the centre, and even in statements from the senior

leadership, including those of Gorbachev, there is not infrequently a critical, almost derogatory, approach to Islam. In practice, however, the last years of the 1980s have shown a marked improvement in working relations between the state and the Muslim community.

The clearest intimation of change came in March 1988, when a new mufti was elected. The post is of more than regional importance, since the incumbent is the mouthpiece of official Soviet views on Muslim affairs for those within the USSR, as well as for those abroad. Three generations of the Babakhanov family fulfilled this function loyally, proving themselves dependable allies of the secular authorities; but times changed, and the leadership they had served fell into disgrace. Shamsuddin Babakhanov, elected in 1982, became an embarrassment to all concerned, not least to the policy-makers in Moscow. Yet there was no formal mechanism by which he could be relieved of his duties. Then, suddenly, the Muslim community held an unprecedented public demonstration in Tashkent, accusing him of licentious and un-Islamic behaviour and demanding his resignation. Their voice was heeded; a few weeks later the Rector of Tashkent *madrasa*, thirty-seven-year-old Muhammad Sadyq Mahammed Yusuf Hoja-ogli, was installed in Babakhanov's place. It was a neat solution to an awkward problem.

Shortly after, a number of dramatic concessions were made towards the Muslims. More mosques were opened over the next few weeks than had previously been permitted in several years. A new edition of the Qur'an was promised, its 50,000 copies to be the first step towards fulfilling Mufti Muhammad Sadyq's publicly expressed hope that there should soon be a copy of the Holy Scripture in every home. An Uzbek translation of the Qur'an is in preparation and extracts have already appeared in print. Extensions to the two *madrasa*, in Bukhara and in Tashkent, have been sanctioned and construction is under way. There have been several other notable improvements, but perhaps the most potent symbol of the 'new thinking', and the one that touched the believers most deeply, was the return of the Othman Qur'an to the safekeeping of the Muslims. Believed by Central Asians to be a seventh-century manuscript, copied soon after the death of the Prophet, it is one of the holiest treasures of Islam. It was taken to St Petersburg by the tsarist administration, returned to Central Asia by the Soviet government, but kept for most of the past seventy years in the custody of the civil authorities.

Not every obstacle to a truly Muslim life has yet been removed, but it is a great deal easier to be a Muslim in Uzbekistan today than it has been at any time since the republic was founded. The general mass of believers have welcomed these developments, which have done much to enhance Gorbachev's popularity. However, the new freedoms place new responsibilities on the Muslim leaders. They are now expected to give moral direction to the community, to act as a counterbalance to 'undesirable phenomena' ranging from hooliganism

to nascent fundamentalism. The Mufti Muhammad Sadyq was elected (the single, unopposed candidate in his ward) to the Congress of People's Deputies in March 1989. The government has encouraged him to speak out on matters of law and order as, for example, during the violence in Ferghana in June 1989. He and the other *ulama* (religious scholars) have for so long been accustomed to a marginal role in society, however, that it is not easy for them to find a common language with the community at large. Yet as the euphoria over mosques being open for worship, and Qur'ans legally available, gives way to a commonplace acceptance of such things, the Muslim leaders will have to meet the challenge of their new function, or lose the respect of believers.

A rival form of moral Islamic authority is being provided by the so-called Wahhabis (not apparently linked in any way to those in Saudi Arabia). Eschewing politics and indeed, as far as possible, any form of involvement with the secular authorities, they live by the labour of their own hands. They are greatly respected for their upright, ascetic lives. They began as a small group in the Namangan region, but their influence has now spread to the capital.

CONCLUSIONS

The social and economic problems of Uzbekistan are steadily worsening. As in many developing countries, the population is very young and growing rapidly (the birth-rate is almost double the Soviet average). Unemployment is widespread, especially in rural areas, but attachment to the land remains strong and there has been little out-migration. It is difficult to judge the extent of the crisis since information is incomplete and not always reliable. However, there is now a greater degree of public discussion and this has led to a radical change of attitude. Before, most people were prepared to accept their lot; today, there is growing disillusionment, anger and disaffection, which in turn has led to a rise in nationalism and general xenophobia. This is a new phenomenon, but one that is likely to increase as economic inequalities become more pronounced. Resentment is by no means directed against Slav immigrants alone; as the clashes in Ferghana in June 1989 involving the Meskhetian Turks showed, even fellow Sunni Muslims are not immune.

The problems are so colossal that it is hard to see how they will be solved. Serious analysis of the economic and related ecological ills has scarcely begun, so though there is much indignation, there are yet no programmes for implementing change; plans for economic independence remain vague, as do those for saving the Aral Sea or improving the agriculture. The future does not look promising. Even if a major conflagration is avoided, sporadic localised outbreaks of

olence will probably spread. The population has lost confidence in the old leadership and new leaders have not yet emerged. It cannot be excluded that fundamentalist elements will fill the vacuum. It is a situation ripe for manipulation.

NOTES

1. Complete data from the 1989 census are not yet available. In 1979 the regional distribution of Uzbeks within the USSR was as follows:

		Percentage
Total number of Uzbeks	12,455,978	100.0
In UzSSR	10,569,007	84.9
In KazSSR	263,295	2.1
In KirSSR	426,194	3.4
In TurkSSR	233,730	1.9
In TadzhSSR	873,199	7.0

Source: *Chislennost' i sostav naseleniya SSSR: Po dannym Vsesoyuznoi perepisi naseleniya 1979 g.* (Moscow: Finansy i statistika, 1984).

In the period 1979-89 there has been an increase of 34% in the overall number of Uzbeks in the USSR.

2. There are several accounts of life in Central Asia under the tsarist administration. Of particular interest are those by the American consul in Moscow, E. Schuyler, *Turkistan: Notes of a Journey in Russian Turkistan* . . . (London: Sampson Low, Marston, Searle & Rivington, 1876), and by F. H. Skrine (of the Indian Civil Service) and E. D. Ross, *The Heart of Asia: a History of Russian Turkestan and the Central Asian Khanates from the Earliest Times* (London: Methuen, 1899), pp. 238-428.
3. For a review of the pre-Revolutionary press in Central Asia, see A. Bennisgen and Ch. Lemerrier-Quelquejey, *La Presse et le mouvement national chez les musulmans de Russie avant 1920* (Paris-The Hague: Mouton, 1964); T. Ernazov, *Rastsvet narodnoi pechati v Uzbekistane* (Tashkent: Uzbekistan, 1968).
4. The best study to date of the khanates in the tsarist and early Soviet periods is S. Becker, *Russia's Protectorates in Central Asia: Bukhara and Khiva, 1865-1924* (Cambridge, MA: Harvard University Press, 1968).
5. Cf. A. Bennisgen, 'Islamic, or Local Consciousness among Soviet Nationalities?', in *Soviet Nationality Problems* (New York: Columbia University Press, 1971), pp. 168-82; T. Zhdanko, in I. R. Grigulev and S. Ya. Kozlov (eds), *Ethnocultural Processes and National Problems in the USSR* (Moscow: Progress, 1979), pp. 133-56; R. Vaidyan

- The Formation of the Soviet Central Asian Republics: Nationalities Policy, 1917-1936* (New Delhi: People's Publishing House, 1967).
6. A useful discussion of the political currents underlying the changes in script, etc. is given in E. Allworth, *Uzbek Literary Politics* (The Hague: Mouton, 1964), pp. 169-200; see also S. Akiner, 'Uzbekistan: Republic Many Tongues', in M. Kirkwood (ed.), *Language Planning in the Soviet Union* (London: Macmillan, 1989), pp. 100-22.
7. See W. K. Medlin, W. M. Cave and F. Carpenter, *Education and Development in Central Asia* (Leiden: Brill, 1971); also T. N. Kary Niyazov, *Ocherki Kul'tury Sovetskogo Uzbekistana* (Moscow: AN SSSR, 1955), pp. 55-68, 334-60.
8. 'Obrashchenie Predsedatelya Soveta Narodnykh Kommissarov V. I. Lenina i Narodnogo Kommissara po Delam Natsional'nostei I. V. Stalina k vsem trud'yashchimsya musul'manam Rossii i Vostoka, 20 noya (3 dek.) 1917 g.', *Dokumenty vneshnei politiki SSSR*, vol. 1 (Moscow: Gos. izdatel'stvo politicheskoi literatury, 1957), pp. 34-5.
9. The fullest Western study of Islam in the Soviet Union, though now somewhat out of date, is still A. Bennisgen and Ch. Lemerrier-Quelquejey, *Islam in the Soviet Union* (London: Pall Mall, 1967); cf. *Islam v SSSR*, E. G. Filimonov (responsible editor) (Moscow: Mysl', 1983).
10. See, further, A. R. Khan and D. Ghai, *Collective Agriculture and Rural Development in Soviet Central Asia* (London: Macmillan, 1979).
11. For two contrasting views of the lot of women in Soviet Central Asia, see G. Massell, *The Surrogate Proletariat* (London: Princeton University Press, 1974); B. P. Pal'vanova, *Emansipatsiya musul'manok* (Moscow: Nauka, 1982). There have been several reports in the press on self-immolation, e.g. 'The Flames of Feudalism' by E. Gafarov, Head of Burns Unit, Civic Hospital, Samarkand, *International Pravda*, vol. 2, no. 7, 1988, p. 24.
12. *Sud'ba Arala*, R. Ternovskaya (ed.) (Tashkent: Mekhnat, 1988), a collection of some 20 essays by journalists, academics and politicians, presents a survey of the current thinking on the problem; see also 'Aral'skaya Katastrofa', *Novyi Mir*, no. 5, 1989, pp. 182-241.
13. See, e.g., the reports in *Ogonek* by A. Minkin, no. 13, March 1988, 'Zaraza ubiistvennaya', p. 26; and no. 33, Aug. 1988, 'Posledstviya zarazy', p. 25.

from *The New Yorker* 53
REPORT FROM TURKESTAN



THE Hotel Uzbekistan, in the heart of Tashkent, the Uzbek capital, is a monstrous and monotonous gray block of concrete that arches around an empty plaza. Like many buildings in the ancient city, the hotel was erected after a 1966 earthquake devastated the old landmarks. After the earthquake, the core of Tashkent was rebuilt in a matter of months, with the help of thirty thousand "volunteers" from what were then the Soviet Union's fourteen other republics. A quarter of a century later, parts of Tashkent are still variously referred to as the Riga sector, the Vilnius sector, or the Kiev quarter, after the capitals of republics that contributed labor. The worst sector, Tashkentis tell visitors, is the Ashkhabad quarter, which was built by workers from poor neighboring Turkmenistan.

The reconstruction may have been efficient, but Tashkent, once an oasis stopover for caravans on the old Silk

Road across Asia, lost much of its historic flavor. The traces of ancient Greek, Persian, Arab, Mongol, and Turkish civilizations that ruled the region before czarist Russia expanded into Central Asia in the nineteenth century have virtually disappeared. The nondescript Stalinesque architecture, which often makes government complexes, business offices, and apartment high rises indistinguishable, did more than any political-indoctrination campaign to stamp Tashkent with a Soviet ambience. In the sterile and now shabby lobby of the Hotel Uzbekistan, the symbols of a rich Asian culture—colorfully embroidered beaded caps, damascene-like tapestries, and tea sets with their pots and handleless cups—are relegated to souvenir-display shelves.

Yet a half century of czarist rule and more than seven decades of Soviet domination did not completely transform Tashkent or its inhabitants. Sometimes visibly, sometimes beneath the

surface, physical and cultural traditions have survived attempts both by monarchs and by Communists to Russify the south. Despite widespread poverty, flowers have remained an essential element of Tashkent life. On the day of the first snow in Moscow last fall, stalks of red gladioli stood almost shoulder high under the Central Asian sun in Tashkent's downtown parks; in the courtyards of simple clay-brick houses in Old Tashkent, pink, white, and red roses were still blooming. Although the Islamic religion was scorned by the czars and banned by the Soviets, its everyday customs have never been abandoned. In little teahouses or open-air bazaars, "Salaam alaikum," or "Peace be upon you"—the Islamic greeting common to the nearby Arab world and to Iran, Pakistan, and Afghanistan—has remained standard among the Uzbeks. And although Moscow imposed its language and its ways, the local heritage has persisted.

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in life-cycle rituals. At a late-autumn wedding I observed during my first day in Tashkent, the bride kept her head bowed and avoided eye contact in the modest manner of Central Asian brides; the bridegroom wore the gold brocade coat and matching crown, bedecked with feathers, that distinguishes Central Asian bridegrooms.

The legendary hospitality of Central Asians has not disappeared, either. In the hotel lobby, I met a budding entrepreneur named Dilmurad Mohammedaliyev (the Russified version of Muhammad Ali). An unusually large young Uzbek, who could have been a pro fullback, he immediately invited me to another wedding. "If you really want to know about the future of Central Asia, this is where you'll see it," he said. "This is a different kind of marriage—this is a *traditional* wedding."

We drove to a kolkhoz, or state collective, on the outskirts of Tashkent which grew pears, melons, and citrus fruits. White sheets had been draped between high poles to separate guests from the produce, and to separate women from men. As a foreign guest, I was designated an honorary man and invited to sit at one of many long rows of picnic tables covered with big bowls of fruit, plates of cold cuts and cheese, and piles of thick round flatbread and small sticky cakes. Clusters of bottles offered everything from local soda pop to a slightly sweet Uzbek champagne. Platters of kabobs were served while a band played local music and some three hundred men talked noisily.

The "wedding," it turned out, was actually a double ceremony for two brothers, Iskander and Ismail Djalilov, aged three and five. Late in the evening, the little boys, dressed in miniature gold groom's coats and crowns topped by a peacock feather, made their debut to receive toasts and gifts. In Uzbek, the ceremony is called a *sunnat toi*; elsewhere it is known as a circumcision. The medical procedure had in fact been performed earlier in the day in the presence of the boys' male relatives. The evening's festivities, celebrating the occasion, were to continue all night and end with a rice breakfast at 6 A.M. "It is the most important event in a male's life until he turns eighteen," Mohammedaliyev explained. "It is called a wedding because it is the ceremony during which a boy-child marries Allah."

For much of the evening, the senior men of the family and their friends sat at the entrance to the kolkhoz greeting guests and chatting. Most wore the black quilted coats and black four-cornered caps with white embroidery so common in Central Asia. Among them was the boys' grandfather Abdul Kayoum Hoja, a kindly old man with a big beard. Unlike his grandchildren, he had deeply slanted eyes. Over the centuries, the intermingling of the nomadic tribes that once roamed the Central Asian steppes and their various conquerors has produced combinations of Indo-European, Turkic, and Mongol features, among others. Even within a family, they can range from very Western to very Asian. After a new "freedom of conscience" law in 1990 formally allowed the practice of religion in the Soviet Union, Kayoum was among the first to make the pilgrimage to Mecca during the annual hajj; "Hoja" is an honorific title added to the beginning or end of names after the pilgrimage. Although he had spent his whole life under Communist rule, Kayoum told me, he had secretly learned, and kept, the faith that first took root in Central Asia in the eighth century. "Two thousand made the hajj in 1990. Five hundred were from Tashkent," he said, smiling proudly. "Islam is now growing very fast. The Islamic public is agitating." His grandsons would have a different upbringing, he predicted, because of the new freedom to practice and teach religion. He hoped that one day Sharia, or Islamic law, would rule the land. With the confidence of a true believer, he said, "Everyone wants an Islamic state."

THE Soviet Union was home to almost sixty million Muslims—the fifth-largest Islamic population in the world, larger than that of any Middle Eastern country. The majority now live in the five former Asian republics: Turkmenistan, Uzbekistan, Kazakhstan, Kyrgyzstan, and Tajikistan—the most isolated and least-known parts of what is now the Commonwealth of Independent States, and perhaps of the world. It wasn't always that way. For centuries, this area was part of Turkestan, which in its medieval glory stretched from Turkey into western China and united diverse peoples and tribes with a common culture, language, and religion.

After Russia absorbed Central Asia

been waiting for years to get into a seminary. One of them, a tall youth from Tajikistan named Suleymon Boltuyev, who carried a huge weathered copy of the Koran, had been waiting since 1982. With the restriction on numbers lifted, the only limitation now is space; from fifty students three years ago, enrollment at the institute has risen to four hundred, its director told me. Two new madrasahs had opened recently in Tashkent, seven more in other parts of Uzbekistan.

"We've got to be proud and thankful to Allah," Boltuyev said of the new religious freedoms, discounting the role of *perestroika*. Boltuyev's mission now, as he sees it, is to spread the word further. "The knowledge of history and science proves Islam to be the only religion in the world that does not lead man astray and to bad deeds," he said. Indeed, all the young seminarians seemed surprised that there might be any question about whether Islam would, in the end, prevail throughout the region.

None of them wanted to copy Iran's Islamic revolution, however. "We want a theocratic state run by the clergy, we want Sharia, but the model of Iran is not suitable," Tsumbai Lyusanov, a soft-spoken young Kyrgyz whose family came from China, told me. "This would not be a militant state. We want no victims and no bloodshed—just peaceful existence." The Muslims of Central Asia are different from their Iranian brethren in another important way as well. Iranian Muslims are predominantly Shiite, but the Muslims in the five republics are overwhelmingly Sunni. In Shiism, the clergy are empowered to intercede between God and man, and thus mullahs and imams like Ayatollah Khomeini are able to play powerful leadership roles in interpreting God's will to the faithful. Among the Sunni, man's relationship with God is direct, and the clergy serve largely as guides or advisers. The difference is sometimes compared to the difference within Christianity, with Catholicism's infallible Pope and strict hierarchy in contrast to the looser structure of Protestant faiths.

Through intermediaries, I then tracked down the leaders of the clandestine Islamic Renaissance Party, or I.R.P. The I.R.P. calls for the overthrow of Communism and the establishment of an Islamic republic, but it

eschews religious extremism. Although a branch of the I.R.P. had eventually been allowed to register as a legal party in Moscow, it was initially banned by all five of the conservative Central Asian republics. Uzbekistan's leaders went further: they outlawed all religious parties and any attempt by the clergy to run for parliament. Police raided an I.R.P. constitutional conference held in early 1991, and the leadership has remained underground ever since.



Abdullah Utayev, the I.R.P.'s political chairman—not to be confused with its spiritual leader, the real power in the Party—is a plump Uzbek with a small goatee who works for a publishing company. His first deputy, an affable man named Abdullah Yusuf, is a teacher.

Yusuf did most of the talking, with Utayev nodding throughout. "When Western people write about Islam, they talk about its being fanatic, and they use the term 'fundamentalist,'" Yusuf said, leaning forward and speaking intensely. "I'd like to emphasize one thing: we cannot draw a parallel with Iranian society. There is a great difference between the Shia and the Sunni. The spiritual leader who will be a chief of state here should not only be a member of the clergy. He has to know the secular sciences as well. Pakistan is a more suitable model." He hastened to add that Pakistan's system was not exactly what his party had in mind, either. Pakistan is an Islamic republic, but it is headed by a secular leader, and Sharia is only one—not the only—source of its laws. Saudi Arabia, where Sharia is the law but the clergy are only advisers to the monarchy, and where no one votes, is also not a model, he said. "We have our own, different ideas. What we really want is an Islamic democracy, although all the elements of democracy are in Islam, so we don't need to add the word."

How did their party define an Islamic democracy?

"With our people, the notion of democracy means no restrictions," Yusuf said. It would not be a one-party state; the franchise would be universal; the rights of ethnic and religious minorities would be protected; and private property would be honored. But the I.R.P.'s Islamic democracy would in fact have some restric-

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tions. "Anti-Islamic" practices, for example, would be forbidden. "This means that all those things which are no good for humanity—drugs, drink, prostitution—must not be allowed," he said. Nor would tolerance be universal, even toward Muslims. "All the people appointed to Muslim posts in past years had to get the permission from the state," Yusuf said. "Not all are legitimate members of the clergy. All who work for the Directorate will have to go."

And how long would it be before this Islamic state took root?

"Only Allah knows," Yusuf answered, shaking his head. "But mankind is moving so fast. We didn't think the events of the past six years could take place even in fifty years."

THE Gur-Amir Mausoleum is the highlight of Samarkand, Uzbekistan's oldest city. Samarkand first became a crossroads between East and West under Alexander the Great, a role it retained for almost two thousand years—until ships replaced land caravans for international trade. The mausoleum—a towering complex surrounding a courtyard which contains a mosque, a madrasah, and quarters for the ascetic dervishes—was built in the fifteenth century, at the time of Samarkand's greatest glory.

I arrived at the mausoleum early one morning, before it had opened; a young Uzbek militiaman in an ill-fitting gray uniform was still preparing for the first tourists. When I pressed him with questions that a brief history on the front wall, in Russian, did not answer, he invited me inside for a look before the crowds came. The centuries have done their damage to the shrine's exterior, but the interior has been restored to its original splendor. Sunlight shines through arched windows and reflects from high walls decorated with intricate blue-and-gilt mosaics; the light inside seems golden.

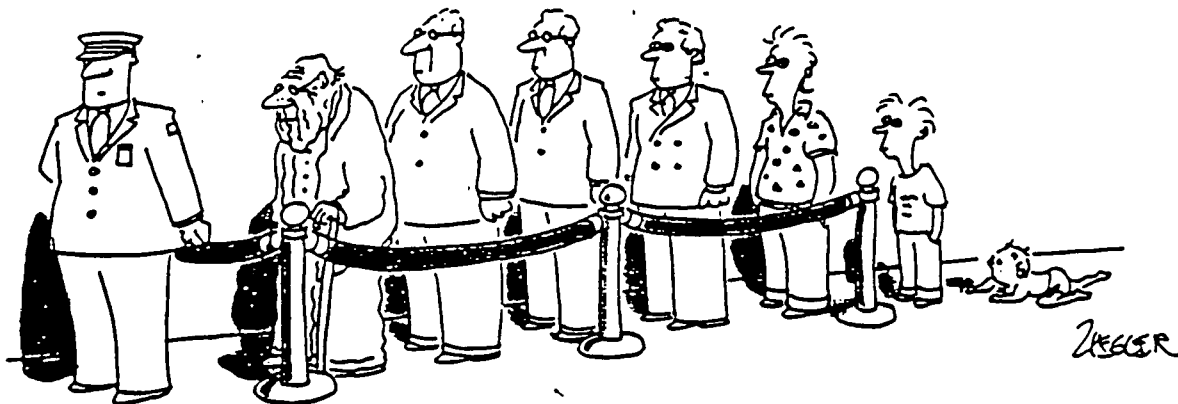
On the floor were six sarcophagi, five of light marble surrounding one of greenish-black jade. The one in the middle marks the official resting place of the fourteenth-century warrior-king Timur the Lame, so called because of a limp, who is better known in the West as Tamerlane. Next to him rest two sons, at his head a beloved teacher. The militiaman, who introduced himself as Zayniddin, talked at some length of Timur's expansion of old

Turkestan—through conquests in Iran, Iraq, Armenia, Azerbaijan, Georgia, southern Russia, Syria, Turkey, and India—and of the development of Samarkand, his exotic capital. Then, looking at the sarcophagi, he sheepishly confessed, "These are only models. They were put here at the time of Timur's death. He ordered it done that way." After a pause, he asked, "Would you like to see the real ones?"

We went outside and made our way around the building to an innocuous little door in the rear. Zayniddin unfastened a padlock at the top and led me into a small underground crypt. The unadorned brick vault also contained six sarcophagi, which were positioned exactly like those in the room above, but were of simpler white stone. The top of Timur's real tomb was engraved with his autobiography. At the bottom, Timur had added a warning that anyone who opened his grave would start a major war. Despite local protests, Zayniddin told me, the sarcophagus was opened by Soviet authorities in June, 1941. Four days later, he added solemnly, Hitler's armies attacked.

Although Timur is known to the outside world for his ruthless military tactics, his rule is regarded by many in Central Asia as a period of greatness, not only for the prosperous empire he built but for the achievements of Islamic culture, particularly science and the arts. After Zayniddin relocked the crypt, he stood still for a few moments before returning to his duties. "What we need is a new Timur to build a new Turkestan," he said. "I dream that a day will come when our republics unite and renew the ancient name. It would be good for Central Asia. It may be our only hope of survival."

ACROSS from the Hotel Uzbekistan is a bright-yellow building with classical white columns which looks a little like a giant doll house and serves as the headquarters of the Writers' Union. I went there to meet Abdulrahim Pulatov, who is the leader of Birlik, a populist pro-democracy movement that was founded in 1988. Like the I.R.P., Birlik, which means Unity, is outlawed in Uzbekistan. I asked Pulatov, a physicist, about the prospects of reuniting Turkestan—first in Central Asia, and then to its old boundaries across the continent. "For a hundred and thirty-five years, we've



been a colony, and now we've got independence," he said. "Democracy is the first step, but what comes after that is a big question. Here people have approximately the same culture and language. Joint economic and environmental problems also unite us. So working together is both logical and efficient. Our movement is not against ties with Russia. Every normal and sane politician thinks that turning only to Asia is impossible, because, especially in the cities, Europe has had an impact. But we have to think about which ties will be most profitable, which are most natural. We will broaden our contact with Islamic and Asian countries. We have to communicate with neighbors from whom we've been separated for seventy years. This is the future." As for the re-creation of old Turkestan, Pulatov added, "Doubtless, in my lifetime there will be a Turkestan that extends beyond Central Asia."

Turkestan, however, takes various shapes in the minds of Birlik's members and sympathizers. Some see it as a tightly knit state with a central set of laws and a central administration; others see it as a loose confederation. Jamal Kamal, who is the most famous Uzbek writer and has translated nine Shakespearean plays into Uzbek, later told me, "Turkestan will not be one solid, united state. Uzbekistan, Tajikistan, and the others will continue. Each will still have its own name. Turkestan will be more like a cultural and economic federation. Maybe only after many years it will be one state."

Birlik officials agreed that they have no aggressive agenda and no desire to forcibly weld together parts or all of other states. They also stressed that their version of Turkestan is not an Islamic state. "The model is Turkey,"

Pulatov said. "The state is secular and has modern industry and connections with both Europe and Asia. But the power of religion is much stronger here than in Turkey. There are people who believe that the best model is Iran or Pakistan or Saudi Arabia or Afghanistan, although most of them only have a superficial knowledge of how any of those countries are run. People simply haven't had any information about those places in seventy years. The ones who do know something turn to Turkey."

Birlik is not anti-Islamic. Indeed, Birlik and the "unofficial" Islamists regularly consult and work together against the Communist government in Tashkent, and many Islamists share the goal of restoring the old state. "Turkestan is also our dream," Abdullah Yusuf, the deputy I.R.P. chairman, had told me. "Islam does not have a notion of nationality. Islam knows only a believer and a non-believer. Now we face the fact that Europe will be one state, with no borders. Turkestan, as we see it, will be like the European Community. It says in Islam that people have to unite and have no wars between them." And Birlik officials, assuming their own victory in any new election, suggested that Islamists would be included in an opposition government. But in the long term Pulatov and others in Birlik are wary of the Islamic tide. "The longer the Communists try to block democracy, the greater are the prospects for an Islamic takeover," Pulatov said. "We need to avoid the rise of the Islamic movement in Turkestan."

At the moment, however, Turkestan is little more than a dream, albeit one with a lot of potential. As the crow flies, Tashkent is only about two hundred miles from the Afghan border,

three hundred miles from the Chinese border, and some five hundred and fifty miles from the Iranian border. Although Turkestan once included parts of all three countries, major transport links between Central Asia and its neighbors are still routed via Moscow. Thus, to get to any neighbor state in the south a Tashkenti has to fly almost seventeen hundred miles northwest, through three time zones, to Moscow, and then fly back over the same territory on an international carrier. Since 1989, the border has become a bit more porous for buses and trucks—most notably between Turkmenistan and Iran, and between Kyrgyzstan and China—but the job of re-creating Turkestan would require a physical as well as a political overhaul.

A bigger obstacle may be represented by the tall brown cotton stalks and their bulbous white blossoms that dominate the Central Asian landscape. On a Sunday afternoon at the end of the harvest, I caught up with Crew No. 6—thirty men, women, and children responsible for seventy hectares—in the vast fields surrounding Tashkent. Wearing a white bandanna over his head to ward off the sun, a picker named Ravshan Sagdibayev deftly pulled off the soft cotton puffs and dropped them in a deep sack. "You can tell when they're about to blossom by these little spots," he explained, pointing out half a dozen brownish pimples on a bud. "We'll get this one at the next picking, but even if you plucked it off now it'd still bloom."

The original supply of seed for Central Asian cotton came from the United States in the eighteen-sixties, Sagdibayev told me. "These were only small fields before. Now there is little else." After the American Civil War cut off supplies of cotton, Russia turned to its

newly conquered colony in the south, which had the requisite fair climate abundant water. Later, under Soviet the kolkhozes and the sovkhozes, or state farms, in all five Asian republics increasingly turned to cotton production. By the early nineteen-eighties, the cotton crop of Uzbekistan alone almost matched the entire American yield, and cotton had become a major Soviet export to some thirty countries.

The high productivity came at a cost. Cotton, the Uzbeks like to say, is a monoculture dictatorship. It is estimated to account for forty per cent of the labor force of Uzbekistan and to consume sixty per cent of all its resources. To meet ever-increasing quotas, other crops—mainly fruits and vegetables—and livestock grazing have been abandoned or cut back. The Soviet regime also stopped rotating cotton crops with alfalfa, and thereby depleted the soil's nutrients; pesticides were overused, and local rivers were drained for irrigation. Pressure for higher yields eventually resulted in the so-called Cotton Scandal of the early nineteen-eighties, when dozens of Uzbek officials were arrested and tried

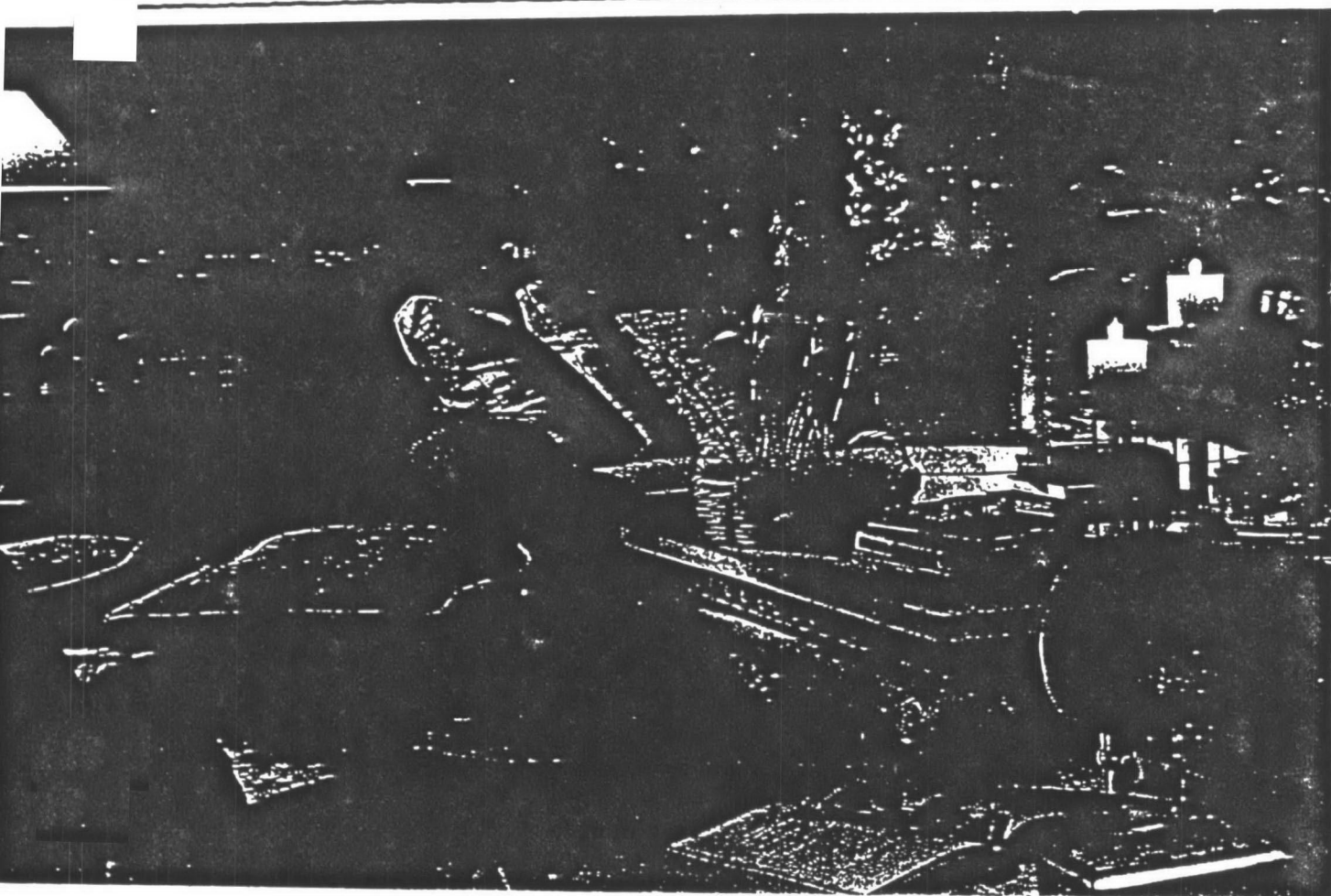
for falsifying yields to match rising production quotas that they could not meet.

The over-all result has been an ecological and health disaster. The Aral Sea, which was once the world's fourth-largest inland lake, has shrunk to sixty per cent of its former size, because the two rivers that flowed into it were diverted for cotton-field irrigation. The former port city of Aralsk is now more than twenty-five miles from its shoreline. People are faring no better than the environment. Hundreds of thousands of cotton pickers have been exposed to poisonous insecticides and to defoliants, which, studies have shown, make them up to sixty per cent more likely to suffer from nervous and intestinal disorders and jaundice.

The cotton monoculture has been an economic disaster as well. For cotton, as for agricultural produce and raw materials from all fifteen republics, Moscow paid artificially low prices. Then it converted the cotton into cloth and other consumer goods at factories in the industrial Russian heartland and sold them back—or abroad—for top ruble. Little of the profit was used

to develop the Central Asian republics, and they were left with few resources and limited goods to trade with their Asian neighbors. Figures for 1989 show the Central Asian republics to have been the poorest; the annual per-capita income in Uzbekistan was less than half of Russia's. Now, with production and crop yields declining, and shortages of equipment and of spare parts for antiquated machines growing throughout the Commonwealth, simply maintaining the old standard of living everywhere will be tough.

Uzbekistan does have food. The outdoor stalls at the bazaars in Old Tashkent and Samarkand were laden with fruit and vegetables. Old women and young men hawked pomegranates, lemons, red and green peppers, huge tomatoes, eggplants, scallions, fat carrots, radishes, a wide assortment of nuts, the mainstay potato, mounds of fresh spices, and dozens of other fresh foods. Corners of parking lots were filled with piles of watermelons and cantaloupes. My interpreter, a nineteen-year-old student from Moscow State University who revelled in the foods unavailable at home, bought



and ate so much that he was violently sick the next day. In a two-story indoor market at the Tashkent bazaar, the only lines were for frozen chickens and pigs' feet, the latter a Russian delicacy that infuriates local Muslims. There, too, long sausages hung neatly from a rack, and butchers with big axes hopped beef sides and horse meat into barrels.

But food is expensive. Sagdibayev, the cotton picker, earns about twenty-eight rubles a day—the equivalent of less than a dollar—and must support a family of five. "And prices in the shops are growing even faster," he added. The cost of a single lemon was four rubles on the day I visited Tashkent's bazaar, and I watched an elderly Russian couple buy thirty-five pounds of potatoes, as much as the two could carry, for fear the price would soon rise again. Yet, according to some local analysts, the economies of Uzbekistan and Kazakhstan are the only two in Central Asia that have even a distant hope of becoming viable on their own; in mountainous Tajikistan, ninety-five per cent of the land is not arable.

Together, however, the five Central

Asian republics are willing to gamble that they have a chance. Last August, a week before the Moscow putsch, they held a summit in Tashkent and solidified the framework of a Central Asian common market. The pact reduces trade barriers and opens the way for barter deals among the republics. In effect, it created a new economic bloc, bringing together fifty million people in a region stretching from the Caspian Sea to the Chinese border.

Then, this February, four of the five—Kazakhstan is still an observer—joined Iran, Turkey, and Pakistan in a broader Economic Cooperation Organization, nicknamed the Islamic Common Market. The new Asian states are slowly but steadily moving away from the Commonwealth's European republics. If the pace continues, one of the new frontiers between Europe and Asia may run right throughout the Commonwealth.

THE center of Alma-Ata, the capital of Kazakhstan (or "land of the Kazakhs"), is dominated by a leafy park dedicated to Russian war heroes, including those who settled Central

Asia. In the center is a giant house of pastel pink with white columns and white trim, topped by four gold cupolas, which was built during the Romanov era as a Russian Orthodox cathedral. The feel of urban Kazakhstan, in its design and its symbols, is pure Russian.

Czarist Russia first entered Central Asia through Kazakhstan, and it is the only southern republic with which Russia shares a border. The legendary Cossack light cavalry beat back the vestiges of the Great, Middle, and Small Hordes in the eighteenth century; Russian authorities moved in to colonize the territory and replace the princely khans in the mid-nineteenth century. In the twentieth century, Stalin strengthened Russian rule by forcing millions to resettle in the south. (Only recently have the Kazakhs, with forty per cent of the population, again become the largest ethnic group in their own land; Russians are down to thirty-eight per cent.) Under the czars, all personal names were Russified. In the nineteen-twenties, Moscow ordered that the Latin alphabet replace Arabic script, which had been used since Central

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Asians embraced Islam, in the eighth century; in the nineteen-forties, it replaced the Latin alphabet with the Slavic Cyrillic alphabet. The effect to limit the use of Kazakh to the streets, making the Kazakhs functionally illiterate in their own language. Russian colonial authorities and settlers also replaced traditional tribal and clan leaders in Kazakhstan's grassy steppes, where its nomads had grazed livestock for centuries. Although various Communist leaders eventually brought Kazakhs into the Party and then into top leadership positions—the criterion often being compliance rather than competence—Russians always ran the show, either from secondary positions inside the republic or from on high in Moscow. Thanks to greater literacy levels and better training, Russians also dominated the skilled professions. Only in 1989 did the balance of power begin to change significantly. Besides the freedom-of-conscience law, which reconnected the republics to the roots of Central Asian culture, another new law allowed them to use their own languages again. Now Kazakh, Uzbek, Kyrgyz, Tajik, and Turkmen are all gradually replacing Russian as the official government languages; in Kazakhstan, certain jobs are restricted to speakers of Kazakh.

All five republics also have plans to revert eventually to either the Latin or the Arabic alphabet.

The effects of the new language law were apparent at a school I visited on the outskirts of Alma-Ata where the city begins to rise toward the snowcapped Tien Shan Mountains. The facility, built of concrete, is in fact two schools, each for all ages: School No. 145 is for Kazakh students; No. 45 is for Russians and twenty minorities.

"After the language law was passed, some Kazakh parents asked for a separate school, so their children wouldn't lose their language," Aleksandr Baraskevich, a Russian science teach-

er with a blond walrus mustache, told me. "Frankly, the initial demand was to remove all Russian kids from the school and to give it to the Kazakhs." After heated debate, a compromise was worked out until a new school could be built across the street for the Kazakhs, the two student bodies would be physically separated in the existing school. In September, 1990, when the fall term began, a heavy steel-mesh fence was erected on the first floor to segregate the ethnic groups. A white bust of Lenin and a red flag went to the Russian side. A few weeks later, an explosive device went off under one of the school entryways a few feet from the fence, set off by persons still unidentified. The next day, the headmaster took the fence down. But it was no longer needed; the division had been established.

Long before the disintegration of the Soviet Union, the language law had begun to change the social landscape of Central Asia. "The emphasis now is on roots, tradition," Baraskevich said. "History classes in both schools deal with Kazakhstan's independent history as well as with the Soviet era. Russian students also now have to take Kazakh language classes. And there's a special privilege for Kazakh kids: they do Russian as a foreign lan-

guage." More than ninety per cent of the Russians in all five Central Asian republics never learned the local language, whereas the Asians had to know Russian in order to function in society. Segregation, however, may not be the right alternative, Baraskevich told me. "It's not good to separate kids," he said. "If they are physically separated, then psychological barriers will come next. Over a generation, this could have a major impact. Frankly, most of the students don't understand why the decision was taken."

Teachers in the Kazakh half of the school told a somewhat different story. "For our pity, the Kazakh children haven't known their language," Dina Begezhanova, a dark-haired young Kazakh teacher, told me as we sat in a small office filled with children's desks. "They haven't known the history of our nationality. They are hungry for their own identity and to be proud of who they are. Things are slowly improving. Now there are about thirty Kazakh schools. But still there are problems. One of the biggest is books. There are no Kazakh texts for chemistry, engineering, or English. Classes one through three have no books at all in Kazakh, so they still use Russian books, which teachers must translate into Kazakh. One of the problems is just finding ways to print things in Kazakh. It's a real problem, you know, finding a Kazakh typewriter."

The end result is a gradual transformation: the once dominant Russians and the second-class Asians are beginning to swap positions. Unless the Russians learn Kazakh, they will become the functionally illiterate. Their reaction includes both fear and anger. Vitaly, my Russian taxi-driver, whose grandparents had been exiled to Kazakhstan from Saratov, in southern Russia, in 1922, reflected on the changes. "Before perestroika, everything was fine. No one talked about nationalities. It was so calm and peace-



"Don is more like network, and Evan is more like cable."

ful," he told me one day as we drove around Alma-Ata in his cab, a twelve-year-old red Chigaly with a cracked windshield and a tarantula, encased in plastic, in the gearshift knob. "But after *perestroika* people began to say to Russians, 'Go home, go back to Russia'—even to old people on buses. Before *perestroika*, there were no Kazakhs working in the stores. Now they're all over the place. You don't know what will happen next. We're sitting on a powder keg here. We'll be refugees, that's for sure. If there were anyplace else for us, I would have gone by now. But there's no place else for us." Indeed, unlike the colonists of other abandoned European empires, Russian colonists cannot just pack up and go home. With huge housing shortages and the prospect of mass layoffs in the conversion to a free-market economy, Russia cannot absorb its troops returning from Eastern Europe, much less the roughly twenty-five million Russians dispersed throughout the Commonwealth. Some Russian cities are officially "closed," because of overpopulation or limited housing, and in others getting housing requires wealth or highly marketable skills.

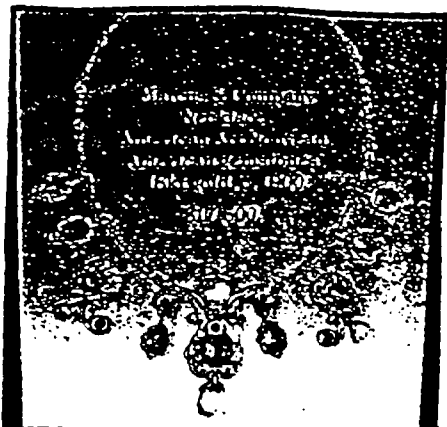
Vitaly, a tall, lumbering man who favored a denim jacket and a blue cap, had no inhibitions about expressing his feelings toward Kazakhs. As we drove on a rural road one day, two shepherd dogs helping a young Kazakh herder on horseback corral his cattle strayed into the road. When I urged Vitaly to be careful not to hit the dogs, he responded, "Don't worry. Those dogs are smarter than any Kazakh." Another time, he told me, "Like everyone with slant eyes, the Kazakhs are not capable of doing anything for themselves. If they drive all the other nations away, they'll begin losing and they'll go back to living in yurts." Although on the surface Alma-Ata is a distinctly quiet and peaceful place, Vitaly pulled out an icepick that he said he had recently begun keeping under the floor mat of his car. "Don't go out after nine," he warned me. "You'll come back naked. Gangs of Kazakh kids attack you in the dark and leave you with nothing."

I had heard similar tales in Uzbekistan, whose population of twenty million includes one and a half million Russians; Russians account for eight per cent of the population in Tajikistan, nine per cent in Turkmenistan, and

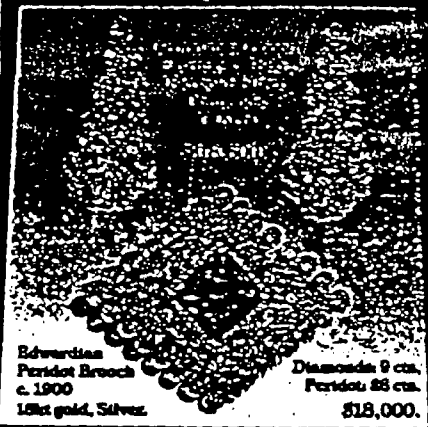
twenty-two per cent in Kyrgyzstan. On a Sunday at Tashkent's Upensky Orthodox Cathedral, parishioners buying thin brown candles before morning services crowded around to talk. "Russians don't have any future here. We're waiting for the massacre by the nationalists to break out any day," a middle-aged Russian named Alexandra Kozlova told me. Another woman, Varvara Zhakova, a frail eighty-five-year-old who had come from Siberia with her parents, told me, "We've seen everything. My mother, my father were whipped by Stalin's people. In the past, if you weren't with the Communist Party it was hard to get a job or a promotion. Now you can't get ahead unless you're with the Uzbeks." Tears trickled down her cheeks. "My daughter has her doctorate, but they don't want to give her a job because she's Russian."

Vladimir Razumov, a forty-two-year-old Aeroflot pilot, was less emotional but no less worried. "I was born here and my children were born here, so I'm not eager to leave. I like Uzbeks, and I don't feel persecution. But things have changed. At the beginning of 1991, there was a big argument. The boss said that there should be no more Russian supervisors—that Uzbeks should replace them. Others said supervisors should rise by merit, not nationality. Now it's policy to make more Uzbeks into pilots," he told me. Razumov has started reading *Aviation Week* in search of a job with a foreign airline. "Who's waiting for me in Russia? No one. And there's no place to live," he said. "The only hope for a lot of Russians in these republics is to go abroad, because Uzbekistan is very unstable for us. I fear we'll be either expelled or forced to go."

THE Kazakhs see things differently, of course. Bakhytzhan Khasanov, a big, burly man with white hair, who looks like a Kazakh version of Lorne Greene, is a social linguist at Alma-Ata's Institute of Philosophy and Law and one of the authors of the republic's language law. "This is rubbish," he said of Russians' fears. "If we were going to ask the Russians to leave, we'd do it openly. So far, we have no conflicts with the Russian population. In fact, Kazakhstan is the calmest republic." Any disturbances, including a recent incident between Kazakhs and the cossacks, were insti-

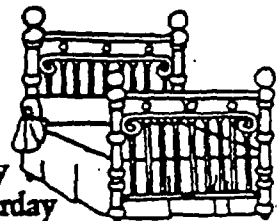


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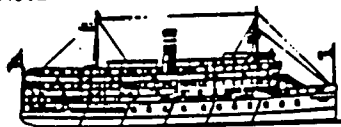
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gated by Russians. In that incident, which occurred in mid-September in northern Uralsk, minor clashes broke out between Kazakh nationalists and cossacks brandishing Russian flags who were celebrating four hundred years of allegiance to Russia. No one was killed, but the seriousness of the episode was reflected when the Kazakh President, Nursultan Nazarbayev, told Boris Yeltsin that the Russian military commemoration on Kazakh land demonstrated "open disrespect" for his republic's sovereignty. The message itself was a serious event. The Presidents of the two largest republics had collaborated to foil the August coup and are considered the cornerstones of cooperation within the new Commonwealth.

The real problem, Khasanov told me, was not Kazakh attitudes toward Russians but Russian intentions in Kazakhstan—especially the growing talk of creating an autonomous Russian region, or even of seceding. "Nowadays, there are many separatists among the Russians," he said. "They would like to annex several eastern regions of Kazakhstan to Russia, because Russians are the majority there. They don't want to stay in Kazakhstan. They don't want to learn the Kazakh language. So they want to take the land back with them to Russia. It'll never happen. Whose are most of the graves of those who fought for this land, Russian or Kazakh? Whose songs have the lore of this land, Russian or Kazakh? We want some lands back, too, from Russia. The first Kazakh capital was in Orenburg, in the nineteen-twenties. Now it's Russian territory. Saratov, Astrakhan, Orenburg—these are all cities of Kazakhstan now under the Russian flag. We aren't going to listen to cossack nationalists anymore."

I pressed him about the possibility of open conflict between Russians and Central Asians. The last bloodshed in Alma-Ata, in 1986, involved Kazakh-Russian clashes over the replacement of the Kazakh Communist Party chief by a Russian leader. Since the Soviet demise, Presidents Nazarbayev and Yeltsin have, in theory, preempted potential border disputes by agreeing to the current frontiers; few of either the Russians or the Kazakhs I interviewed, however, believed that the agreement would hold.

"I believe that ethnic conflict will go on, but in a concealed way, not vividly

manifested," Khasanov predicted. "But, if it should come into the open, it will lead to a catastrophe."

As the empire breaks up, the redefining of the relationship between the colonized Central Asians and their former Russian masters, now shorn of their Soviet cover and might, will play a major role in shaping the longer-term status of both. Russians still widely view the Russian presence as a civilizing influence on Central Asia; Central Asians now openly express the view that Russians usurped their rich and ancient civilization. Even if all the Russians in Kazakhstan were to "go home," not all the potential problems would disappear. Unlike the colonies of other empires, which were continents away, Russia's former territories would be on its borders—most notably the strategic three-thousand-mile border with Kazakhstan.

In the new Commonwealth, the Asian republics can no longer be considered less important than the European ones. In area, Kazakhstan, which is larger than Western Europe, is also larger than the thirteen other non-Russian republics combined, and it has a nuclear arsenal and substantial oil and mineral wealth. Uzbekistan, with its twenty million people, has the third-largest population of the republics (it is surpassed by Russia and Ukraine); Kazakhstan, with almost seventeen million, is fourth. And the growth has not stopped. Between 1960 and 1980, the Asian populations of the Soviet Union grew almost four times as fast as the Russian population.

The bitterness between nationalities and the widening population imbalance between them are among the most explosive flash points in Central Asia. Both are exacerbated by a deteriorating economy, which is expected to get much worse before it gets better. Unemployment is already estimated to have reached at least ten per cent throughout Central Asia. In some rural areas, where high birth rates have produced a large corps of poor, untrained youth, unemployment is as high as thirty per cent. The implicit promise of economic growth from free markets may go unmet, because of the strain on resources, such as water, from increasing populations.

Indeed, since 1989 virtually all the Central Asian violence that is attributed to ethnic differences has really

come down to rivalries over resources. Riots erupted in Tajikistan in 1990 when rumors swept the republic that Armenian refugees were to be given preference in housing over families who had been on waiting lists for decades. After twenty people were killed, Moscow dispatched troops to end the fighting. In the densely populated Fergana Valley, which spills over from Uzbekistan into Kyrgyzstan, at least two hundred and fifty were killed in clashes that same year, when a Kyrgyz Party boss transferred land from an Uzbek-populated kolkhoz to some landless Kyrgyz. A year earlier, in another part of the valley, Uzbeks had attacked Meskhetian Turks—Muslims who had been deported from Georgia by Stalin—over allegations that they were getting preference in jobs. Elsewhere, Kyrgyz and Tajiks have clashed over rights to limited land and dwindling water supplies. In the past, Russians were largely immune, since they were protected by the threat that Moscow would dispatch Soviet troops in the event of anti-Russian unrest. But with the collapse of the center, and decades of pent-up hostility now coming into the open, Russians feel, whatever the reality, that they are now "primary targets." As Vitaly put it, "it's just a matter of time."

AN American official visiting Kazakhstan in September described President Nazarbayev as "way ahead of anybody else" in Central Asia. A shepherd's son and former steelworker, he had long been an advocate of power sharing between Moscow and the republics. He tried to help Gorbachev save face after the August coup by introducing the idea of transferring power from the Kremlin to a council made up of the republics' leaders—over which Gorbachev would preside. And after the coup he quit the Communist Party. When the Kazakh Communists reconstituted themselves as the Socialist Party, Nazarbayev declared he would run as an independent in the December Presidential elections. (To no one's surprise, since there were no other candidates, he won.) And, with the help of a Korean-American adviser, he has also been at the forefront of economic reform.

Yet, for all the current acclaim, Nazarbayev is, at best, a political centrist: his enthusiasm for a market economy is not matched by an enthu-

siasm for promoting democratic reforms. Despite opposition demands, he has not broken former Communist Party officials' hold on the local K.G.B., the military, or the judicial system. Although public-opinion polls indicate that less than twenty per cent of the population, including its Russians, supports the Party, Communists still occupy all but twenty of three hundred and fifty-eight seats in parliament. A host of opposition parties have been legalized, but Nazarbayev has not moved to form one of his own or to support any of the others, as Yeltsin supported Russia's Democratic Party. The result has been political stagnation; the former Communists remain the single dominant force.

Nazarbayev is not solely responsible; the disparate opposition groups are fledgling. In contrast to the situation in Uzbekistan, the populace has not as yet been impassioned by any fiery cause, which was evident one day at an outdoor shopping mall in Alma-Ata. In the middle were two giant yurts, surrounded by a small crowd listening to a succession of speakers—a scene more reminiscent of the soap-box speakers at Hyde Park than of the mass opposition rallies in Prague before the velvet revolution. Outside one of the yurts, which was flying a green flag with a silver moon, I met Rashid Beis, chairman of the executive council of Alash, an Islamic nationalist movement in Kazakhstan. Beis, a big, bearded Kazakh in a suit jacket, invited me into what he referred to as the movement's mobile headquarters; it had been set up on September 5th, he said—two days after a Kazakh law allowing opposition parties was passed. The handful of proselytizing Alash politicians regularly preached on Alma-Ata's streets from 9 A.M. until two the next morning, Beis told me; then they bedded down inside the yurt, which was furnished with a gas stove and a dining area.

Alash, named after the mythical ancestor of the Kazakh people, has a range of demands. "The minimum is free Kazakhstan. The maximum is free republic of Turkestan," Beis said as we sat cross-legged on the yurt's elevated floor. "At present, we agree to secular power. At present, we understand we can't have purely Islamic power. But if we have secular leaders who are also Muslims, then the laws passed won't conflict with



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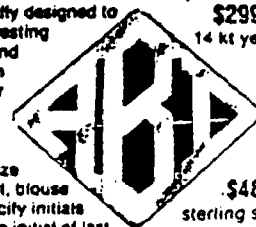
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Islamic law. In the future, an Islamic state of Turkic-speaking people, with the clergy as rulers, is our ideal."

For all the passion and eloquence of the speakers who were carrying on outside the yurt, the Islamic movement in Kazakhstan is comparatively tame. Mosques are proliferating, and new religious schools are opening throughout the republic, but the turnout at Friday prayers during my visit was no more impressive than the size of the congregations at Russian Orthodox churches. As is true throughout Central Asia, Islamic feelings run much deeper in rural areas, but so far the people there lack leadership or links with other villages that might turn Islam into a national force. I remarked to Beis that the crowd outside his headquarters was small, and he conceded that his Uzbek counterparts had made deeper inroads. "Those who support us are numerous, but we don't have a membership, because the population is poorly politicized," he explained. "We have no mass media to reach the people's hearts and minds."

But even a small following apparently represented a threat. In March, several members of Alash were arrested for "disturbing" Nazarbayev and holding unauthorized rallies. They were the first political prisoners detained since Kazakhstan became independent.

In the yurt next door was Zheltoksan, or the December Party, named after the December, 1986, clashes over the firing of the Kazakh Communist Party chief, Dinmukhamed Kunayev—the only Kazakh ever to serve on the Politburo. Batyr Kudaibergenov, a wiry little man, literally pulled me inside to talk; by then, there was no one outside to listen to him. The December Party, he explained, had six demands. "We want an independent Kazakh state. We want to have a national republic army, and not continue contributing to one under Soviet control. We want a new law allowing the three million Kazakhs living outside the republic to come home. We also want freedom for two political prisoners held since 1986, an explanation for the three hundred men since then, and the trial of four officials who were responsible for ordering troops to act against the people in 1986." Throughout Central Asia, the recurrent theme, in different forms and on diverse issues,

is the past it has to be dealt with or incorporated before the future can be defined. Suppressing it or ignoring it will not work.

The December Party is not the only secular opposition. Several other Kazakh parties have declared themselves since the August coup attempt—among them a Republican Party, a Social Democratic Party, and a National Independence Party—but few are visible, in part because there is no opposition press to provide coverage. Indeed, after my interpreter and I left the December Party's yurt Kudaibergenov ran after us to give me his address. "Please send me anything you write," he said. "The foreign press is the only publicity we get." As we walked away, my interpreter quietly drew my attention to two hulking light-haired men in tracksuits who had been at the edge of the crowd since shortly after we arrived. They were distinctly Slavic, and did not appear to be among the politically curious. "K.G.B., definitely," my interpreter concluded.

The same American official who lauded Nazarbayev conceded that Kazakhstan was "not a hotbed of reformist thinking." In interviews with foreign and local reporters, Nazarbayev has talked about democracy in terms of an eventual "awakening." It is, at best, a go-slow approach, which he justifies as the result of the region's authoritarian past. Nazarbayev prefers to emphasize the economic reforms. Last fall, on a visit to Moscow, he reeled off "the statistics of success" to a reporter from the *New York Times*: Meat supplies had quadrupled since he opened the way for private ownership of cattle. Thirty per cent of Kazakhstan's agricultural produce was grown on the one per cent of land owned by independent farmers. And private housing was spreading across Kazakhstan. He also said that he had overcome public reluctance to privatization by helping

to open a private café in each major Kazakh city. He told his interviewer, "I wanted them to see that though it was twenty per cent more expensive, they would soon be standing in line to get in, because the service was better, they were not being barked at, they were being invited to come back. It worked. In our conditions, we need examples."

When I sought out the model café in Alma-Ata, however, I found not a café but a fast-food joint; it was not privatized from former government ownership, I learned, but was a new Korean franchise, run by managers brought in from Seoul. Except for pink and black furniture, the place was empty; only two of a half-dozen outdoor tables had diners. Several girls behind the counter—attired in red-and-white striped shirts, black ties, red skirts, and little fast-food caps—talked idly among themselves. Above them was a neon menu with pictures of hamburgers, shakes, French fries, sandwiches, and something called ice flakes. My ever-hungry interpreter offered to sample the food. There were no French fries, though, "because the potatoes here are too small and low quality, so they won't go through the machine," one of the girls told us. There were no shakes, either, "because there's no ice." And, unlike the picture on the menu of a fat patty of beef with a thick slab of cheese and relishes, the hamburger was a thin slice of ham—anathema to Muslims—accented with a bit of shredded cabbage. The "burger" and a paper cup of warm cider cost an exorbitant thirteen rubles.

FOR more than a thousand years, an epic legend has been handed down through generations of Kyrgyz tribes. Its million lines tell of the famous warrior Manas, who conquered lands from Central Asia to Beijing, and whose descendants carried on the family name and established traditions still honored among the Kyrgyz. During centuries of khan rule in Central Asia, Kyrgyz poets could spin out the tale of Manas into weeks, even months, of narrative episodes of adventure, conquest, and romance. "The Iliad and the Odyssey are tiny in comparison," Abdukadyr Vorosbayev, a gray-haired Kyrgyz linguist and scholar wearing a blue-and-white baseball cap and a denim jacket, told me as we talked in



linly lit bar in Bishkek, the capital of Kyrgyzstan. "There was a period in nineteen-fifties, sixties, and seventies when the story was not allowed, it stayed alive among the people. Children heard it from their parents. We still have poets who sing the Manas legend. It's timeless, and its universality touches all things important to the human spirit. It's about love, honor, courage, and the importance of family. It's about the basic idea of unification of the nation and the creation of a centralized state. Most of all, it's about Manas, who was a Kyrgyz. His story speaks to the tenacity of our people."

For the Kyrgyz, Vorosbayev told me, the Manas saga was a bonding force among diverse nomadic clans, who roamed the mountains and valleys breeding horses, cattle, and yaks for more than a millennium. Until the late nineteenth century, the Kyrgyz had no permanent settlements, other than regularly used "places of hibernation" during the bitter winters. "Formally, the Kyrgyz belong to the Muslim family, but Islam as a religion doesn't have tight roots here," Vorosbayev explained. "Religion is like culture, but it's not our spiritual world. Manas is more important in understanding Kyrgyz roots."

The people of Kyrgyzstan—or Kirghizia, as the little republic on the Chinese border was known until it de-Russified its name last year—have always been distinct from the other Central Asian communities. Although they were part of old Turkestan, the Kyrgyz historically looked more to the Muslims of western China than to Turkic-speaking Asians. Vorosbayev told me, "I like to drive a Ford and wear a denim jacket, but most of all I don't want to lose my sense of identity." His son is now at a Beijing university, and Vorosbayev helped organize an exchange program with Chinese from Xinjiang, the province that was once the eastern frontier of Turkestan. Islam is not yet a visible political force in Kyrgyzstan, though Muslim observances and mosques have significantly increased since the freedom-of-conscience law was enacted. And, compared with the flowering of energy and emotion in other Central Asian

capitals, Bishkek, a place of neat wooded parks and wide boulevards, is a quiet, and even quaint, city. On a Sunday, the most exciting things to do were to visit the outdoor puppy market in the woods behind the bazaar and to chat with the cavalry cops patrolling the streets.

Kyrgyzstan is even more distinctive, however, for its "silk revolution," which culminated after the abortive August coup in Moscow. The silk revolution

never had the vibrancy of Czechoslovakia's velvet revolution, and was little noticed by the outside world, but it did set a precedent in Central Asia which the neighboring republics cannot ignore. It started in June, 1990, with ethnic riots in Osh, the republic's second-largest city, over the transfer of



land between ethnic groups. At least two hundred and fifty Kyrgyz and Uzbeks were killed; some unofficial claims put the death toll over a thousand. Angry young demonstrators then besieged the headquarters of the Communist Party, which was blamed for mismanaging the crisis and causing needless bloodshed. Unlike the episodic unrest in other Asian republics, the furor did not die down. Hunger strikes and a campaign by a new Democratic Movement, which pulled together twenty-two opposition forces, eventually overwhelmed Communist hard-liners, and parliament was forced into holding Presidential elections. In October, 1990, the Communist Party leader lost the Presidency to a pro-democracy physicist named Askar Akayev, a dark horse summoned back from the Soviet parliament in Moscow to run for the post after no candidate won a majority in the Kyrgyz parliament's first vote.

During the silk revolution, Kyrgyzstan became the first Central Asian republic to break the pattern of orthodox Communist dictatorships that still held on to power. By the end of 1990, Kyrgyzstan had declared sovereignty and dropped both "Soviet" and "Socialist" from its title. Pushing slowly, to avoid a backlash from Communists in the Kyrgyz parliament, Akayev promised a multiparty system with a free-market economy. In a sign of the times, the name of the capital was changed from Frunze, a Soviet Kyrgyz

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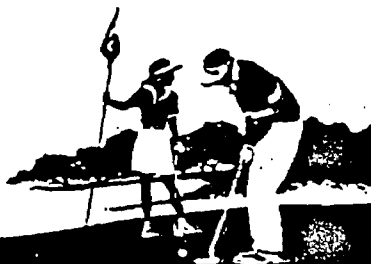
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Russian who became a Soviet military hero, to the original Bishkek, after the churning staff that makes fermented mare's milk, the national drink.

Central Asia's oasis of democracy had a close call during the August coup attempt in Moscow. Kyrgyzstan was the only republic where hard-liners—including many of the Communists pushed aside in 1990—attempted a similar coup of their own. Local K.G.B. officials came to arrest Akayev while a commander of the Central Asian military district attempted to deploy tanks in the streets. To add insult to injury, the first news flashes about the coup's fizzling in Moscow reported that the plotters were trying to escape to Bishkek. "This false information went through Aeroflot channels. But the people at Aeroflot and others misunderstood the name," I was told by Feliks Kulov, who, as Kyrgyzstan's Interior Minister, had to deal with the internal threat as well as the possible arrival of the coup ring-leaders from Moscow. "We learned later that the coup leaders actually intended to fly to Belbek, which is on the Crimea."

Kulov, an amiable and surprisingly young man, may be the only Interior Minister in any republic in Soviet history to have a popular following. He is widely viewed as a hero whose boldness single-handedly made the silk revolution possible. At the Democratic Movement's headquarters, Taabaldy Agemberdiyev, the movement's ideology chief, insisted that I meet Kulov, and then picked up the phone to arrange the meeting. "Thanks to Kulov, we have democracy here," Agemberdiyev told me. "During the hunger strike in 1990, when the Communists were still in power, he was the commandant, the top cop, of the city. But he didn't order troops to break it up. He used his authority to let people carry out the rally, despite a curfew. His actions made it possible for us to stand up to the Communists and then break their hold on power." If Kulov had ordered a crackdown, as his Uzbek counterparts have done repeatedly against Birlik meetings and protests in Tashkent, the reaction to the deaths in Osh would never have grown into the silk revolution. "Then, during the coup attempt, Kulov isolated K.G.B. troops here and had them encircled," Agem-

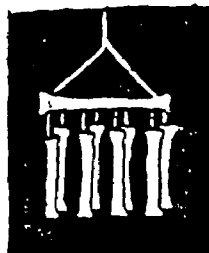
berdiyev continued. "He disobeyed the military commanders and closed down the airport, in case of an attack. He put his own life and career at risk during the coup." Yet throughout the two crises—the one that first brought Akayev to power and the one, ten months later, that insured the new President's political survival—Kulov was a member of the Communist Party's Central Committee. Not surprisingly, he quit the Party in August.

Kyrgyzstan's silk revolution reflects

the uneven pace and erratic nature of political change in Central Asia. What has occurred over the past two years in little Kyrgyzstan is just the opposite of what has been happening in giant neighboring Kazakhstan. In Alma-Ata, the polls and popular movements indicate that po-

litical reform is supported at the bottom but resisted at the top. In Bishkek, the democratic transformation has been the product of a few men directing change from the top. Neither republic has witnessed the kind of emotional nationwide uprisings that swept Eastern Europe—and now have the potential to unseat Uzbekistan's Communist government. Despite the Central Asian republics' common heritage of religion and unity in old Turkestan, and despite their agreement on the need for regional unity in the future, each republic is going through the transition from centralized Soviet rule in its own way.

For Kulov, the decision to side with the pro-democracy forces against his own party grew out of conscience and instinct rather than ideology. "I didn't jump to the decision. It was a very difficult process," he told me as we sat around the conference table in his oak-paneled office. "I was a criminologist by profession, so I started accumulating my doubts a long time ago, when I was told there were no reasons for crime or problems in the Soviet Union. I remember being taught that the reasons for crime were unemployment, private property—all the things associated with capitalism. In the past, we were primitive in the way we handled crime. We captured and detained violators and didn't look for the roots. Later, I understood that crime is quite logical. There is almost always a reason for it." When, as police commandant, he had to decide what to do about



A. P. Kulov

hunger strikers and the peaceful testers at the parliament, he conceded that they were not engaged in minimal acts. I asked if he had understood at the time the potential repercussions of his decision. "Not really," said, chuckling. "It was just instinct."

When we talked, Kulov was abed in what he called "departyization," or disentangling the republic's purity system from Communist-paratchik control. "We still need to cut out personnel. That does not necessarily mean firing people but, rather, creating a system to avoid involvements political, or even tribal, fights," Kulov told me. "Several members of the Interior Ministry are still involved in local political intrigue. There are some we call traitors."

"Should the average person feel safer now?" I asked.

"I wouldn't say that he should feel the same freedom as in Western Europe," Kulov replied. "We're trying to set up the most painless system, says not to oppress people. For example, we won't keep dossiers anymore. And I wouldn't like to see the Interior Ministry and the [local] K.G.B. fused, as it was in earlier days. If anyone has that much power, it will be dangerous. For now, the K.G.B. is still technically capable of providing information, following people, and so on. I don't rule out the possibility that the chairman of the local K.G.B. has issued an order for my telephone to be tapped. But I would say that its powers are more limited. Our goal now is to work normally, to enforce laws regardless of parties and political figures. This is the most difficult task."

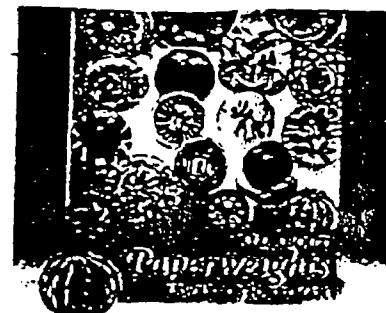
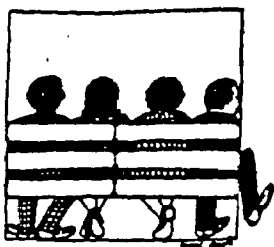
Helping democracy take root, however, may prove just as difficult. While Kyrgyzstan is the most democratic Central Asian republic in principle, its people are the least politicized. In October, Kyrgyzstan became the first newly independent republic to hold free national Presidential elections. The elections were held both to bring its more than four million people into the democratic process and to give the President a popular mandate. But, to Akayev's embarrassment, no one ran against him. "My wife took the three votes from my family and cast them," my Kyrgyz taxi-driver and guide said.

"I assume she voted for Akayev, but I never asked." (Group voting, a common practice during Communist rule, was supposed to have been eliminated under the new democratic system.) At Bishkek's open-air bazaar, I randomly sampled the ideas of fruit and vegetable vendors about their expectations of democracy. A young man named Akhtam, who was in his fifth season of selling pomegranates, did not want to talk until my taxi-driver told him, "It's O.K. for an interview. We're democrats now." Akhtam thought for a minute, and then said, "We expect peace to prevail so we can work and trade. We expect to live better." When I asked if he was living any better yet, he replied that he now got anywhere from eight to twelve rubles per kilo for his fruit, an increase over the previous year. To many in the poorer republics, democracy is anticipated more for the implicit right to prosperity than for the right to vote.

One of the key questions for the small and more obscure republics like Kyrgyzstan, however, is whether they can afford independent democracies over the long term. Kyrgyzstan has gold, mercury, and uranium, the last formerly used to develop both the Soviet Union's nuclear arsenal and its power stations. But minerals alone will not pay for Akayev's ambitious development projects, such as an international airport for flights to and from Europe, the Middle East, and the Far East, and a new industrial base to make the Kyrgyz more independent of Russia.

As prices rise for both local and Commonwealth goods in new free-market systems, Kyrgyzstan's young democracy faces the danger that its people will not be able to keep up, and that the absence of development could spawn disillusionment or political discontent. Yet the Democratic Movement did not seem in any hurry when I visited its offices. "A painless transformation to a market economy and developing an open relationship with other countries will take time," Agamberdiyev, the ideology chief, told me. "We're in a transition state. There's no way we can mix our ability with our desire."

I asked Agamberdiyev whether the republic's new government might need



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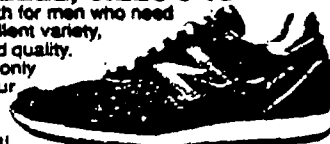
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"Is there—was there—a Father Goose?"

greater public support, even just heightened interest, to insure tolerance during the transition.

"Democracy has, so far, done nothing for the man on the street or the fruit dealer in the bazaar," he responded. "There have been no changes yet. We haven't had time. The interest of the masses in change has grown, and I think people believe in democracy. But they don't always know what democracy really means. One of our tasks now is to create local democratic organizations. We have so many good slogans, but we must translate them into life." He said that by the next Presidential election, in 1996, there would be a candidate to oppose Akayev. Nevertheless, he admitted, the process of transforming democratic slogans into reality would be arduous. "If we reach that goal in fifty years, of reaching the bottom of society, we will be fortunate," he said. "Everything has to be changed—education, the economy, the role of the individual. This will take a generation or two. People are still at a tribal level of thinking."

THE poverty in Dushanbe, the capital of Tajikistan, hangs thick in the air. The street-sweepers water at night to clear away the dust, but by midday the city is again covered with pollution from cement, brick, and aluminum works, and clouds of carbon monoxide gust from the tail pipes of trucks, buses, and cars. As darkness descends, the city has an eerie feeling: few street lights or car headlights are turned on, and only sparse and dim building lights indicate direction. Tajiki-

stan's per-capita income in 1989 was the lowest of all the Soviet republics'. Now, as the value of the ruble shrinks, income is probably only a fraction of what it was then—and it shows.

The smallest of the Central Asian republics and the most distant from Moscow, Tajikistan suffers from shortages that are even worse than Russia's. On the day I stopped in at Dushanbe's Central Department Store, the shelves offered an odd assortment of goods: brown pottery jugs, orange plastic stools, a few embroidered tablecloths of dull-gray fabric—whatever had been made, shipped, or left over recently, it seemed. One whole wall was empty except for a pile of forty-watt light bulbs; the only busy corner was a queue for crude rubber boots. At Dushanbe's bazaar, the supply of Central Asian produce was comparatively skimpy, and the prices were much higher than they were elsewhere in the region; dozens of people were lined up for bread. Throughout the capital, bottled drinking water was scarce, new housing was basically nonexistent, and taxis were so sparse that my interpreter and I had to commandeer a car belonging to an unemployed civil servant on the street for transport. Dushanbe—which lacks the energy of Tashkent, the cosmopolitan feel of Alma-Ata, and the sense of hope in Bishkek—can best be described as desperate.

After the failed August coup in Moscow, Tajikistan went through its own upheaval—and three Presidents in less than a month. Angered by the Tajik President's failure to condemn the coup, a new coalition—of nation-

alists, workers, and Islamists—took to the streets to protest. The President resigned. A new acting President then agreed to comply with Moscow's instructions to suspend Communist Party activities, and did nothing when jubilant crowds pulled down the towering bronze statue of Lenin across from the parliament. The second President was abruptly fired by the Communist-dominated parliament. On September 23rd, the Tajik legislators appointed Rakhman Nabiyev, a former Party boss during the Brezhnev era, as the third President. They also unbanned the Party, declared emergency rule, and posted troops around the city's remaining socialist symbols. Communist rule was officially back.

But the tit-for-tat turmoil between the old Party and the new democrats was not over. The opposition coalition mobilized a round-the-clock vigil at the newly renamed Liberty Square, across from the parliament; protesters pledged not to leave until democracy was restored. In one of those flukes of history, it then began to rain, unseasonably, in Dushanbe. The largest challenge ever to Communist rule in Tajikistan responded with unprecedented organization. Literally overnight, more than five dozen giant tents, provided by the central mosque, were set up. Tent City, as it was nicknamed, soon had supply lines of food and water. Barricades were erected to protect against a possible crackdown. Tajik veterans of the Afghan war, including many who were permanently maimed, set up a tent to vent their wrath at a system that had forced them to fight their brethren in Afghanistan. Hunger strikers set up another tent. And Islamists, many sporting newly fashionable beards, organized the five daily prayers and a host of speakers.

Each day, hundreds more Tajiks turned out to expand the human blockade around the parliament. Across the republic, state farms and factories threatened to strike. "We said if Nabiyev didn't resign, we'd replace the tents with a building," one of the Islamist protesters told me. "We had already prepared a hundred thousand bricks. Support was not just from the people. Even the Soviet military refused to intervene." The southernmost

once virtually cut off from foreign news, was suddenly besieged by the Soviet media and the international press. For ten days, tens of thousands of protesters sat it out. Unaccustomed to criticism and to the limelight, the parliament finally called an extraordinary session. "I cannot understand this!" Nabiyev shouted from the podium. "You voted for me! Yet in the course of seven days you change your mind!" On October 6th, he abruptly resigned. With Presidential elections scheduled in less than a month, the deputies decided not to name a fourth President. Tajikistan, which had also just declared independence, was left without a chief of state.

I arrived in Dushanbe as the election campaign was in full swing. Several Tajiks suggested that I meet Davlat Khudonazarov, chairman of the Soviet Association of Filmmakers and a member of the former Soviet parliament, because he personified the direction of change in Dushanbe. A widely acclaimed director and the closest thing the Tajiks have to a heartthrob, Khudonazarov recalled how deeply Communism had engulfed his life. "Until this year, the most dramatic moment in my life was in 1956, during the Twentieth Congress of the Communist Party, when Stalin was disgraced," he told me. "I was a teen-ager, and it was a very hard moment for me. I believed in Stalin. I was brought up in the Tajik Mountains, the son of peasants, living the life of a shepherd. Up in those mountains, Stalin was a god. All of a sudden, he turned out to be bad."

This year, Khudonazarov switched sides. During the August coup, he was among the first national figures to rush to Russian Federation headquarters, known as the White House, to support Boris Yeltsin. After the coup was defeated, he quit the Communist Party. During the September crisis in Dushanbe, he was among the early speakers at Liberty Square urging on the demonstrators. After the crisis ended, he formally joined the opposition coalition. When we talked, he was running for the Presidency on the Democratic Party ticket against Nabiyev, his former colleague. His campaign slogan was "The future against the past."

"Decolonization will take ten or fifteen years," Khudonazarov told me. "We know for sure that the way will



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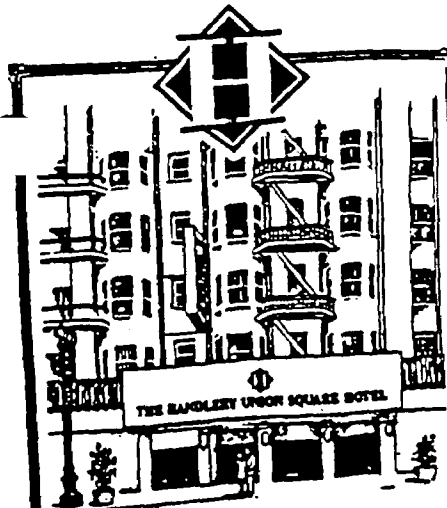
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be difficult. On the one hand we have the forces of renewal, and on the other the hanging on of the feudal and *nomenklatura* regime. The battle won't end with the election; they won't give up so easily. Tajikistan is also in terrible straits. We'll need something like the Marshall Plan to revive this republic and to eventually achieve real independence. If we gain economic freedom, then political freedom will follow." As in all the Central Asian republics, economics takes precedence over politics, whether the speaker is a new democrat, a reformed Communist, or an unrepentant hard-liner.

I asked Khudonazarov, who began working in film at the age of fourteen, what would happen if he were directing the Tajik political crisis as a movie.

"I would make a movie that had no bloodshed. Each republic has its own way to democracy, but the main task for each is to undo the years of tension that Communism has imposed on us and to organize an orderly transition, so the republics don't unravel under conflicting pressures. Our goal during the transition has to be civil peace. But that's difficult to come by, in real life or in the movies."

In the subsequent election, Khudonazarov, who later claimed widespread polling violations, including the distribution of pre-marked ballots, received thirty per cent of the vote, to Nabiye's fifty-seven. Tajikistan became the first republic to witness a comeback by a Communist—not just once but twice.

One of the few opposition leaders who conceded the possibility of a Communist victory was, ironically, Davlat Usmon, the young deputy chairman of Tajikistan's Islamic Renaissance Party. I met Usmon as he and his colleagues were setting up the new I.R.P. headquarters in a downtown Dushanbe apartment. After years of being banned, the Islamists had finally been allowed to register as a legal party. "We had a deep and thorough conspiracy," Usmon said of the local I.R.P.'s years underground. "We met clandestinely throughout this period. Only a few of our members were picked up by the K.G.B. In 1982, we started an underground newspaper called *Islama Pravda*, or *Islamic Truth*. By 1989, we were issuing underground brochures and leaflets calling for the liquidation of the Communist and atheist regime and demanding a democratic

state. We were active in many places, in many ways, and the authorities couldn't stop us." The I.R.P.'s coordination showed at Liberty Square. By everyone's account, its members were the most active and visible organizers at the protest.

I asked Usmon about the Tajik I.R.P.'s agenda, now that it had been legalized.

"Our main goal now is to prepare people for the creation of an Islamic state," he said. "Becoming legal is very advantageous. It allows us access to the masses to educate them. Probably even the Russian sector of the population, which once listened only to the negative propaganda about Islam, will change its attitude toward us. At present, the creation of any Islamic state in Tajikistan is impossible, because seventy years of atheism shows. The people are not ready yet. Also, there's a phrase in the Koran about not forcing people to believe in something. Our charter says we have to use all means possible except violence, so we're educating them gradually about Sharia." Creating an Islamic state, he predicted, could take as long as forty years. In the meantime, he had no fears of Communist rule. "If Nabiye wins, he won't stay for long—that's sure. We'll work closely with the democratic bloc if there are any manifestations of oppression. We'll build more Tent Cities."

OF all the Central Asian republics, Tajikistan is the place where nationalist and religious forces have come the closest together—an unofficial alliance that could shape any third attempt to end Communist rule. One man who may be instrumental in a future transformation is Tajikistan's leading cleric, Qazi Hajji Akbar Turadzhonzoda. The Qazi—an Islamic term for "judge" which in some Muslim communities has come to mean "leader" and is used with reverence and affection—welcomed me warmly to his office suite, at the Hajji Yakub Mosque in Dushanbe. Dressed in a gray-and-white pin-striped jacket, and with a small, neat beard, the Qazi appeared anything but a fanatic in the mold of Iran's early revolutionary leaders. For a cleric of his rank, he is also a young man—just thirty-seven. On his desk were a regular phone, a cellular phone, and a fax machine; while we talked, all three were often going at the same

Did that mean he favored an Islamic state?

Yet the Qazi did predict an Islamic role in the shaping of the region's transition to post-Soviet rule. "We do have plans to have close relations with Iran and Afghanistan," he said. "We are united by more than a thousand years of history. We Tajiks favor and encourage this trend. But that doesn't necessarily mean the creation of a new state." He also said that he was adamantly opposed to the re-creation of Turkestan. "There are certain Turkic-speaking fanatics—Uzbeks, Kazakhs, Azeris, and Turks—who propose this idea. But I don't think this way will get Tajiks anything good. We'll cooperate with them on economic issues, but we don't like the idea of Turkestan." He added that Tajikistan did not want to be liberated from Russian domination only to be dictated to by another

DURING the seven decades of Soviet rule, the already diverse pieces of ancient Turkestan took on separate identities. Each is now a distinctly individual member of the Commonwealth. In the short term, the recreation of a Turkestan will, at best, be more of a brotherhood than a state, based more on economic exigencies than on united political goals. Indeed, the greatest threat within the region is the unwillingness or the inability—depending on the republic—to deal with political change. In the new Commonwealth, Central Asia is the last bastion of Communist or one-party rule. In all but Kyrgyzstan, true democratic movements are still tightly monitored or denied media exposure or outlawed altogether. Even the limited, and now outdated, “new thinking” of *perestroika* has yet to take hold. In the absence of meaningful openings, the frustration and alienation, the tension, and the nationalist rivalries are almost certain to deepen. In that atmosphere, the one strong and unifying factor—Islam, which provides a set of laws by which to rule a society as well as a set of spiritual beliefs—may present the only long-term alternative.

—ROBIN WRIGHT

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TTACHMENT 3: INFORMATION PACKET TABLE OF CONTENTS

The Chemical Emergency and Planning and Preparedness Office provided information to the Team members to assist in developing a general understanding of the incident and the Uzbekistan region. The following table of contents summarizes the information provided in the packets.

UZBEKISTAN OIL WELL INCIDENT INFORMATION PACKET

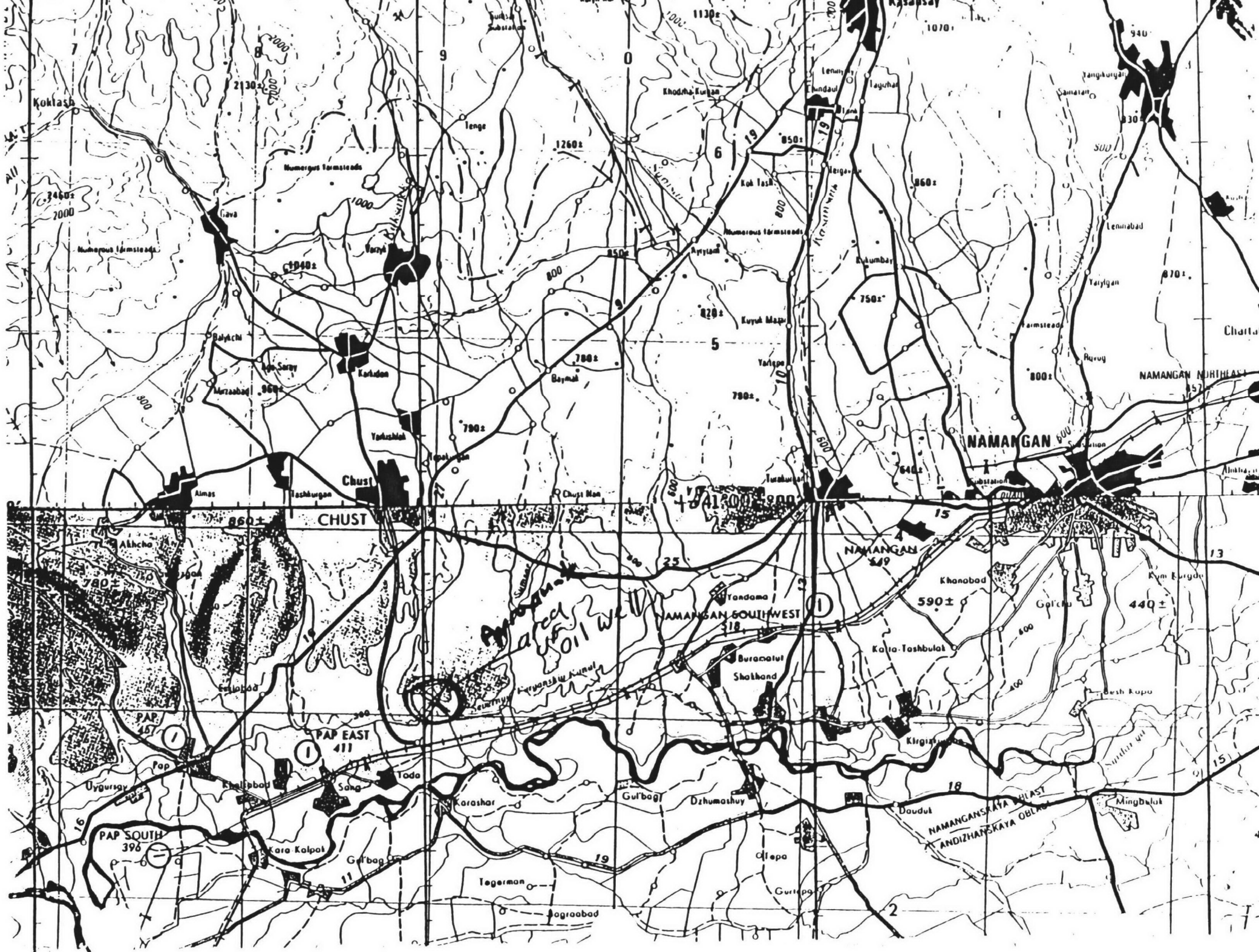
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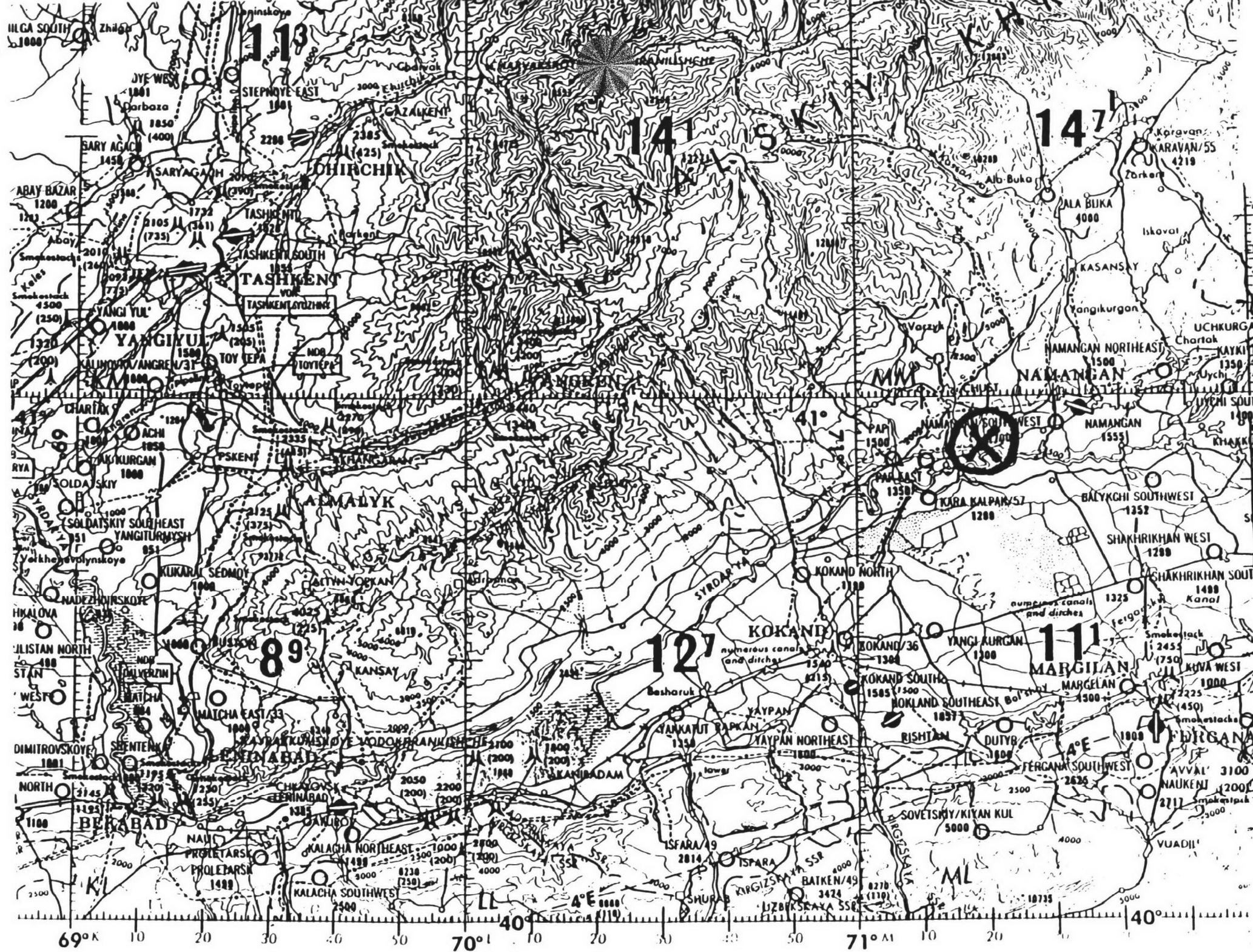
I	Formal Request for Assistance from Uzbekistan Government
II	Uzbekistan Background Paper
III	Maps
IV	Oil Well Background Paper
V	Condensed Chronology of Events Surrounding Oil Well
VI	EPA Chronology of Events to Date (as of 4/7/92)
VII	Travel Tips for Soviet Union/Uzbekistan
	- Fodor's Highlights
	- State Department Cable on Uzbekistan
	- State Department Travel Advisory
	- Centers for Disease Control Information Sheet
VIII	Contacts List

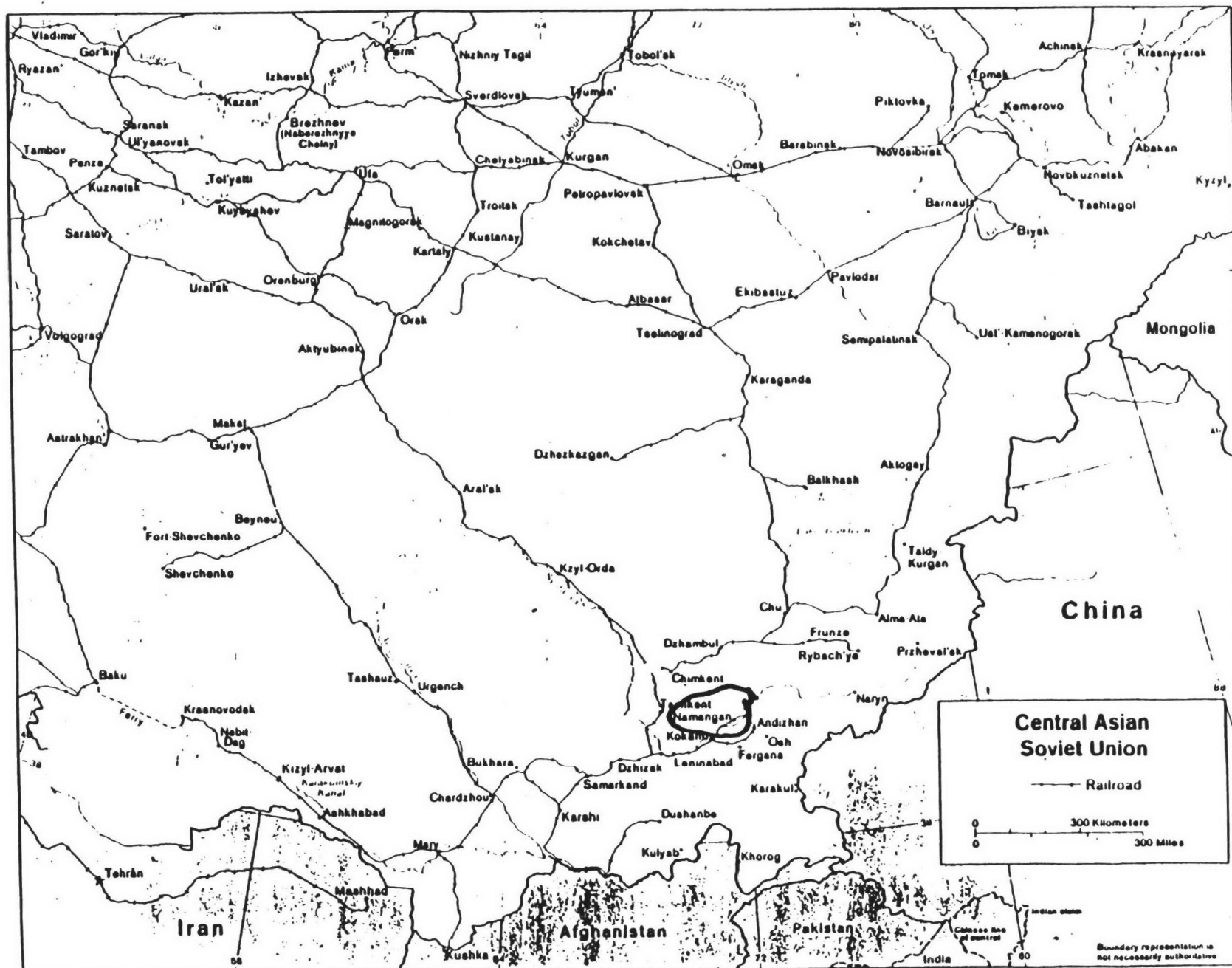
ATTACHMENT 4: MAPS OF REGION



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ATTACHMENT 5: EPA ADMINISTRATOR REILLEY'S AUTHORIZATION TO PROVIDE ASSISTANCE TO UZBEKISTAN



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APR 9 1992

THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Uzbekistan Technical Assistance Mission

TO: Jim Makris, Director
Chemical Emergency Preparedness
and Prevention Office

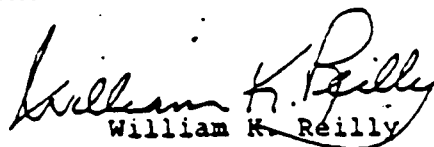
Recently the United States Embassy in Tashkent received a request from the Government of Uzbekistan for assistance in capping a blown oil well and evaluating the effects of the oil on the environment and the health of the inhabitants in the critical area. The Department of State consulted with the Environmental Protection Agency and it was determined that assistance should be provided to ensure the health in the region and reduce environmental damage.

EPA has been designated to lead this team which includes representatives from EPA, as well as the Department of Health and Human Services, Centers for Disease Control, and U.S. Coast Guard National Strike Force. I am appointing you as the Coordinator of this technical assistance team and Tony Jover, of your office, as the lead of this interagency technical assistance team mission in Uzbekistan.

The purpose of the mission is to obtain environmental (air and water) and human sample data which would be analyzed in the U.S. to assess the presence of hydrocarbon and toxic constituents of the oil in the environment. This information could be used by Uzbek Health officials to develop a health strategy. The team members would also work with Uzbek officials to provide technical advice for mitigation of environmental damage, environmental restoration, and contingency planning for the effects of a possible spill in the Syr Darya River.

The technical and logistics support coordination will be conducted through the EPA Headquarters National Incident Coordination Team and the Emergency Operations Center.

I understand that the National Response Team continues to be involved as well. It is understood that representatives of the Department of Health and Human Services, Centers for Disease Control and U.S. Coast Guard will continue their excellent support of the Uzbekistan mission.


William K. Reilly