



CHALKYITSIK AND CORNUCOPIA COMPLEXES



Alaska Black IMT
Incident Commander
Ed Sanford

AK-UYD-000466

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Key Decisions

- Management of the Chalkyitsik and Cornucopia Complexes was delegated to Alaska Black IMT, Incident Commander Ed Sanford. Transfer of Command (TOC) occurred at 0700 on August 7, 2019. The majority of operations to mitigate threat to ANCSA Lands, cultural values, and villages had been completed prior to the TOC. The mission of the IMT shifted to accounting for and backhaul of equipment and closing out Land Use agreements.
- IMT completed a Wildland Fire Risk and Complexity Assessments of both Complexes on August 8, 2019. Relative Risk was determined to be low and the Organization needed to manage the incident was rated as a Type 4 in complexity. While the operational aspects of the Complex were mostly complete, the logistical and financial complexities still required management at the Type 2 level. Agency Administrators and IMT worked together to define the end state of both incidents based on the Complexity Assessment:

Complete backhaul of all equipment and supplies to Fairbanks. All fires within the Chalkyitsik and Cornucopia Complexes will be placed in monitor status with Management Action Points in place to address any future threat to Native Allotment, identified values or Villages. Management of complexes will be returned to the Upper Yukon Zone.

- All fires on the Cornucopia Complex have been placed into monitor status as of August 11, 2019.
- All fires on the Chalkyitsik Complex have been placed into monitor status as of August 13, 2019.
- All backhaul from both Complexes has been returned to Fairbanks as of August 14, 2019.
- Local unit agreed that IMT would submit Final 209's on August 14; local unit will complete 209's for individual fires as needed.
- Management Action Points needed to mitigate any future threat to ANCSA Lands, values, or villages were included in the WFDSS decision. MAPs can be used by the Upper Yukon Zone as a remobilization plan.

Incident Objectives at the Time of Turn Back:

1. Firefighter and public safety are the highest priority values to be protected.
2. Backhaul excess supplies and equipment and account for all capital property. Ensure all backhaul is properly packaged and free of unidentified hazmat.
3. Maintain and enhance relationships between the Protecting Agency, Jurisdictional Agency Administrators, Tribal and ANCSA partners, and other stakeholders and cooperators via timely and accurate information exchange.

Incident Summary:

The acreage of the Chalkyitsik Complex is estimated to be 505,274; Cornucopia Complex is estimated at 95,853. Acreage is an estimate based on Sentinel satellite imagery and recon flights.

Situation:

Fires are in monitor status and have been patrolled by air periodically. Management Action Points (MAPs) have been defined and described for protection of Native Allotments and values (Appendix A).



MAPs are included in the latest WFDSS decision; MAPs should be considered for use as a remobilization plan should condition warrant re-staffing of fires. All logistical backhaul missions back to Fairbanks have been completed.

Current cost and acreage of fires within the Chalkyitsik and Cornucopia Complexes.

		Area	Est. Cost to Date	Current Suppression Strategy
Chalkyitsik Complex		MEB0	505,277	\$13,056,223
#348 Tractor Trail 2	MBZ6	92,629		Monitor
#367 Frozen Calf	MB2L	240,544		Monitor
#407 Bearnose Hill	MCS7	130,769		Monitor
#424 Tettjajik Creek	MC57	41,301		Monitor
#687 Small Timber Lake	MHW3	35		Full Suppression 100% Contained
Cornucopia Complex		MF9J	95,337	\$11,929,422
#337 Hadweenzic River	MBY1	62,068		Monitor
#349 Chandalar River	MBZ7	13,114		Monitor
#493 Tony Slough	MEP9	7,961		Monitor
#572 East Fork Chandalar	MFM1	190		Monitor
#573 Pitka	MFM2	1,641		Monitor
#594 Thazzik Mountain	MF08	4,992		Monitor
#601 Coal River	MF2G	2,607		Monitor
#602 The Woodsman	MF2N	0.1		Monitor
#621 Trail Creek	MF5E	2,742		Monitor
#622 Sixty-One Mountain	MF5J	22		Monitor

Acreage by Agency

Chalkyitsik Complex		Cornucopia Complex	
Agency	Acres	Agency	Acres
USFWS	256,528	USFWS	73,440
ANCSA	148,574	ANCSA	14,295
State	57,673	State	7,523
BLM	41,301	BIA	80
BIA	1,200	Total	95,337
Private	2		
Total	505,277		

Outlook:

After record setting Drought Codes and temperatures, the deep duff and large fuels in the Upper Yukon Flats remain dry. These fuels will remain dry and resist control until a significant amount of rain covers the area. Fire may remain on the landscape through the winter without significant rain and could resurface during the spring of 2020 when conditions dry.

If the drying continues for 4 or more days then more active fire behavior can be expected. To become active fuels need 7-9 days of drying after precipitation amounts of 1-2 inches over 72 hour period.



A. Command

1. Incident Commander

Summary:

- The published WFDSS decision document is current as of August 15, 2019 and should remain valid through the duration of the incidents.
- All AK IMT objectives continue to be valid at the time of transfer.
- Incident objectives to protect communities and values have been completed. MAPs address long term consideration for protection of structures, Alaska Native Allotments, and other cultural values.

2. Safety

Summary:

The Black team absorbed the safety officers that were already on the incident. Having consistency and carryover of personnel that were familiar with the hazards and the personnel was essential to the success of the operation. This lessened the concerns for the incoming safety officer. The most senior safety officer on the complex provided oversight for the people in the field and also served as the information conduit to the team safety officer.

Notable Success: The safety culture and the delivery of the safety messages in the field contributed to success. Having infrastructure in place with functions represented at the Forward Operating Base (FOB) and corporate knowledge retained by operational and safety personnel that had been in place for multiple shifts, were also key to the safety record. One new injury occurred during the IMT's tenure; the injury occurred during backhaul. Encounters with bears were avoided by keeping clean camps, removing trash and backhaul on a daily basis. Qualified shooters patrolled the fire line when there was a need.

Significant Challenges and Resolution:

- The Temporary Flight Restriction TFR over Chalkyitsik was put back in place after a low pass was performed by an aircraft not assigned to the incident. Air Operations was not aware that TFR was canceled during transition with outgoing team.
- The significant amount of backhaul required extensive aviation resources with multiple trips per day to facilitate. Using a larger aircraft could have reduced the number of trips required, reducing exposure to pilots. Identifying the need for larger fixed wing aircraft early in the incident would allow more time to identify available aircraft.

3. Information

Summary: The work completed by previous teams allowed the current information section to focus on providing a lasting narrative of the Chalkyitsik and Cornucopia Complexes. Both in words posted in the village of Chalkyitsik and also online in word, photo slideshows and informative videos. An





Chalkyitsik sits along the Draanjik River as Frozen Calf Mountain rises in the distance Sunday, Aug. 4, 2019. Sam Harrel/AKIMT

effort was made to list out in detail the strategy utilized to accomplish an information operation at a Forward Operating Base (FOB) while being supported from ICP. IMTs can easily utilize this guide in the future. Two Information Officers were stationed at ICP, and a second Information Officer was stationed at the FOB in Chalkyitsik.

No community meetings were held due to the availability of the information officer in the village. Information received from morning briefings and one-on-one talks was sufficient as the incident entered into the final phases of suppression and began

backhaul operations. Over the week that the AK Black IMT was in command, only three updates were produced including the final. The established trapline was downsized, eliminating redundant stops and focusing on places where information could be left for a lasting record; specifically at the council office, the CNC store and the washeteria. The clinic had been closed for the entire tour of the IMT. Frequent visits to the camp crew working on the airport ramp allowed any questions by residents to be addressed by the information officer.

Notable Success:

- Establishing relationships with village residents.
- Keeping the public, media, cooperators and agency administrators informed by being accurate and timely. The information officer based in Chalkyitsik called KZPA 900 AM Radio in Fort Yukon to provide live updates during the end of their noon news hour. Information on both the Cornucopia and Chalkyitsik complexes was shared due to the high interest of both complexes to the radio audience. A final call was made that reinforced for listeners the inherent dangers that are present after a wildfire and where additional information can be found.
- Informative videos were produced and posted on the Chalkyitsik Complex YouTube Channel, and shared on AKFIREINFO, Facebook and Twitter to help the community understand Leader's Intent, management objectives, safety concerns, strategy & tactics, among other topics. Additionally, Kale Casey produced a video summary (2019 Chalkyitsik/Cornucopia Fire Summary) that includes photos, videos and



Chalkyitsik Village Council First Chief Stephanie Herbert gives a ride to Tamara Henry as they move supplies on the Chalkyitsik Airport ramp Thursday, July 25, 2019. Both women of Chalkyitsik are members of the camp crew working in support of the Chalkyitsik Complex. Sam Harrel/AKIMT

interviews that “tell the story” of the Upper Yukon Flats wildfires during the summer of 2019, to be used for external and internal distribution. The videos were well-received and many community members thanked us for our efforts.

- Utilize apps such as “WhatsApp” or web-based text messaging as an effective and efficient way to stay connected with staff in remote locations. Voice calls, texts and photos were exchanged during this incident between Chalkyitsik and Fairbanks.

Facebook Pages (AKDOF, AFS and Beaver Village Council) *All posts were customized per Facebook page	
Posts	13
Reach	2,500 approx. average per post
Videos	10
Minutes Videos Viewed	5.1K approx. minutes viewed
YouTube	
Videos	30
Views	8.9K views
Inciweb	
Photos Posted	83
AK FIRE INFO Blog	
Posts	10

Significant Challenges and Resolution:

- Timely transfer of Information is a challenge with the ICP/FOB model. PIO staffing FOBs and ICP is critical. At a minimum one PIO at ICP is needed to take care of the Public Affairs Officer needs, ICP planning cycle, media needs, AA needs, VIP visits, IWI and to serve as the team interface. This PIO is also the advocate for the Field PIO. In the event that there is no wifi available at the FOB, the ICP PIO serves as the advocate for satellite data to ensure that the Delegation of Authority objectives are met. Sending a spot tracker, hot spot with data plan, rental iPad or other device to support the Field PIO is recommended.
- The removal of the school internet filters could have increased the communication sharing between information officers.

B. Operations

Summary: Tactical operations on both complexes have been completed. Mop-up and gridding from Chahalie Slough down through the northeastern allotments on Ohtig Lake on the Chalkyitsik Complex have been completed. On fire 349 mop-up and gridding have been completed from the east end of the allotments to the slough midway along the indirect line. Access from the Chandalar River to the indirect lines have been closed off as much as possible.

There may be a future need to re-staff fires to protect ANCSA Lands, values, or Villages if the fire area experiences a prolonged drying trend and fire activity increases. MAPs (Appendix A) describe actions that may be considered for remobilization. No tactical gear remains on either complex. Allotments that may need to be re-staffed based on future fire behavior are:

- L-1 west of Tractor Trail fire
- Allotments at the west end of fire 349



Structure located on the L1 Allotment.

Both sets of allotments have been prepped with saw-line and are ready to fire around. Both sites would require pump and hose, and a load of smokejumpers to defend/burn around.

Notable Successes:

- Use of UAS to identify heat along lines. Especially useful in blowdown areas; helped focus mop-up efforts and reduce unnecessary firefighter risk and exposure.
- Radio communication link from fires on Cornucopia Complex to Fairbanks ICP was instrumental in having a secondary communication link between fire managers and individual fires. Satellite phones were the primary communication device used.
- Use of Chalkyitsik as a forward operating base was critical to keep pertinent positions close to operational personnel.
- All tactical gear has been removed around Chalkyitsik and all previously protected allotments/cabins. There is no tactical gear left on any fires within the Cornucopia Complex.
- All staging areas have been closed down (Beaver and Venetie).

Significant Challenges:

- Chain of command and structure on the Cornucopia Complex continued to be clunky. The staging area at Venetie was good in theory, but fire #349 ordered most of its supplies through paracargo and skipped the staging area, making Venetie Staging ineffective. When the IMT took over we kept the management consistent with the previous team as objectives were close to meet and the process was working. Consider developing SOP for the future so that teams have consistent processes that are transferable.
- Air attack platform based in Fairbanks hindered ability to fully utilize this resource. Smoke, weather, and long-distances to cover made it difficult to use. Suggestion to order an air attack platform capable and willing to land on gravel at either Fort Yukon or Chalkyitsik (example: DOF Shrike).

C. Air Operations

Summary: Air operations were well established when the IMT assumed command of both complexes. Tactical air operations have been completed, future patrol flights should be considered to monitor fire activity and potential future threat. Most of the air operations that occurred during AK Black Team management of the complexes were logistical support and backhaul.

Notable Success: The Smokejumpers provided a Casa for a Fuel Barrel delivery at the Beaver Airstrip. They were able to fly in 440 gallons of Jet A when we were out of fuel. They were able to get the fuel delivered on the same day of the order.

Significant Challenges and Resolution:

- Aviation fuel management in Chalkyitsik was a daily topic as weather, smoke, and vendor issues occasionally aligned for missed fuel deliveries. We had continuing challenges with getting bulk Jet A fuel. This challenge was due to the fact that the vendor couldn't provide the fuel ordered

in a timely manner. This isn't a new local issue; consider exploring additional vendor options and restoring the agency bulk fuel program.

- The TFR (temporary flight restriction) on the Chalkyitsik complex was canceled sometime during the transition. After looking at our flight operations it was determined that the TFR should be reinstated for Firefighter and Flight crew safety. This caused some confusion and concerns from local flight vendors and agency managers. Consider leaving TFRs in place for logistical missions. Educate the local vendors and agency managers on our need for the restricted airspace and look for options to allow missions into the TFR or modify the TFR.
- Aviation support for operations support continued to be a challenge. With accommodations for one pilot/mechanic in Chalkyitsik, all other rotor wing aircraft had to come from Fort Yukon. This meant less time available to work for operations, and often delayed aircraft movement to/from Chalkyitsik due to smoke or weather issues. Consider other accommodations for pilots.



Camp Crew members Katelyn Englishoe, left, and Marti Jonas, in airplane, help Ramp Managers Rob Snyder, right, and Cameron Seals load backhaul into a Cessna Caravan on Friday, Aug, 9, 2019, at the Chalkyitsik Airport. Backhaul consists of fire hose and fittings, pumps, tools and trash from suppression operations on the Chalkyitsik Complex. The equipment will be refurbished to be ready to use on the next incident. Sam Harrel/AKIMT

D. Plans

Situation Unit

Summary: The SITL completed daily 209's for both Complexes. There was not a need to update maps often due to the lack of fire activity and progression. Weather and fire behavior remained fairly constant with scattered rain every few days. Fire behavior was reduced to deep duff smoldering. A Field Observer (FOBS) completed a structure assessments package for Chalkyitsik. FOBS then rolled into coordinate fights from Chalkyitsik to Fairbanks.

Notable Success:

- Able to complete two 209 incident summaries from a remote location. Tailored the language to meet the needs in the final stages of the incidents.
- Led morning operational radio briefings to crews working in remote spike camps.

Significant Challenges and Resolution:

- Working as a remote Situation Unit Leader was challenging, having usable wifi internet made it possible. There were no connectivity issues to speak of. Without direct communication with IC it was challenging to get everything in the 209. Direct interaction with field operations provided a unique opportunity to incorporate information into the 209. Communication with the Plans

Chief through Skype messages and email made process of completing 209 longer when significant changes were made.

- GISS struggled with Arcmap Pro as it is a new program and is not the accepted software to be utilized on incidents per GTAC. GSTOP standards and processes were not followed throughout the incidents. This caused difficulties in map production. It is important to adhere to standards. Local AFS resources were able to assist the GISS staff with technical support to overcome challenges with unfamiliarity of software. When setting up the GISS shop make sure that processes are ubiquitous and able to be implemented by another team.
- Extra support beyond normal incident mapping and processing of data may not be a realistic expectation of GISS staff. Skill levels varying amongst qualified GISSs.

Resource Unit

Summary: Prior to the ICP being consolidated into smaller rooms, the RESL and OPS were in another section of the building and more isolated from the other sections. Moving allowed the sections to be closer to each other; RESL was better able to assist with check-in, DMOB, Finance, and Logistics.

Notable Success: RESL assisted OSC with establishing a glide path for resource tracking during the demob of resources from FOBs.

Significant Challenges and Resolution:

- Data base management of the two complexes was at times challenging, in that it was harder to reconcile. When a resource was noted as filled from a Ross Import, it was hard to verify the status of the resource. Some of the resources were on the fires, but had never checked in and some never came. We had numerous resources arrive at CIK, Venetie, or Ft. Yukon, go to work, and not catch them until time sheets were received at the ICP. The RESL contacted the SITL at CIK to assist in status updates of various resources.
- A three day IAP was continued from the previous teams' model. With all the changes associated with the transition and the duration of the plan, information included in the plan was outdated prior to the IAP expiration. While the three day IAP was a good model to use, IMTs may want to consider a standard 1 day IAP to get through the transition period.

Demobilization Unit

Summary: Provided demobilization of resources services on the Chalkyitsik Complex and Cornucopia Complex. Established and maintained relationships with Upper Yukon Tanana Expanded Dispatch. Reviewed and updated existing AK T2 Demobilization Plan.

Notable Success: The demobilization process for resources returning from FOBs was expedited by completing the majority of the demob check out in the field. Only Finance and Plans Sections needed to be visited at ICP since all other services were provided at the remote work sites.

Significant Challenges and Resolution:

- Coordinating demobilization needs for resources returning from remote locations was inherently challenging. The process was streamlined by using an air travel coordinator point of contact at the FOB and coordinating directly with UYT for return to Fairbanks, lodging, and transportation.



- The Incident was unique because two dispatch centers were required to demobilize resources. Charter flights from Venetie and Chalkyitsik were coordinated by UYT Dispatch. Commercial flights were coordinated by UYT Expanded Dispatch. Scheduling of the charter flights could impact last work day, demob day, and flight home. A one-day lag was built into the demobilization schedule. The charter flight was scheduled for the day after the last work day. The commercial flight for the day after the charter flight. This would provide resources enough time to complete the demobilization process at ICP and get ready for the flight home.

Unresolved Issues: The demob processes established by the previous teams were different between the two Complexes. This was difficult to manage once the Complexes merged; the process was shifted on the Cornucopia Complex, however there were still processes that lingered from the previous plan. It is recommended that a demob process be established for the dispatch center that can be implemented by IMTs; this will streamline the process for both dispatch and the IMT.

Documentation Unit

Summary: Incident documentation package has been completed and will be transferred to the local unit. Electronic documentation has been uploaded to Firenet and are included on a flash drive in the Documentation box for both Complexes. There is one set of doc boxes and a Firenet account for each complex.

Notable Success: Ordering a DOCL early enough to receive incoming documents from the field and incorporate into the ICP's documentation boxes.

Significant Challenges and Resolution: Gathering documents from remote locations. Resolution is having a contact in the field to direct/collect and insure they make it to ICP.

Incident Technical Systems Specialist

Summary: On shadow day all sections and units were consolidated into four classrooms at the Pipeline Training Center. This required some minor changes to the network to accommodate the moves. The Chalkyitsik GIS unit was relocated from the Alaska Fire Service to the Pipeline Training Center and consolidated with the GIS unit from Cornucopia. All the GIS data was consolidated on an AK Team network attached storage (NAS) device. Both E-Isuite site servers continued to be maintained separately on two servers. This facilitated the Resource unit and Finance section being able to access both simultaneously. Requested a FireNet incident account for the Cornucopia Complex, so all the incident data for it could be uploaded to a separate shared drive on FireNet.

Notable Successes: Integration of both complexes worked seamlessly from an IT perspective.

Significant Challenges and Resolutions: As noted by the previous ITSS we were unable to continue Chalkyitsik's remote access to the E-Isuite site database located at the ICP after moving from the Tanana Middle School to the Pipeline Training Center. Additional team equipment and technology will be required so it can be tested and preconfigured for future assignments. It is worth noting that the ability to successfully establish and maintain network connectivity between ICP and remote camps is contingent on the ISPs providing internet service and their equipments capabilities.

E. Logistics



Notable Successes: Having resources from the local villages hired in support functions and making those connections early attributed to the overall success in securing Land Use agreements, renting equipment and other logistical needs.

Significant Challenges and Resolution: Communications to and from the field was challenging, as Sat phones were predominantly used. A landline in Beaver, Venetie and Chalkyitsik was established that improved communications. Food orders being duplicated or missed altogether was another challenge and a remedy was to use a track and delivery method with an order coming from the field that allowed for fact checking the numbers to avoid errors.



Ramp Manager Jarrod Bohrman sorts equipment back hauled to the Chalkyitsik Airport on Tuesday, Aug. 6, 2019. Recent rains have moderated fire behavior on the fires of the Chalkyitsik Complex. Forecasted weather is calling for scattered showers and cooler temperatures for the rest of the week.

Medical Unit

There were no reportable injuries. Patient contacts: +/-18 total patient contacts. 4 preventative checks, 2 headaches, 1 eye problem, 4 cold and flu, 1 back pain and 6 minor soft tissue injuries.

Notable successes:

- Having a MEDL-T based in both Chalkyitsik and Cornucopia was critical for managing medical incidents on the fire line and support to the medics, allowing the MEDL to fulfill the responsibilities of planning in the ICP. With limited communications, this enabled us to manage medical transports from the field through UYT and to communicate with Medics on the fireline.
- Utilization of the remote clinics in Chalkyitsik/Venetie minimized the need to transport patients by aircraft for clinical evaluation and treatment of minor injuries. Utilizing AK FMP Lead medic's/

MEDL-T in the MEDL role in the field was crucial to fill needed roles as limited resources were available to staff both Field and Planning medical operations. The ability to successfully take two separate incidents that were running differently and working out a Communication plan and Medical plan that would join both into one Medical Plan to facilitate one IAP.

Facilities Unit

Notable Success: The Fairbanks Pipeline Training Center was an excellent location for the in town ICP. Having key players in place at the FOB's kept the overhead to a minimum. It was also valuable to have a local Alaskan resource imbedded with the logistics team.

Significant Challenges and Resolution: The Logistics Section was somewhat lean requiring all members to cover other functions which they did with success. The limitation of space when schools started back up was a challenge but the team quickly adjusted and effectively continued operations by reducing non-essential overhead.

Food Unit

Notable Success: For the FOB at Chalkyitsik/Beaver/Venetie we used Fresh Food Boxes and MREs as backup. We also added supplemental fresh fruit and vegetables at the FOBs. This was a big moral boost for the crews. Food left over after firefighters demobed was donated to the local village.

Significant Challenges and Resolution: As listed before there were some miscommunications in the ordering of food boxes but was resolved by implementing a food tracking and delivery system.

Supply Unit

Notable Success: Having two ORDMs (one for each complex) was very helpful to keep continuity, help streamline ordering processes, and be able to recall and track orders that were placed. The

RCDM at the warehouse was a critical player to the success of getting supplies from the warehouse to the field in a timely and accurate fashion.

Significant Challenges and Resolution: Several Comp/Claims issues were identified upon demob of crews this created a bottle neck during demob. It would be helpful to have resources fill out appropriate paperwork before demob; that would facilitate a quicker process.



Ground Support Unit

Notable Success: The use of alternative modes of transportation, i.e. bicycles, four-wheelers, etc. in the FOB's was very successful and widely used by incident personnel. We did not have a Ground Support Unit Leader, however we covered the duties with other Logistics overhead.

Significant Challenges and Resolution: There was a significant lack of rental/NERV vehicles available to incident personnel. We implemented a vehicle check-out pool system for the available vehicles on the incident and approved AOV/POV use as needed.

Communications Unit

Summary: Following the transfer of command on August 7th, the Black Team Communications Unit took over control of both the Cornucopia Complex and the Chalkyitsik Complex communication systems and personnel. No changes in systems were made and no communications personnel were added based on the foreseen transitions back to the Zone and in order to avoid impacting fire line personnel with unnecessary field cloning or modification of Command radio coverage on the incidents.

The Black Team Communications Unit subsequently supported a total of twelve communications equipment sites, six of which were mountaintop. Solar panels on most repeater sites greatly decreased cost and COMT aviation risk exposure on this long term incident. It should be noted though that with the resultant reduction in inspection and maintenance afforded by solar panel power and cost savings, possibly avoidable damage did occur to sites that impacted the system and fireline coverage on more than one occasion over the course of the incident.

The two complex's communications systems focused on different intentions. The Cornucopia Complex system was an example of a (extreme) remote ICP communications connection. Command and control was radio linked and operated out of its Fairbanks ICP with the actual incidents in the Venetie area, a distance of approximately 150 miles, comparable to managing a Lake Tahoe, Nevada fire out of San Francisco. The Chalkyitsik Complex was even more removed from its Fairbanks ICP at 170 miles, but was not radio linked to Chalkyitsik: communications operational control was based at Chalkyitsik, and ICP communications from Fairbanks was via phone line. A request had been made by the previous Chalkyitsik management (Green) Team to determine the viability of radio linking the ICP to Chalkyitsik through multiple radio repeater hops through the mountains and into the Yukon Flats comparable to the Cornucopia Complex radio system, but a combination of terrain, distance, equipment design limitations and equipment breakdown had prevented that from working. No need for such a backbone multi-hop was identified by the Black Team and no field work was done on pursuing the viability of such a link.

Following complete recovery of all personnel off of Fire 349 and across the river to Venetie, August 13th was scheduled for a complete recovery and release of all Cornucopia Complex communications equipment from Ft. Yukon, Venetie, C-8 north of Venetie, 29 Mile Ridge, C-1 south of Beaver, Victoria Peak, Cache Mountain and Ester Dome. No communications equipment was scheduled to remain in the field.

Recovery and release of all Chalkyitsik Complex communications equipment was completed August 12th from Chalkyitsik, H20, and Frozen Calf Mt. It should be noted that while successful in connecting a Fairbanks ICP to the complex's fires, the radio system used by Cornucopia Complex was pushing the limits of 20th Century radio technology as provided by the NIRSC in support of fire. The system was also expensive to install and extremely fragile and difficult to support: at one point (August 9th) one curious/hungry porcupine brought the entire system down, depriving the fireline of command

radio coverage until a communication tech could make a 330 mile fixed wing/helicopter trip to the mountaintop to bring it back into service.

Historically, backbone long range radio links in Alaska were primarily created to support logistics communications, not tactical fireline communications. Alaska went through attempts at providing agency satellite connections with field deployable satellite systems in support of base camp and ICP communications over the last 30 years, but they have not survived the test of being necessary or of keeping up with the expanding data needs of a modern incident.

The need for providing ICP direct fire radio communication to remote operations certainly exists, but alternative and 21st century approaches should be considered as infrastructure in the Zone. Progress in commercial satellite communications into villages and internet accessibility should be considered as alternatives to radio backbone systems, but would require the development of a field programmable interface from the delivered phone line output to NIRSC radio transmission (linking on to field repeaters) in order to have hub communication points using existing and commercial supported technology.

The continued wide provision and use of Iridium (or better) satellite phones by line personnel in the interim provides the alternative methodology of briefing line supervisors, as well as non-ICP located participants, through the use of a shared telephone bridge, a methodology which allows access to briefing/planning meetings by any number of participants at any location that has phone access.

Notable Success: Established appropriate communications nets in remote areas of Alaska. Successful demob of Cornucopia and Chalkyitsik Complex communications systems in record time and at minimal cost without impacting Operations in the face of approaching weather.

Significant Challenges and Resolution: Establishment and support of communication systems in the far north. Undersized footprint at Chalkyitsik resulted a challenge to place adequate personnel to manage Communication there: an INCM on site would have alleviated many of these issues. Issues that were identified after demob could have been addressed had they been expressed and conveyed.

F. Finance

Summary: When the IMT assumed command of Chalkyitsik and Cornucopia Complexes, they continued to be managed as separate databases by one team.

Kayla Davin, INBA, Shelly Freer's Buying team and Susan Vincent, Agency Administrator, all were of great assistance and supported any issues that we presented to them and made our job much easier.

The concept of working with an ICP in Fairbanks and FOBs in remote villages presented challenges that you normally wouldn't experience in the finance section. This included getting signatures for contracts, completing LUA's, hiring local resources, and finalizing payment packages as a few examples. This shows real teamwork when we can say that this was a success.

Each finance box was maintained independently. They will be delivered to Susan Vincent upon closing. Each finance box was arranged using the direction in the BLM Alaska INB Operating Guidelines.



Notes of interest – It was discovered when we were arranging files, that on the Cornucopia Complex demobed crew files that were completed before the IMT team took responsibility, that there were several without manifests in crew folders.

Time Unit

Notable Success: The internet and phone capabilities with the forward operating base was essential to the remote demob process. When selecting staffing that is filling finance positions at the forward operating bases, it was very important to choose those that are familiar with all financial aspects. We were fortunate to have two personnel working in finance that reside in these remote locations with local knowledge which was a contributing factor to our success.

Significant Challenges and Resolution: It would have been more efficient if the FSC had been delegated AD hiring authority for the Chalkyitsik Complex as was done on the Cornucopia Complex. Hiring the local residents at the villages to assist with a multitude of jobs was a challenge. There were several instances where the employee would be hired, work a few days and would just not show up the next day. This presented a problem in getting resources to come back in to be demobed, sign pay documents and get paid. Another challenge at the forward operating base was not having file info at your fingertips and relying on someone else at the ICP for the information. Solution to this challenge is having a dedicated phone line at ICP and someone manning this phone during business hours. This worked well after time recorders understood the steps to complete

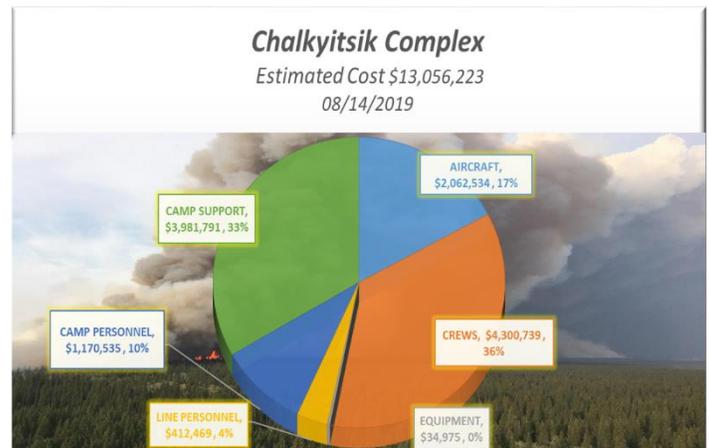
Unresolved Issues: There were resources from the lower 48 that checked in at ICP and checked out at AFS. No one notified ICP these resources demobed.

Cost Unit

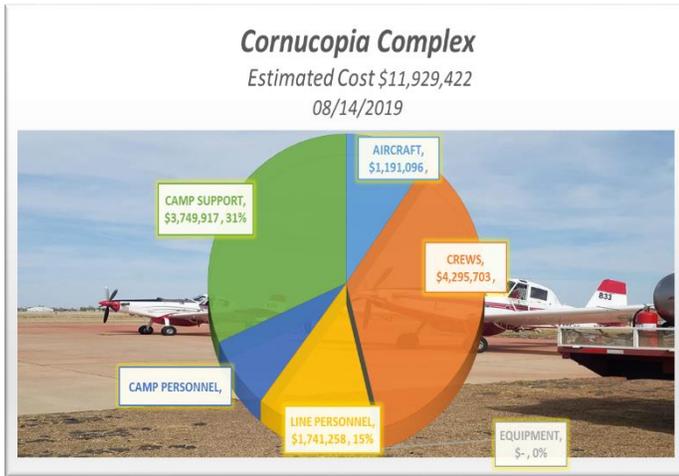
Notable Success: Consistency of the helicopter resources reported costs every day kept the daily costs more accurate. The list of agency personnel that cost reports were sent to is in the COST section of the Finance Box.

Significant Challenges and Resolution:

- A significant amount of time was spent making sure the accounting codes were correct. Sometimes the E-Isuite database would drop input so the need to do a daily internal audit to ensure cost input was accurate.



- Initially obtaining fixed wing air costs were not being received on a regular basis until Greg



Scully, AOBD was assigned. He took the initiative to track down the right people to give him the correct data.

- Previous Cost Unit leaders from each complex used slightly different methods on COST spread sheets. Steve continued each method for continuity.

Procurement Unit

Notable Success: Successes included having adequate experienced staffing to support the forward operating base and the ICP finance section. We also worked with local finance section trainees assuring a quality training experience.

Significant Challenges and Resolution: Getting questions answered, signatures on documents and contracts at beginning, and again at demob time was one of the most time consuming challenges. The resolution was working with the forward operating base personnel in Finance and Logistics to get as many answers as we could before demobing. If this wasn't possible, when resources came to ICP to demob, completing any unfinished documents at that time.

Compensation and Claims

Notable Success: At this time there have been no reportable injuries.

Significant Challenges and Resolution: The challenges were the same as other sections in obtaining signatures and information needed for claims. Again, the resolution was working well with the forward operating base personnel in Finance, Logistics and Operations to complete claim information.

Unresolved Issues: Before the IMT took command of the Cornucopia Complex, there are no Claims or Injury logs in the finance files. The FSC was having the ordering take care of any of the property claims. I could not find any of these records.



Chalkyitsik Complex Camp Crew on Friday, July 19, 2019, standing from left, Jonas Carroll, Terry Herbert, Bryan Joseph, Peter Nathen Druck, Edward Paul, Thomas Fields. Seated from left, Michael Joseph, Stephanie Herbert, Tamara Henry, Tyrel Jonas. Not shown, Jeffery Wright. Photo Courtesy Stephanie Herbert.



Appendix A: Areas of Concern and Management Action Points:

Cornucopia Complex

MAP 1 Fire 601:

Very little growth occurred toward the values at risk. Most of the growth was upslope away from the values. West or southwest winds could push fire towards the MAP 1 threatening the values beyond.

Values at Risk: Allotments: 1881, 18782 and 12786A with full protection cabin.

Intent of MAP: To identify considerations for the protection of allotments and structures in the east Chandalar drainage.

Probability of Fire Breaching MAP: FSPRO results from a run completed on 7/27/19 put it at a 2-4.8% chance of the fire reaching this point within 14 days without considering any suppression action. However this fire has received significant rain since the analysis has been completed, and the fire has not exhibited any new growth since 7/30/19.

If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

Actions:

- Consider increasing the frequency of Aerial recon.
- Consider confirming the status of the unverified structures.
- Consider scouting and establishing or identifying support plan to include access, camp, helispot and medevac, locations.
- Consider establishing indirect fire lines including prep and burn plan for firing holding, along the allotment boundaries.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 2 Fire 594:

Growth towards this MAP occurred during a north wind. Some heat, although interior still remains in the fingers extending toward the MAP. The big days this fire grew were upslope runs to the north. Recent precipitation has stopped any perimeter growth on this fire.

Values at Risk: Allotment: 82132

Intent of MAP: To identify considerations for the protection of a single allotment in the east Chandalar drainage.

Probability of Fire Breaching MAP: The fire has to back against the prevailing wind and work its way across an east facing slope in order to reach this point. In the last 8 days it has progressed .8 miles in this direction, with most of that progression occurring on the 30th of July. It is .6 miles from the fires edge to the MAP, and 2.4 miles to the allotment.

Trigger Conditions: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider increasing the frequency of Arial recon.
- Consider scouting and establishing or identifying support plan to include access, camp, medevac and helispot locations.
- Consider establishing indirect fire lines including prep and burn plan for firing holding, along the allotment boundary.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 3&4 Fire 337:

These MAPs are together on the east end of the fire. No movement has occurred on this end for several days. The natural fuel breaks are numerous in this area. If the fire becomes active it will struggle to work its way through these natural breaks.

MAP 3 Values at Risk: Allotments: FF062A, FF08231, FF0162B, FF016260A, FF01317B, FF013533, FF013841, FF013449, FF014722, FF147238B, FF014035A, FF014035A, AKFF 014722, FF014776D, FF01344, AKF 025733B, FF014043B

Intent of MAP: To identify considerations for the protection of allotments east of the Christian River, and on the west bank of the Chandalar.

Probability of Fire Breaching MAP: FSPRO results from a run completed on 7/27/19 put it at an 80 to 100% chance of the fire reaching this point within 14 days without considering any suppression action. However this fire has received significant rain since the analysis has been completed, and the fire has not exhibited any new growth since 7/30/19.

Trigger Condition: This Management action point is identified on the ground as the primary lines to the Hadweenzic East incident. If the fire were to establish across this line or deemed likely to do so based on fire behavior, the following actions should be considered.

- Consider initiating all plans and activities established for holding the fire along the alternate lines established by the previous IMT organizations.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 4 Values at Risk: Multiple fish camp sites, and one is USFWS owned work camp. According to the database some pumps hose and sprinklers exist at one of the structures.

Intent of MAP: To identify considerations for closure of any work related activities for agency personnel, and protection of any structures.

Probability of Fire Breaching MAP: FSPRO results from a run completed on 7/27/19 put it at a 5-19% chance of the fire reaching this point within 14 days without considering any suppression action. However this fire has received significant rain since the analysis has been completed, and the fire has not exhibited any new growth since 7/30/19.

Trigger Condition: If the fire were to establish across this line and (or) determined likely to impact values based on fire behavior, the following actions should be considered.

- Work with USFWS agency administrators to close this facility to all non-essential personnel.
- Consider providing structure protection to any sites of value, opportunities may exist to tie off the oxbow using indirect lines.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 5 Fire 349:

This MAP covers open fires edge between the last active fire and the constructed fire line. No growth has occurred here for several days even though the fuels were dry enough to carry fire. Some interior smoldering and smoke have been observed however not growth was recorded.

Values at Risk: Native Allotments 8787, 5061, 8812, 8811 and 4513, South or the Chandalar River.

Intent of MAP: A significant investment has been made into establishing indirect control lines along these allotment boundaries, this MAP identifies a trigger for re-considering those lines to protect the allotments.

Probability of Fire Breaching MAP: FSPRO results from a run completed on 7/31/19 put it at an 80-11%% chance of the fire reaching this point within 14 days without considering any suppression action. However this fire has received some rain since the analysis has been completed, and the fire has not shown any new growth since 7/29/19.

Trigger Condition: This Management action point is an arbitrary line against the fires edge to identify the condition of active fire along this flank and deemed likely to spread toward these values.

- Consider re-establishing pumps and hoses, along already established lines.
- Consider implementation of burnout operations along already established lines.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

Chalkyitsik Complex

MAP 19-22:

These MAPs cover any northwest movement of Frozen Calf, Bearnose Hill, Tractor Trail 2, and Small Timber Lake fires. Very little activity has occurred along this flank of the fires. Some interior heat has been detected and some perimeters have been mopped up. No perimeter growth is expected along this flank.

MAP 19 Values at Risk: The first priority values are Native American Allotments: 814A with several full protection structures, 5752 with full protection structure. All three of these are



depicted on the IMT operations map of 8/7/19 and labeled as P6 P7, P8. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures in Porcupine River drainage, to provide an estimate of 72 hour advanced warning for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp, helispot and medevac locations.
- Consider establishing indirect fire lines including prep and burn plan for firing holding, along the allotment boundaries.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 20 Values at Risk: The first priority values are Native American Allotments: 770B with full protection structure, 4271, 3585, and 3038 with full suppression structure. These values are depicted on the IMT operations map of 8/7/19 and labeled as P5 and B17.

Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures in the Black and Porcupine River drainages, to provide an estimate of 72 hour advanced warning for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include: access, camp, helispot and medevac locations.
- Consider establishing indirect fire lines including prep. and burn plan for firing holding, along the allotment boundaries.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 21

Values at Risk: The first priority values are Native American Allotments: 5530 with full protection structure, 3412 with structure under construction and Chalkyitsik RAWS. These values are depicted on the IMT operations map of 8/7/19 and labeled as RAWS, B19, B27 and SH2. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures, this MAP is designed to provide an estimate of 72 hour advanced warning for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp, helispot and medevac locations.
- Consider establishing indirect fire lines including prep. and burn plan for firing holding, along the allotment boundaries.
- Consider suppression activities to reduce the fires intensity at the Chalkyitsik RAWS.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 22

Values at Risk: The first priority values are Native American Allotments 772A, and 718B both with full protection structures, 3351, 230B, 3260 and the Fort Yukon community. These values are depicted on the IMT operations map of 8/7/19 and labeled as P1 B27 P2 and Fort Yukon. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the evacuation of Fort Yukon, including the protection of allotments and structures. This MAP is designed to provide an estimate of 72 hour advanced waring for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp, helispot and medevac locations.
- Consider establishing indirect fire lines including prep. and burn plan for firing holding, along the allotment boundaries.
- Consider working with the appropriate agency(s) that hold evacuation authority for Fort Yukon.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time..

MAP 23:

Values at Risk: This a MAP that covers the southeast flank of the fire. Little growth has occurred here for several day some interior heat exists but none detected along the perimeter. The first priority values are Native American Allotments: 3548 and 7457 both with full protection structures. These values are depicted on the IMT operations map of 8/7/19 and labeled as B34 and B35. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures, this MAP is designed to provide an estimate of 72 hour advanced waring for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp, helispot and medevac locations.
- Consider establishing indirect fire lines including prep and burn plan for firing holding, along the allotment boundaries.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 24:

Values at Risk: This is a northern MAP out ahead of the Frozen Calf fire. No heat was detected along the perimeter. Natural barriers and fuel changes have stopped the forward movement of the fire. The first priority values are Native American Allotments: 4711A, 5034A, 736C, 4811C and 260A both with full protection structures. These values are depicted on the IMT operations map of 8/7/19 and labeled as P15, P16, P17, P19, and P21. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures, this MAP is designed to provide an estimate of 72 hour advanced warning for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp helispot and medevac locations.
- Consider establishing indirect fire lines including prep. and burn plan for firing holding, along the allotment boundaries.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.

MAP 25:

Values at Risk: This is a southern MAP covering the head of the Tractor Trail 2 fire. Some heat near the perimeter was detected but none along the perimeter adjacent to unburned fuels. Any visible smoke here should be evaluated as to the potential movement considering weather and fuel moisture.

Yukon River Cabins - These values are depicted on the IMT operations map of 8/7/19 and labeled as Y29, Y30, Y31, Y32 Y33, and Y34. Several additional undeveloped allotments also exist in this area with no confirmed structures.

Intent of MAP: To identify considerations for the protection of allotments and structures, this MAP is designed to provide an estimate of 72 hour advanced warning for potential site impacts.

Trigger Condition: If fire reaches this point and is likely to continue to spread toward these values, the following actions may be considered.

- Consider scouting and establishing or identifying support plan to include access, camp and helispot and medevac locations.
- Consider establishing indirect fire lines including prep and burn plan for firing holding, along the allotment boundaries. Functional Highlights.

Resources: Exact resources will be determined by the IMT, at whatever level the incident is being managed at that time.