



## Alexco Extends Bermingham High-Grade Mineralization at Depth, Intersects 3,583 g/t Silver over 8.76 meters True Width and Other Significant Results

### Alexco Provides Full 2020 Exploration Results and Operations/Corporate Update

**January 19, 2021 - Alexco Resource Corp. (NYSE American/TSX: AXU)** ("Alexco" or the "Company") today reported results from its 2020 surface exploration drilling program that focused on the Bermingham Northeast Deep zone located at depth approximately 150 meters ("m") below the existing mineral resource, that is currently in development for ore production beginning in the second quarter of 2021. The Company also provided a brief update on Keno Hill Operations and Corporate activity.

#### 2020 Exploration Results Highlights

The 2020 surface exploration program completed 7,653 m of core drilling in 14 holes as detailed in Table 1. The program focused on a 550 m long structurally controlled sub-horizontal elongated zone in the same structural and stratigraphic setting that contains the high-grade mineralization initially discovered in 2018 below the Bermingham mineral resource (see news release dated September 10, 2019, entitled "Alexco Intercepts 8.1 Meters (true width) at Composite Grade at 1,414 Grams Per Tonne (45.5oz/t) Silver at "Bermingham Deep" Target"). The 2020 exploration program was designed to drill on approximately 100 m sections to trace the deeper zone southwest and northeast along strike within the favourable mineralization corridor.

Significant results are reported below:

*(note that intercepts below are on sections located approximately 100 m apart and are listed from southwest to northeast along the zone (see Figure 2)).*

- **K-20-0769** intersected mineralization in both the Bermingham Footwall and Main veins:
  - The Footwall vein extends over a true width of 8.76 m from 507.24 m containing 3,583 grams / tonne ("g/t") (115.2 ounces / tonne ("oz/t")) silver ("Ag"), including 4.54 m true width from 507.70 m at 5,497 g/t (176.73 oz/t) Ag and 1.64 m true width from 516.60 m at 3,834 g/t (123.28 oz/t) Ag. These include several very high-grade intervals including 0.41 m true width from 509.81 m at 15,174 g/t (487.84 oz/t) Ag, 0.28 m true width from 512.42 m at 21,994 g/t (707.12 oz/t) Ag, and 0.24 m true width from 517.45 m at 23,906 g/t (768.60 oz/t) Ag.
  - The Main vein extends over a true width of 3.50 m from 473.86 m containing 707 g/t (22.72 oz/t) Ag, including 0.93 m true width from 476.72 m at 2,337 g/t (75.14 oz/t) Ag.
- **K-20-0773** intersected the Footwall vein over a true width of 5.30 m from 496.24 m containing 2,070 g/t (66.55 oz/t) Ag, including 2.35 m true width from 499.31 m at 4,425 g/t (142.27 oz/t) Ag.
- **K-19-0740\*** (previously reported on September 10, 2019) intersected several mineralized veins in this zone including:
  - 8.15 m true width from 580.09 m containing 1,414 g/t (45.46 oz/t) Ag, including 0.59 m true width from 590.82 m at 10,105 g/t (324.88 oz/t) Ag.



- **K-20-0761** intersected mineralization in both the Bermingham Footwall and Main veins:
  - The Footwall vein extends over a true width of 6.12 m from 536.84 m containing 1,560 g/t (50.16 oz/t) Ag, including 2.72 m true width from 539.71 m at 3,381 g/t (108.71 oz/t) Ag.
  - The Main vein extends over a true width of 1.30 m from 486.65 m containing 4,889 g/t (157.19 oz/t) Ag, including 0.71 m true width from 486.65 m at 8,810 g/t (283.25 oz/t) Ag, including 0.45 m true width from 486.92 m at 11,286 g/t (362.85 oz/t) Ag.
- **K-20-0770** intersected mineralization in the Bermingham Footwall vein:
  - The Footwall vein extends over a true width of 7.46 m from 559.06 m containing 1,381 g/t (44.40 oz/t) Ag, including 0.39 m true width from 563.67 m at 4,180 g/t (134.39 oz/t) Ag, and 0.24 m true width from 566.34 m at 9,800 g/t (315.08 oz/t) Ag.
  - A Footwall splay extends over a true width of 2.28 m from 552.49 m containing 693 g/t (22.27 oz/t) Ag, including 0.42 m true width from 554.28 m at 1,987 g/t (63.88 oz/t) Ag.
- **K-20-0762** intersected the Footwall vein over a true width of 1.87 m from 643.75 m containing 893 g/t (28.71 oz/t) Ag, including 0.79 m true width from 643.75 m at 2,058 g/t (66.16 oz/t) Ag.

*\* Results from the 2020 drilling program and the previously reported hole K-19-0740 from the 2019 program used a 30 g/t Ag composite cutoff to include a maximum of two meters of unmineralized internal dilution. Hole locations are shown in Figure 1 and results detailed in Table 2 with all intervals adjusted to reflect estimated true width.*

Clynt Nauman, Chairman and CEO of Alexco commented, “The discovery of a significant zone of high-grade silver mineralization beneath the Bermingham deposit confirms that this is one of the more significant silver deposits in the entire Keno Hill Silver District, rivalling the extent of the historic Hector-Calumet deposit, which produced 96 million ounces of silver prior to shutting down in 1972. If the Northeast Deep zone discovery is further substantiated by the extensive drilling program we have planned for 2021, it is my view that the result will have important strategic implications for the future development of Keno Hill. Most interestingly, even as it currently stands, the western-most drill hole in the Northeast Deep zone - which returned a true thickness of 8.76 meters of mineralization grading 3,530 g/t (115.2 oz/t) Ag with 14% lead and 3% zinc - is located just 250 m east and 75 m below the projected bottom of the Bermingham primary decline. This means that this zone could be easily accessed from currently-planned mine infrastructure.”

## **2020 Program Summary and Bermingham Geology**

The Bermingham deposit currently has an estimated silver Mineral Resource of 32.96 million ounces (“Moz”) Indicated and 11.74 Moz Inferred, including 11.3 Moz in the Probable Mineral Reserve Estimate. Within the silver Mineral Resource, 1.57 Moz Indicated and 1.17 Moz Inferred estimated mineral resources are located in the Northeast Zone that lies approximately 150 m above the newly discovered Northeast Deep zone. The deeper mineralization was initially identified by surface exploration drilling completed in 2018 and 2019 (including drill hole K-19-0740 previously mentioned).

The 2020 drill program was designed to assess the Northeast Deep zone in more detail, with a nominal drill grid spacing of approximately 100 m along strike by 50 m dip separation, and holes from surface ranging in depth between 550 m and 700 m (refer to Table 1, Figure 1, and Figure 2).

From a geological perspective, the 2020 target zone was interpreted to lie in the vicinity of the intersection of the Bermingham Main vein with the Bermingham Footwall vein (see Figure 2), and specifically where the intersection occurs within the thick bedded quartzites that host the nearby historic Hector-Calumet mine. The 2020 exploration



work has confirmed that the Northeast Deep zone mineralization occurs within a broad, structurally complex corridor that has a horizontal to gentle northeast plunge with an interpreted strike length of approximately 550 m and a dip extent of up to 100 m. Importantly, to the southwest of the 2020 Northeast Deep zone, this same vein intersection and mineralized corridor can be traced over an additional 400 m strike length through the Bear, Arctic and Etta Zones of the Bermingham deposit, where by contrast, it has a more moderate northeasterly plunge.

On a broader scale, it is now clear that the Bermingham vein system represents a component of a coherent throughgoing shear zone that demonstrates an approximate five kilometer ("km") strike length from Hector-Calumet in the northeast to the fault offset continuation two km's southwest of Bermingham. This major structure includes at least the Hector-Calumet, Ruby, Bermingham, Aho and Coral-Wigwam vein systems which in aggregate have historically produced a total of 101 Moz Ag (see Cathro, 2006 reference below). Importantly, significant (blind) km-scale tracts remain untested along this highly productive system.

**Note:**

The 2020 exploration drill program and sampling protocol has been reviewed, verified, and compiled by Alexco's geologic staff under the supervision of Alan McOnie, Vice President, Exploration for Alexco and a Qualified Person as defined by National Instrument 43-101 ("NI 43-101"). A rigorous quality control and quality assurance protocol is used on the project, including blank, duplicate, and standard reference samples in each batch of 20 samples delivered to the assay lab. Drill core samples were shipped to ALS Minerals Labs at Whitehorse, Yukon for preparation, with fire assay and multi-element ICP analyses completed at the ALS Minerals facility in North Vancouver, British Columbia.

### **2021 Surface Exploration Drilling Program**

In mid-March 2021, Alexco is planning to launch a large-scale surface exploration program to drill a minimum of 25,000 m utilizing four drills and focusing on infill and extension drilling of the Northeast Deep zone mineralization. Directional drill technology will be used with the objective of updating the existing Bermingham Mineral Resource Estimate in Q4 2021, which will include the Northeast Deep zone.

### **Keno Hill Operations Update**

Ramp up of mining and milling operations continue with activities adjusted and moderated to comply with modified COVID-19 protocols in the Yukon. Safety performance at Keno Hill remains excellent with the site achieving a milestone in December 2020 of 10 years without a Lost Time Accident. Underground activity is focused at the Bellekeno mine where longhole drilling and blasting of residual ore is providing feed to the mill, with concentrate shipments to the port of Skagway having already commenced. The mill continues the commissioning process and is operating with a modified schedule to best match the ore delivery from Bellekeno as well as optimizing the metallurgical performance of the changes to the mill circuit. At the Bermingham mine, underground development is proceeding well – with initial ore production anticipated in Q2 2021. The Alimak raise contractor has completed mobilization and setup and is currently advancing construction of the raise to surface. A full update and more detailed ramp up schedule for underground and mill production is expected to be provided in February, 2021.

### **Sale of Brewery Creek Net Smelter Return Royalty ("NSR Royalty")**

On January 4, 2021 Alexco sold its NSR Royalty in Golden Predator Exploration Ltd.'s Brewery Creek Project to Wheaton Precious Metals Corp. for total cash consideration of CDN\$4.5 million.

### **References**

Cathro, R.J., 2006. Great Mining Camps of Canada 1, "The History and Geology of the Keno Hill Silver Camp, Yukon Territory." Geoscience Canada Vol. 33, No. 3.



## Qualified Persons

The disclosure in this news release of scientific and technical information regarding exploration projects on Alexco's mineral properties has been reviewed and approved by Alan McOnie, FAusIMM, Vice President, Exploration, while that regarding mine development and operations has been reviewed and approved by Neil Chambers, P.Eng., Chief Mine Engineer, both of whom are Qualified Persons as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101").

## About Alexco

Alexco is a Canadian primary silver company that owns and operates the majority of the historic Keno Hill Silver District, in Canada's Yukon Territory, one of the highest-grade silver deposits in the world. Alexco is currently advancing Keno Hill to production and commenced concentrate shipments in January, 2021. As per Alexco's 2020 pre-feasibility study, Keno Hill is expected to produce an average of approximately 4 million ounces of silver per year contained in high quality lead/silver and zinc concentrates. Total production over an 8-year mine life is estimated at 1.18 million tonnes of ore at an average rate of 430 tonnes per day at an average grade of 805 grams per tonne. Keno Hill retains significant potential to grow and Alexco has a long history of expanding the operation's Mineral Resources through successful exploration.

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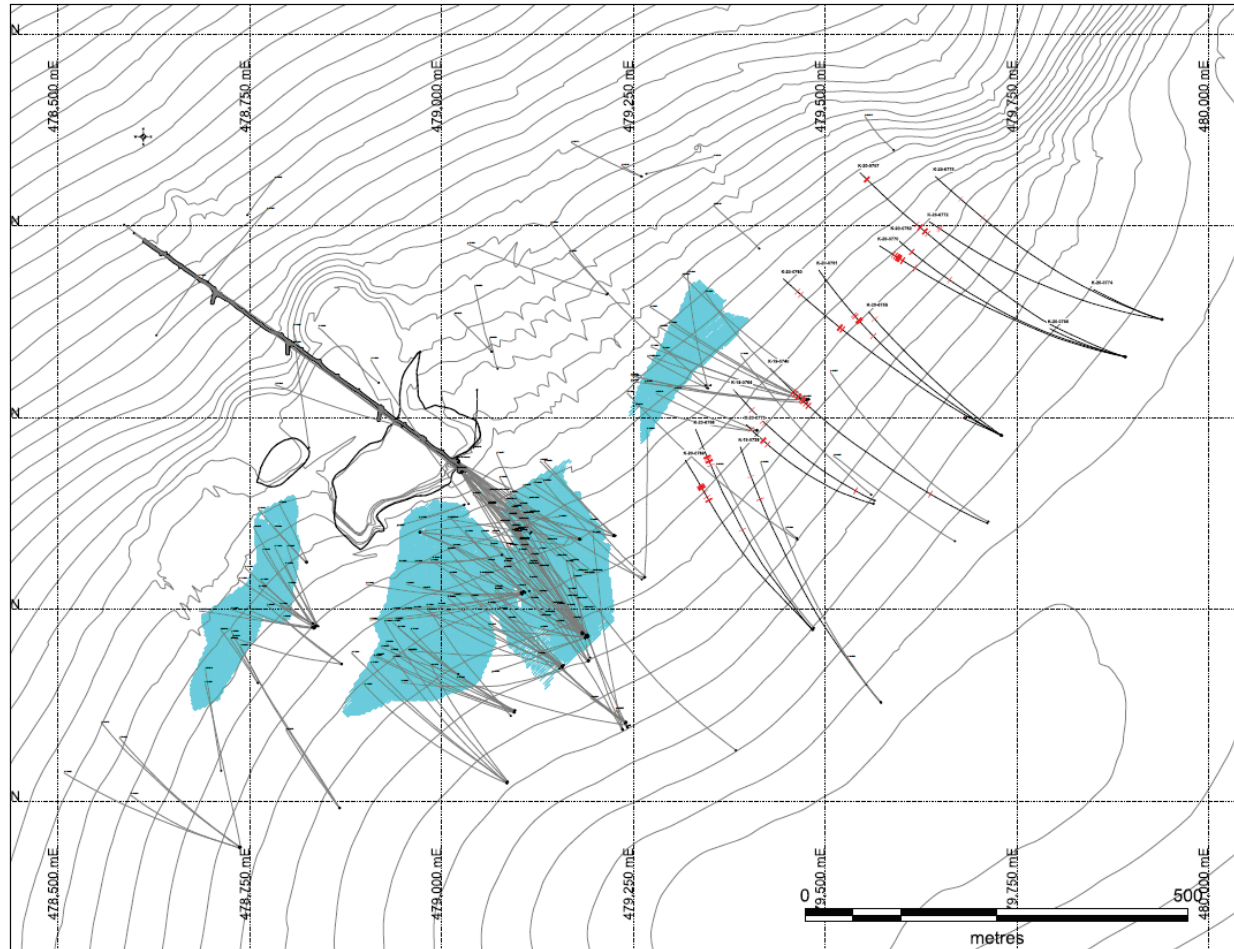
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*Some statements ("forward-looking statements") in this news release contain forward-looking information plans related to Alexco's business and other matters that may occur in the future, made as of the date of this news release. Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors which could cause actual events or results to differ from those expressed or implied by the forward-looking statements. Such factors include, among others, risks related to risks and uncertainties relating to the COVID-19 pandemic including but not limited to business closures, travel restrictions, quarantines and a general reduction in consumer activity; actual results and timing of exploration and development, mining, environmental services and remediation and reclamation activities; future prices of silver, gold, lead, zinc and other commodities; possible variations in mineral resources, grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accidents, labour disputes and other risks of the mining industry; First Nation rights and title; continued capitalization and commercial viability; global economic conditions; competition; and delays in obtaining governmental approvals or financing or in the completion of development activities. Forward-looking statements are based on certain assumptions that management believes are reasonable at the time they are made. In making the forward-looking statements included in this news release, Alexco has applied several material assumptions, including, but not limited to the circumstances surrounding the COVID-19 pandemic, although evolving, will stabilize or at least not worsen; that the extent to which COVID-19 may impact the Company, including without limitation disruptions to the mobility of Company personnel, costs associated with implementation of health and safety protocols, increased labour and transportation costs, and other related impacts, will not change in a materially adverse manner; Alexco will be able to raise additional capital as necessary, that the proposed exploration and development activities will proceed as planned, and that market fundamentals will result in sustained silver, gold, lead and zinc demand and prices. There can be no assurance that forward-looking statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Alexco expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as otherwise required by applicable securities legislation.*



## APPENDICES

Figure 1 – Location of 2020 Drill Holes and +30 g/t Ag composite intervals in red.



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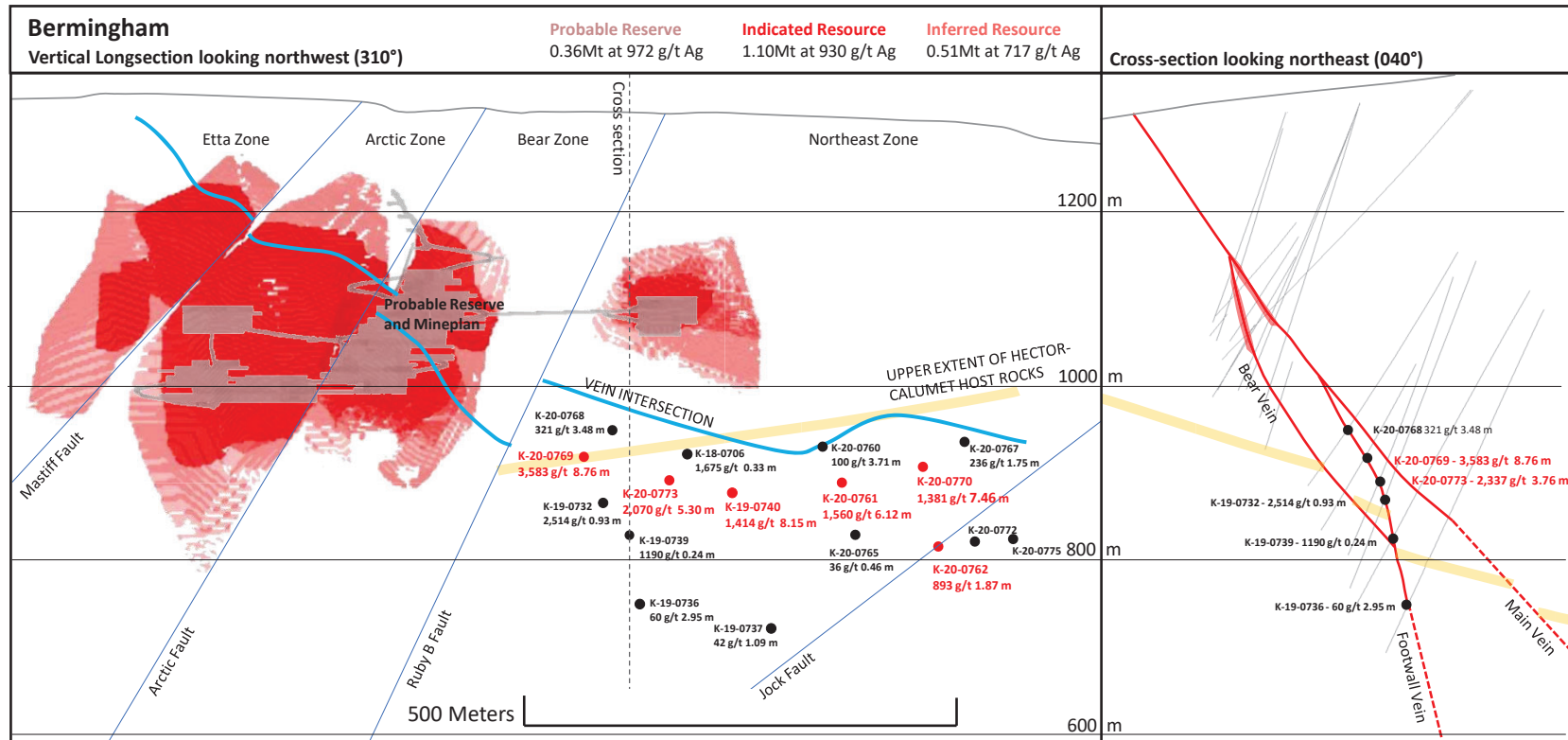
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Figure 2 – Vertical long-section and cross-section showing projected Footwall Vein drillhole true width intercepts in the Birmingham Northeast Deep zone as highlighted below.



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Table 1 – Location of 2020 Drill Holes

*Coordinates in UTM NAD 83 Zone 8 map projection*

Hole	UTM East (m)	UTM North (m)	Elevation (m)	Length (m)	Surface Azimuth	Surface Inclination
K-20-0760	479729.31	7086976.72	1372.32	671.95	300.0	-65.0
K-20-0761	479729.54	7086976.57	1372.42	701.71	300.0	-69.5
K-20-0762	479891.52	7087079.15	1376.47	703.00	285.0	-63.0
K-20-0764*	479730.29	7086976.53	1372.43	194.00	295.0	-74.5
K-20-0765	479730.20	7086976.83	1372.40	607.00	305.0	-71.5
K-20-0766*	479891.26	7087079.18	1376.75	220.50	285.0	-60.0
K-20-0767	479891.32	7087079.21	1376.40	693.00	285.0	-57.0
K-20-0768	479483.84	7086723.28	1369.42	557.10	320.0	-63.0
K-20-0769	479483.84	7086723.26	1369.42	587.00	315.0	-65.5
K-20-0770	479891.12	7087079.39	1376.46	607.00	280.0	-60.0
K-20-0772	479939.38	7087127.75	1376.70	653.00	280.0	-64.0
K-20-0773	479563.06	7086887.64	1364.77	577.10	280.0	-72.5
K-20-0774*	479939.13	7087128.11	1376.61	191.00	285.0	-61.0
K-20-0775	479939.12	7087127.97	1376.59	692.00	283.0	-62.0

\* Hole abandoned due to deviation

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Table 2 – Composite Assays Calculated at +30 g/t Ag with up to 2 m of waste

Hole		From (m)	To (m)	Interval (m)	Est. TW (m)	Au (g/t)	Ag (g/t)	Ag (oz/t)	Pb (%)	Zn (%)	Vein
K-20-0760		499.30	501.75	2.45	1.96	0.08	185	5.95	0.33	0.54	FW
	Including	499.30	500.00	0.70	0.56	0.09	353	11.35	0.36	1.79	FW
		505.43	510.07	4.64	3.71	0.13	100	3.22	0.19	0.76	FW
	Including	509.06	509.77	0.71	0.57	0.07	368	11.83	0.43	4.18	FW
		620.88	621.65	0.77	0.63	0.01	309	9.93	6.00	0.06	Ruby
		630.56	631.38	0.82	0.67	0.04	158	5.08	3.71	0.00	Ruby splay
K-20-0761		486.65	488.00	1.35	1.30	0.53	4,889	157.19	7.27	2.06	BM
	Including	486.65	487.39	0.74	0.71	0.93	8,810	283.25	12.98	3.54	BM
	with	486.92	487.39	0.47	0.45	1.23	11,286	362.85	14.40	2.23	BM
		536.84	545.00	8.16	6.12	0.29	1,560	50.16	1.62	1.31	FW
	Including	539.71	543.34	3.63	2.72	0.60	3,381	108.71	3.43	2.42	FW
		554.32	557.20	2.88	2.16	0.03	195	6.27	1.13	0.67	FW splay
		560.55	561.43	0.88	0.66	0.08	57	1.82	0.10	0.16	FW splay
K-20-0762		528.61	529.54	0.93	0.90	0.03	31	0.98	0.32	0.37	BM
		643.75	646.12	2.37	1.87	0.14	893	28.71	4.50	2.09	FW
	Including	643.75	644.75	1.00	0.79	0.31	2,058	66.16	9.71	3.68	FW
K-20-0765		580.69	581.45	0.76	0.46	0.00	36	1.14	0.30	0.58	FW
K-20-0767		520.37	521.32	0.95	0.94	0.04	92	2.96	1.04	0.96	BM
		526.26	529.59	3.33	3.30	0.12	218	7.01	3.29	1.54	BM
	Including	526.26	527.24	0.98	0.97	0.32	516	16.59	7.38	3.44	BM
		539.40	541.62	2.22	1.75	0.11	236	7.58	0.32	0.01	FW
	Including	539.40	540.30	0.90	0.71	0.10	376	12.09	0.37	0.02	FW
		548.69	549.11	0.42	0.33	0.17	30	0.97	0.06	0.24	FW splay
		673.75	677.29	3.54	3.47	0.02	82	2.64	0.89	0.26	Townsite
K-20-0768		314.15	314.87	0.72	0.56	0.09	69	2.23	0.17	0.28	Aho (splay)
		475.65	476.55	0.90	0.79	0.26	771	24.78	5.37	6.27	BM
	including	476.13	476.55	0.42	0.37	0.43	1,605	51.60	11.05	5.41	BM
		483.02	487.55	4.53	3.99	0.09	184	5.92	0.15	0.23	BM splay
	including	484.24	484.65	0.41	0.36	0.21	1,470	47.26	0.81	0.01	BM splay
		490.30	491.00	0.70	0.62	0.11	168	5.40	0.39	0.00	BM splay
		493.10	497.50	4.40	3.48	0.12	321	10.31	0.33	4.90	FW
	Including	495.75	497.50	1.75	1.38	0.09	636	20.46	0.09	8.38	FW





K-20-0769		473.86	477.75	3.89	3.50	0.45	707	22.72	2.28	0.72	BM
	Including	476.72	477.75	1.03	0.93	0.53	2,337	75.14	6.19	0.73	BM
		484.63	485.57	0.94	0.85	0.04	403	12.95	0.11	0.92	BM
	Including	484.63	485.00	0.37	0.33	0.09	956	30.74	0.07	2.01	BM
		497.69	497.95	0.26	0.23	0.03	705	22.67	8.91	0.00	BM
		507.24	518.76	11.52	8.76	0.46	3,583	115.20	13.71	3.45	FW
	Including	507.70	513.67	5.97	4.54	0.64	5,497	176.73	26.12	6.19	FW
	with	509.81	510.35	0.54	0.41	1.67	15,174	487.84	77.58	0.87	FW
	with	512.42	512.79	0.37	0.28	2.73	21,994	707.12	43.93	9.43	FW
	Including	516.60	518.76	2.16	1.64	0.64	3,834	123.28	0.67	0.10	FW
	with	517.45	517.76	0.31	0.24	3.88	23,906	768.60	3.74	0.26	FW
K-20-0770		525.12	526.31	1.19	1.18	0.10	174	5.59	2.88	2.37	BM
	Including	525.48	525.68	0.20	0.20	0.23	735	23.63	13.00	9.13	BM
		552.49	555.11	2.62	2.28	0.18	693	22.27	0.78	1.18	FW splay
	Including	554.28	555.11	0.83	0.72	0.42	1,987	63.88	2.42	3.36	FW splay
	with	554.50	555.11	0.61	0.53	0.40	2,570	82.63	3.27	2.55	FW splay
		559.06	567.63	8.57	7.46	0.13	1,381	44.40	2.23	1.37	FW
	Including	563.67	567.63	3.96	3.45	0.23	1,626	52.28	2.12	0.82	FW
	with	563.67	564.12	0.45	0.39	0.94	4,180	134.39	6.45	3.18	FW
	with	566.34	566.62	0.28	0.24	0.77	9,800	315.08	9.14	5.25	FW
		569.73	571.45	1.72	1.50	0.07	60	1.93	0.38	1.92	FW splay
		574.79	575.83	1.04	0.90	0.04	67	2.16	1.28	1.20	FW splay
K-20-0772		623.36	624.03	0.67	0.62	0.09	198	6.37	1.41	0.42	Townsite splay
		627.24	627.70	0.46	0.42	0.09	714	22.96	0.80	0.04	Townsite splay
K-20-0773		479.68	482.00	2.32	2.02	0.09	119	3.82	1.70	0.96	BM
		496.24	504.15	7.91	5.30	0.22	2,070	66.55	27.10	0.52	FW
	Including	498.64	503.22	4.58	3.07	0.36	3,528	113.43	35.73	0.76	FW
	with	499.31	502.82	3.51	2.35	0.44	4,425	142.27	45.29	0.82	FW
		554.98	555.97	0.99	0.87	0.25	33	1.06	0.10	0.19	Bear splay
K-20-0775		536.67	536.98	0.31	0.30	0.07	321	10.32	2.76	11.60	BM
		609.43	609.65	0.22	0.20	0.11	286	9.20	2.69	0.13	Townsite splay