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Glen, J.M.G., Schmidt, J., and Morin, R., 2007, Gravity and magnetic character of south-central Alaska: Constraints on geologic and tectonic interpretations, and implications for mineral exploration, *in* Ridgway, K.D., Trop, J.M., Glen, J.M.G., and O'Neill, J.M., eds., Tectonic Growth of a Collisional Continental Margin: Crustal Evolution of Southern Alaska: Geological Society of America Special Paper 431, doi: 10.1130/2007.2431(23).

Tables DR1–DR3

TABLE 1 - Talkeetna Mountains Digital Aeromagnetic Database Files

Project No.	Original Data	Name	Dates Flown	Spacing (mi)	flightline direction	Altitude (ft)*
173_193	digitized	Copper River	06/54 & 06/55	2 & 1	N-S	4000 B
3122	digital flight lines	Valdez	07/78-08/78	1	N-S	1000 AG
4093	grid	Healy	28641	1	N-S	1000 AG
4094	digital flight lines	Anchorage	28671	1	N30W	1000 AG
6023	digital flight lines	Cook Inlet	06/76-07/77	6	E-W	400 AG
6035	digital flight lines	Eagle-Talkeetna	06/77-09/77	6	E-W	400 AG
AK08	digitized	E Alaska Range	71	0.75	N-S	1000 AG
Broad Pass	digital flight lines	Broad Pass	7/01-8/01	0.25	N-S	200 AG
Delta River	digital flight lines	Delta River	1995, 2002	0.125, 0.25	0-N30E, N20W	200 AG
AK40	digital flight lines	Chulitna	10/96	0.25	EW	200 AG
AK50	digital flight lines	Iron Creek	1997	1.25	N-S	200 AG
AK31	digital flight lines	southeast Bethel basin	94	0.5	NW-SE	300 AG
AK11	digitized	Talkeetna-Anchorage	72	0.75	N-S	1000 AG
COOK	digitized	Cook Inlet	57, 58	2?	E-W?	2500 B

*B = Barometric altitude, AG = Above ground.

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2A** – list of magnetic domains (figure 12). Table includes: **domain** – domain number corresponding to the map labels (figure 12); **regional domain** – the regional domain within which the domain lies (table 2B); **hi/lo/both** – type of anomaly associated with domain [hi(H)=positive, lo(L)=negative, both(B)=domain contains highs and lows]; **scale** – scale of feature (Regional, Intermediate, Local – see text for definition of scales); **trend** - trend of feature in map view; **fabric** – trend of geophysical fabric internal to domain; **domain definition** – geophysical character of domain; **geologic province** – geologic units associated with domain; **inferred source** – inferred source of geophysical anomaly; **references** – geologic and geophysical references pertaining to domain or associated rock units. Abbreviations used: compass directions (e.g., N, SE, WNW…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M1	MR2	H	L			Pronounced circular magnetic high. Located over a gravity high region (GR2).	Located over K granitic rocks.	Magnetic intrusive rocks.	
M2	MR3	H	L	WNW		Moderate ESE-trending elongated magnetic high. Corresponds with anomaly 6 of Campbell and Nokleberg (1997).	Largely covered by Q sediments, but located over Pz metavolcanic, and some K granitic rocks.	May be due to moderately magnetic volcanic or intrusive rocks.	Campbell and Nokleberg (1997)
M3	MR4	H	I			Moderate magnetic high. Corresponds with moderate gravity high (G2).	Largely covered by Q sediments. Occurs over outcrops of Pz granitic gneiss, schist, and metavolcanic rocks and T sedimentary rocks.	May be due to moderately magnetic granitic or volcanic rocks.	
M4	MR3	H	L	WNW		Moderate ESE-trending elongated magnetic high. Corresponds with anomaly 7 of Campbell and Nokleberg (1997).	Corresponds with Mount Skarland metagabbro pluton (Campbell and Nokleberg, 1997).	Moderately magnetic intrusive rocks.	Campbell and Nokleberg (1997)
M5	MR2	H	L			Moderate magnetic high. Located over a moderate gravity high region (GR1).	Located over K sedimentary rocks. Occurs near outcrops of Tr basaltic, and T granitic rocks.	May be due to concealed magnetic volcanic or intrusive rocks.	
M6	MR2	H	L	NE		Moderate magnetic high.	Located over K sedimentary rocks and some outcrops of Tr basalts.	May be due to moderately magnetic volcanic rocks.	
M7	MR3	H	L	NE		Moderate NE-trending elongated magnetic high. Located at edge of a regional NE-trending gravity low.	Located over Pz metasedimentary and metavolcanic rocks.	May be due to moderately magnetic volcanic rocks.	
M8	MR3	H	L			Moderate magnetic high. Located over a gravity low region.	Largely covered. Occurs over some outcrops of granitic rocks.	May be due to moderately magnetic igneous rocks.	
M9	MR3	H	L	E		Moderate E-trending elongated magnetic high. Corresponds with anomaly 13 of Campbell and Nokleberg (1997). Located over a gravity low region.	Largely covered. Occurs over some outcrops of Tr sedimentary rocks and K mafic intrusive rocks.	May be due to magnetic mafic igneous rocks.	Campbell and Nokleberg (1997)
M10	MR3	H	L	WNW		Moderate ESE-trending elongated magnetic high. Corresponds with anomaly 12 of Campbell and Nokleberg (1997). Domains M10A, B correspond with moderate gravity high (G3).	Occurs over some outcrops of Tr sedimentary rocks and T-K intrusive rocks. Corresponds with Aurora Peak body of Campbell and Nokleberg (1997).	Magnetic intrusive rocks.	Campbell and Nokleberg (1997)
M11	MR1	H	L			Moderate magnetic high. Located over a moderate gravity high region (GR1).	Located over Cz-Pz deep-marine facies and Tr basalts.	May be due to moderately magnetic volcanic rocks.	
M12	MR5	H	L	NE		NE-trending moderate magnetic high. Located at edge of NE-trending regional gravity low.	Located over outcrops of Tr sedimentary, K melange, T intrusive, K sedimentary, and T granitic rocks.	May be due to magnetic mafic and ultramafic rocks of the melange unit.	
M13	MR5	L	L	NE		NE-trending elongated magnetic low.	Located over T granitic, and Tr sedimentary rocks.	May be due to weakly or non-magnetic sedimentary or plutonic rocks.	
M14	MR5	L	L			Irregular-shaped magnetic low.	Located over T granitic, and Tr sedimentary rocks.	May be due to weakly or non-magnetic sedimentary or plutonic rocks.	
M15	MR5	H	L			Small circular moderate magnetic high.	Located over T granitic, and Tr sedimentary rocks.	May be due to moderately magnetic granitic rocks.	
M16	MR5	H	L	NE		NE-trending magnetic high. Corresponds with body C of Clautice et al. (2001). Located at edge of NE-trending regional gravity low.	Corresponds with outcrops of serpentinite (Clautice et al., 2001).	Strongly magnetic serpentinite.	Clautice et al. (2001)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M17	MR5	H	L			Moderate magnetic high. Located over a gravity low region (GR3).	Located over Q sediments.	Buried source. Possibly due to magnetic intrusive rocks.	
M18	MR5	H	L	NE		Moderate, NE-trending, elongated magnetic high. Corresponds with anomaly 14 of Campbell and Nokleberg (1997). Located over a gravity low region (GR4).	Occurs over Q sediments, Mz metamorphic rocks, and T granitic rocks. Corresponds with East Fork body of Campbell and Nokleberg (1997).	May be due to moderately magnetic plutonic rocks.	Campbell and Nokleberg (1997)
M19	MR7	H	L	NW		NW-trending elongate moderate magnetic high. Located between gravity highs and lows (GR8 and GR4 respectively).	Triassic Eureka Creek intrusive complex.	Magnetic mafic and ultramafic rocks.	
M20	MR7	H	L	NW		NW-trending elongate magnetic high. Corresponds with anomaly 17 of Campbell and Nokleberg (1997). Located over a moderate gravity high.	Triassic Rainey intrusive complex.	Magnetic mafic and ultramafic rocks.	Campbell and Nokleberg (1997)
M21	MR7	H	L	NW		Prominent NW-trending magnetic high. Corresponds with anomaly 18 of Campbell and Nokleberg (1997). Associated with a gravity high (G8).	Triassic Canwell intrusive complex. Corresponds with Gakona Glacier body of Campbell and Nokleberg (1997).	Magnetic mafic and ultramafic rocks.	Campbell and Nokleberg (1997)
M22	MR5	H	L	NE		Prominent NE-trending magnetic high. Corresponds with Clautice et al. (2001) anomaly A. Corresponds with gravity high (G9).	Corresponds with outcrops of basalt and basaltic tuff.	Strongly magnetic mafic volcanic rocks.	Clautice et al. (2001); Pritchard (1997)
M23	MR5	H	L			Small circular moderate magnetic high. Located over a gravity low region.	Located over Q sediments.	Buried source. Possibly due to magnetic intrusive rocks.	
M24	MR5	H	L	ENE		ENE-trending, elongated magnetic high. Located over a gravity low region (GR3).	Correlates with outcrops of T and K granitic rocks.	Magnetic intrusive rocks.	
M25	MR5	H	L			Moderate magnetic high. Located at edge of gravity high (GR6).	Located over K metamorphic and K and T granitic rocks.	May be due to magnetic intrusive rocks.	
M26	MR7	H	I	NW	NW	NW-trending magnetic high region consisting of several prominent NW-tending anomalies. Corresponds with part of Tangle subterrane of Barnes and Csejtey (1985). Domains M26E,F correspond with anomaly 16 of Campbell and Nokleberg (1997). Located over a prominent gravity high (G7, G12, GR8).	Corresponds with outcrops of Tr mafic and ultramafic rocks (basalts, gabbros, dunites) associated with the Nikolai flood basalt province. Domains M26E and M26F correspond with the Fish Lake and Tangle Lakes layered ultramafic intrusive complexes respectively.	Magnetic mafic and ultramafic rocks.	Barnes and Csejtey (1985); Campbell and Nokleberg (1997); Sanger et al. (2002)
M27	MR7	L	I	NW		NW-trending magnetic low.	Located largely over Q sediments. Includes outcrops of T sedimentary, Tr Nikolai basalts, Tr gabbroic, Mz ultramafic, and Pz sedimentary and volcanic rocks	Thick section of weakly to non-magnetic sedimentary rocks.	Campbell and Nokleberg (1997)
M28	MR7	H	L	NE		Small NW-elongate magnetic high. Corresponds with a local gravity low.	Covered by Q sediments and T sedimentary rocks.	Likely due to concealed magnetic mafic and ultramafic rocks.	
M29	MR7	H	L			Prominent arcuate magnetic high. Corresponds with anomaly 19 of Campbell and Nokleberg (1997). Corresponds with a local gravity low.	Largely covered by Q sediments. Occurs over some small outcrops of Tr gabbroic and K-J granitic rocks. Corresponds with Gunn Creek body of Campbell and Nokleberg (1997) they infer to be granodiorite.	Largely concealed magnetic mafic and perhaps ultramafic rocks.	Campbell and Nokleberg (1997)
M30	MR5	H	L			Prominent circular magnetic high located over a moderate to low gravity region. Corresponds with Csejtey & Griscom (1978) anomaly 2c. Located over a moderate gravity high (GR5).	Correlates closely with outcrop of T granitic rocks.	Magnetic intrusive rocks.	Csejtey and Griscom (1978)
M31	MR6	H	L	NE		Prominent NE-trending magnetic high. Corresponds with gravity high region. Located over a gravity high region (G14, GR6).	Located over outcrops of Tr Nikolai basalts.	Magnetic mafic and ultramafic rocks.	
M32	MR6	H	L			Moderate magnetic high.	Located over Q sediments, and near outcrops of Tr Nikolai basalts, Pz volcanic, and Pz sedimentary rocks.	May be due to concealed magnetic volcanic rocks.	

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M33	MR6	H	I	E		EW-elongated magnetic high. Corresponds with a gravity high (G9). Partly coincides with prominent gravity high (G11, GR6).	Located over mafic and ultramafic rocks including Tr Nikolai basalts.	Magnetic mafic and ultramafic rocks.	
M34	MR8	H	L			Small moderate magnetic high.	Located over Q sediments.	Likely due to magnetic mafic or ultramafic extrusive or intrusive rocks associated with the Tangle Lakes body (M35F).	
M35	MR5	L	L			Magnetic low. Corresponds with Griscom (1979) anomaly Vr. Located over a moderate gravity high region (G9).	Located over Tr limestone and basalt, J and Tr tuff and sedimentary rocks, K flysch, and T and K granitic rocks.	Likely reflects reversely magnetized volcanic rocks.	Griscom (1979)
M36	MR5	H	L			Moderate magnetic high. Corresponds with Csejtey & Griscom (1978) anomaly V. Located over a moderate gravity high region.	Located over J and Tr tuff and sedimentary rocks, K flysch, and T and K granitic rocks.	May be due to moderately magnetic volcanic or intrusive rocks.	Csejtey and Griscom (1978)
M37	MR6	H	L			Prominent circular magnetic high. Corresponds with part of Csejtey & Griscom (1978) anomaly 18. Located over a gravity high region (GR6).	Located over outcrops of Tr Nikolai basalts.	Dense, magnetic mafic and ultramafic rocks.	Csejtey and Griscom (1978)
M38	MR6	H	L			Prominent magnetic high associated with prominent gravity high (G14). Corresponds with part of anomaly 18 of Csejtey and Griscom (1978).	Located over outcrops of Tr Nikolai basalts.	Dense and magnetic mafic and ultramafic rocks. Likely buried intrusive equivalents of Nikolai rocks.	Csejtey and Griscom (1978)
M39		H	L			Circular magnetic high.	Located over Q alluvial deposits.	May be due to magnetic volcanic or intrusive rocks.	
M40		H	L			Circular magnetic high.	Located over Q alluvial deposits.	May be due to magnetic volcanic or intrusive rocks.	
M41	MR8	H	L			Moderate isolated circular magnetic high. Located over a gravity low region (G15, GR7).	Located over Q sediments.	May be due to concealed magnetic mafic volcanic or intrusive rocks.	
M42	MR8	L	I	E		EW-trending magnetic low. Located over a gravity low (GR10).	Located mostly over Q sediments, but occurs over some outcrops of MZ and Pz metaplutonic rocks.	Likely due to weakly magnetic, low density sedimentary rocks.	
M43	MR8	H	I			Prominent magnetic high. Corresponds with part of "Upper Tangle Lakes high" of Campbell and Nokleberg (1986). Coincides with a gravity low (G17, GR7).	Located over Q sediments.	May be due to concealed magnetic mafic and/or ultramafic rocks.	Campbell and Nokleberg (1986)
M44	MR8	H	I	WNW		WNW-elongate moderate magnetic high. Lies between gravity high and low (G18 and G17, respectively).	Largely covered by Q sediments. Occurs over some small outcrops of Pz metasedimentary and metavolcanic rocks.	May be due to magnetic metavolcanic or concealed mafic rocks.	
M45	MR8	H	L			Circular magnetic high. Located on flank of prominent gravity high (G27).	Located over Q sediments. Occurs near and in-line with trend of outcrops of J mafic and ultramafic rocks.	May be due to concealed magnetic mafic and ultramafic rocks.	
M46	MR8	H	L			Circular magnetic high. Located on flank of prominent gravity high (G27).	Largely covered with Q sediments. Occurs over some outcrops of J mafic and ultramafic, J metagranitic, and Pz metavolcanic and metasedimentary rocks.	May be due to largely concealed magnetic mafic and ultramafic rocks.	
M47	MR8	H	I	NW		Irregular-shaped moderate magnetic high containing some prominent highs. Corresponds with part of "Excelsior Creek anomalies" of Andreasen et al. (1964). Corresponds with gravity high (G20, GR8).	Largely covered by Q sediments. Occurs over some small outcrops of Tr Nikolai basalts.	Largely concealed magnetic mafic volcanic and perhaps associated intrusive rocks.	Andreasen et al. (1964)
M48	MR5	L	L			Moderate magnetic low. Corresponds with Griscom (1979) anomaly Mr. Located over a moderate gravity high region (GR9).	Located over K flysch and granitic rocks.	Believed to be caused by reversely magnetized contact metamorphosed rocks (Griscom, 1979).	Griscom (1979)
M49	MR5	L	L	NE		Moderate magnetic low. Corresponds with Griscom (1979) anomaly Mr. Located over a moderate gravity high region (GR9).	Located over K flysch and T and K granitic rocks.	Believed to be caused by reversely magnetized contact metamorphosed rocks (Griscom, 1979).	Griscom (1979)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M50	MR5	L	L			Moderate magnetic low. Corresponds with Griscom (1979) anomaly Mr. Located over a moderate gravity high region (GR9).	Located over K flysch, and T granitic rocks.	Believed to be caused by reversely magnetized contact metamorphosed rocks (Griscom, 1979).	Griscom (1979)
M51	MR5	H	L			Small, isolated circular magnetic high. Located over a moderate gravity high (GR5).	Located over T granodioritic rock.	Magnetic intrusive rocks.	
M52	MR6	H	I	NE		NE-trending prominent magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 18. Corresponds with gravity high region (e.g., G23, G24, GR6).	Located over outcrops of Triassic Nikolai basalts.	Magnetic mafic and ultramafic rocks. Likely due to buried intrusive equivalents of Nikolai rocks.	Csejtey and Griscom (1978); Campbell (1987)
M53	MR11	H	I			Moderate irregular magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 19. Located over a local gravity low (between domains GR6 and GR11).	Located over outcrops of K granitic rocks.	Likely due to magnetic granitic rocks.	Csejtey and Griscom (1978)
M54	MR8	L	L	E		EW-elongate magnetic low.	Located over Q sediments. Occurs along the MacLauren River.	May be due to thick sedimentary overburden and weakly magnetic basement rocks (Pz and Mz metamorphic rocks).	
M55	MR8	H	I	E		Narrow EW-trending band of magnetic highs. Corresponds with part of "Maclaren-Gulkana anomalies" of Andreasen et al. (1964), and with "Media high" of Campbell and Nokleberg (1986). Lies at edge of prominent gravity high (G27).	Largely covered by Q sediments. Located over some J mafic and ultramafic rocks.	Magnetic mafic igneous rocks.	Andreasen et al. (1964); Campbell and Nokleberg (1986)
M56	MR9	H	L			Circular magnetic high. Located over a moderate gravity high.	Largely covered with Q sediments. Occurs over small outcrop of J mafic and ultramafic rocks.	May be due to largely concealed magnetic mafic and ultramafic rocks.	
M57	MR5	H	L	NE		NE-trending moderate magnetic high. Corresponds with Csejtey & Griscom (1978) anomaly 4d. Located over a gravity low (G21).	Located over T granitic and some T volcanic rocks.	May be due to moderately magnetic volcanic or intrusive rocks. Inferred (Csejtey & Griscom, 1978) to be due to volcanic dikes or plugs.	Csejtey and Griscom (1978)
M58	MR5	H	I			Irregular shaped magnetic high containing several smaller prominent magnetic highs. Corresponds with Csejtey & Griscom (1978) anomalies 2b, 4a. Located over a moderate gravity high (GR5).	Located over T granitic, granodioritic, sedimentary, and volcanic rocks.	Likely due to magnetic mafic to felsic volcanic and/or plutonic rocks.	Csejtey and Griscom (1978)
M59	MR8	H	L			Prominent magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 4a. Corresponds with gravity high (G22, GR6).	Located over outcrops of T basaltic and granitic rocks.	Believed to be due to magnetic mafic T volcanic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M60	MR11	H	L	NE		NE-trending elongate magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 17. Located over a gravity high region (GR6).	Largely occurs over Q sediments. Occurs near outcrops of Nikolai basalts.	Likely due to magnetic mafic and ultramafic volcanic and intrusive rocks.	Csejtey and Griscom (1978)
M61	MR11	H	L			Circular moderate magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 17. Located over a gravity high region (G23, GR6).	Corresponds with outcrop of Nikolai basalts.	Magnetic mafic volcanic and perhaps intrusive rocks associated with Nikolai basalts.	Csejtey and Griscom (1978)
M62	MR11	H	L			Moderate circular magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 20c. Located over a local gravity low (between domains GR6 and GR11).	Located over outcrops of gabbroic rocks.	Likely due to magnetic gabbroic rocks. Suggested (Csejtey and Griscom, 1978) to be associated with nearby outcrops of trondhjemite.	Csejtey and Griscom (1978)
M63	MR13	H	L	E		EW-elongate magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 24f. Located over a gravity high region (G25).	Located over outcrops of metasedimentary and metavolcanic rocks.	Believed to be due to concealed magnetic plutonic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M64		H	I			Irregular magnetic high containing two distinct highs. Corresponds with Csejtey and Griscom (1978) anomaly 24g.	Located over Q sediments and near outcrops of metasedimentary and metavolcanic rocks.	Believed to be due to concealed magnetic plutonic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M65	MR12	H	L	E		EW-elongate moderate magnetic high.	Largely covered by Q sediments, but includes several small outcrops of Mz and Pz metaplutonic rocks.	Likely due to moderately magnetic plutonic rocks.	
M66	MR11	H	I	E		EW-trending band of magnetic highs including several prominent highs. Corresponds with part of "Maclaren-Gulkana anomalies" of Andreasen et al. (1964). Largely located at edge of a gravity high (G27).	Largely covered by Q sediments, but corresponds with outcrops of Pz metasedimentary and metavolcanic, and some J mafic and ultramafic rocks.	Likely due to magnetic mafic and ultramafic volcanic and intrusive rocks.	Andreasen et al. (1964)
M67	MR12	H	L	E		Subdued EW-trending magnetic high. Corresponds with part of "Maclaren-Gulkana anomalies" of Andreasen et al. (1964), and "Alphabet Hills high" of Campbell and Nokleberg (1986).	Located over Q sediments, but occurs near several small outcrops of Mz and Pz metaplutonic rocks.	May be due to moderately magnetic plutonic rocks.	Campbell and Nokleberg (1986)
M68	MR5	L	L			Moderate magnetic low. Corresponds with Griscom (1979) anomaly Mr. Located over a gravity low region.	Located mostly over K flysch.	Believed to be caused by reversely magnetized contact metamorphosed rocks (Griscom, 1979).	Griscom (1979)
M69	MR5	H	I	NE		Moderate NE-trending elongate magnetic high. Corresponds with Csejtey & Griscom (1978) anomaly 6, and "axis of broad deep high" of Griscom (1979). Domain M69A corresponds with Griscom (1979) anomaly M. Located over a gravity low (e.g., GR10).	Located mostly over Q alluvial deposits, and some K flysch deposits.	Domain M69A believed to be caused by magnetic contact metamorphosed rocks (Griscom, 1979).	Csejtey and Griscom (1978); Griscom (1979)
M70	MR6	H	L			Prominent magnetic high. Corresponds with Csejtey and Griscom (1978) anomalies 5, 21. Located over a gravity high region (GR6).	Located mostly over Q sediments and Pz volcanic, volcaniclastic, and sedimentary rocks. Occurs near some small outcrops of T granitic rocks.	Believed to be due to magnetic mafic volcanic or intrusive rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978); Pritchard (1998)
M71	MR13	H	L			Magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 24e. Located over a gravity high region (G25).	Located over outcrops of J granodioritic rocks.	Believed to be due to magnetic plutonic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M72	MR13	H	L			Circular magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 24e. Located over a gravity high region (G25).	Located over outcrops of J granodioritic rocks.	Believed to be due to magnetic plutonic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M73	MR13	H	L	E		EW-elongate prominent magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 27, and part of "West Fork feature" of Andreasen et al. (1964).	Located over Q sediments.	May be due to concealed magnetic intrusive rocks. Believed to be mafic diorites or gabbros (Csejtey and Griscom, 1978).	Andreasen et al. (1964); Csejtey and Griscom (1978)
M74	MR14	H	I	E		Prominent EW-trending magnetic high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964), and of Campbell and Nokleberg (1986). Corresponds with gravity high (G31).	Located over Q sediments.	Likely due to dense magnetic concealed intrusive rocks.	Andreasen et al. (1964); Campbell and Nokleberg (1986)
M75		H	I	WNW		WNW-trending moderate magnetic high that lies at edge of WNW-trending belt of strong magnetic highs (M87). Corresponds with a local gravity low.	Located over Q alluvial deposits.	May be due to shallow buried magnetic basement rocks (Pz and Mz metamorphic rocks).	
M76	MR5	L	L	NE		NE-trending narrow magnetic low. Corresponds with anomaly 3a of Csejtey and Griscom (1978), and Mr6 of Griscom (1979).	Occurs largely over J-K flysch deposits, but also near outcrops of T granitic rocks.	Believed to be caused by reversely magnetized contact metamorphosed rocks (Csejtey and Griscom 1978; Griscom, 1979) perhaps formed by heating from nearby intrusive rocks.	Csejtey and Griscom (1978); Griscom (1979)
M77	MR6	H	L			Irregular-shaped magnetic high. Corresponds with Csejtey and Griscom (1978) anomalies 20a, 15b.	Located over outcrops of T volcanic rocks and a small outcrop of granodiorite.	May be due to magnetic intrusive or volcanic rocks.	Csejtey and Griscom (1978); Pritchard (1998)
M78	MR11	H	L			Circular magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 15b.	Located over Q sediments.	May be due to concealed magnetic volcanic or intrusive rocks.	Csejtey and Griscom (1978); Pritchard (1998)
M79	MR11	H	L	NE		NE-elongate prominent magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 20b, and Pritchard (1998) anomaly M1.	Correlates with outcrop of T granodiorite.	Likely due to magnetic intrusive rocks.	Csejtey and Griscom (1978); Pritchard (1998)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M80	MR21	L	L	NE		Prominent NE-trending narrow magnetic low. Corresponds with part of Csejtey and Griscom (1978) anomaly 25.	Corresponds with outcrops of J trondhjemite.	Weakly to non-magnetic plutonic rocks.	Csejtey and Griscom (1978)
M81	MR13	H	L			Prominent magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 26.	Located over Q sediments.	May be due to concealed magnetic intrusive rocks. Believed to be due to granodiorite like that exposed ~ 30km to the SW (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M82	MR15	H	L	E		EW-elongate prominent magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 26, and part of "Tyone Creek anomalies" of Andreasen et al. (1964).	Located over Q sediments.	Likely due to concealed magnetic intrusive rocks.	Andreasen et al. (1964); Csejtey and Griscom (1978)
M83	MR15	H	L			Prominent magnetic high. Part of "Tyone Creek anomalies" of Andreasen et al. (1964).	Located over K-J granitic, and Mz and Pz Talkeetna arc rocks.	Magnetic volcanic and possibly intrusive rocks.	Andreasen et al. (1964)
M84	MR15	H	L			Prominent magnetic high. Corresponds with part of "Tyone Creek anomalies" of Andreasen et al. (1964).	Located mostly over Q sediments, but includes several small outcrops of J-Tr Talkeetna Fm (which includes volcanic arc rocks).	Likely due to concealed magnetic intrusive rocks.	Andreasen et al. (1964)
M85	MR16	L	I	NW		NW-elongate narrow magnetic low. Corresponds with "North Tyone Low", and part of "Tyone Creek anomalies" of Andreasen et al. (1964). Correlates with gravity low (G30).	Located mostly over Q sediments.	May be due to concealed weakly (or reversely) magnetic plutonic or sedimentary rocks.	Andreasen et al. (1964)
M86	MR14	H	I	E		Prominent EW-trending magnetic high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964), and of Campbell and Nokleberg (1986).	Located over Q sediments.	Likely due to magnetic concealed intrusive rocks.	Andreasen et al. (1964); Campbell and Nokleberg (1986)
M87	MR14	H	L	WNW		Prominent WNW-trending magnetic high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964), and of Campbell and Nokleberg (1986). Corresponds with gravity high (G32).	Located over Q sediments.	Likely due to magnetic concealed intrusive rocks.	Andreasen et al. (1964); Campbell and Nokleberg (1986)
M88	MR5	H	L			Magnetic high. Corresponds with Griscom (1979) anomaly Pc.	Located over Q alluvial deposits.	Believed to be caused by buried magnetic plutonic rocks (Griscom, 1979).	Grantz et al. (1963); Griscom (1979)
M89	MR5	H	I	NE		NE-trending irregular-shaped moderate magnetic high containing some prominent highs. Corresponds with Csejtey and Griscom (1978) anomaly 7. Located over a local moderate gravity high region.	Located over T granitic and a small outcrop of T volcanic rocks.	Believed to be due to moderately magnetic plutonic rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M90	MR6	H	I			Prominent irregular-shaped magnetic high. Domain M90A corresponds with Pritchard (1998) feature B. Located over a prominent gravity high region (G29, G35, GR6, GR13).	Located over T volcanic, granitic, and Pz volcanic and sedimentary rocks.	May be due to concealed magnetic mafic and ultramafic rocks associated with the Nikoali greenstone.	Pritchard (1998)
M91	MR11	H	L	E		EW-elongate moderate magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 15a.	Located over outcrops of T volcanic rocks.	Likely due to magnetic mafic volcanic rocks.	Csejtey and Griscom (1978)
M92	MR13	H	I			Irregular-shaped prominent magnetic high. Includes Csejtey and Griscom (1978) anomalies 24a-d. Domain M92B corresponds with Csejtey and Griscom (1978) anomaly 24d. Domain M92C corresponds with Csejtey and Griscom (1978) anomaly 24c. Corresponds with a prominent gravity high (G37).	Corresponds with outcrops of J granodiorite.	Magnetic plutonic rocks.	Csejtey and Griscom (1978)
M93	MR15	H	L			Prominent magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 29a.	Located over Q sediments. Occurs near J-Tr Talkeetna arc rocks.	Likely due to concealed strongly magnetic J-Tr mafic volcanic and associated intrusive rocks.	Csejtey and Griscom (1978)
M94	MR15	H	I	E		Prominent EW-elongate magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 26, and part of "Tyone Creek anomalies" of Andreasen et al. (1964).	Located over Q sediments, and some small outcrops of J-Tr Talkeetna arc rocks.	Likely due to concealed strongly magnetic J-Tr mafic volcanic and associate intrusive rocks.	Andreasen et al. (1964); Csejtey and Griscom (1978)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M95	MR16	L	L	E		EW-elongate magnetic low. Corresponds with part of "Tyone Creek anomalies", and "Copper River Basin anomaly" of Andreasen et al. (1964). Corresponds with a gravity high region.	Located over Q sediments.	May be due to concealed weakly (or reversely) magnetic plutonic (or sedimentary) rocks.	Andreasen et al. (1964)
M96	MR5	L	L			Prominent circular magnetic low. Corresponds with Csejtey and Griscom (1978) anomaly 9, and part of Griscom (1979) anomaly Vrc. Located over a regional gravity low.	Located mostly over Q alluvial deposits. Occurs near small outcrops of T-K granitic rocks.	May be due to reversely magnetized plutonic rocks. Believed to be caused by buried reversely magnetized volcanic rocks (Griscom, 1979).	Csejtey and Griscom (1978); Hackett (1978b); Griscom (1979)
M97		L	L	NE		NE-elongate magnetic low. Located over a regional gravity low.	Located over T volcanic and granitic rocks.	May be due to weakly or reversely magnetized volcanic or plutonic rocks.	Hackett (1978b)
M98		H	L	NW		NW-elongate prominent magnetic high.	Located over T granitic and Pz volcanic and sedimentary rocks.	May be due to magnetic volcanic rocks or possibly intrusive rocks.	Pritchard (1998)
M99		L	L	E		EW-elongate prominent magnetic low.	Located over Q sediments, T granitic and Pz volcanic and sedimentary rocks.	May be due to weakly or reversely magnetized volcanic or plutonic rocks.	Pritchard (1998)
M100	MR11	H	L			Small moderate magnetic high.	Located over Pz volcanic and sedimentary, and some T volcanic rocks.	May be due to moderately magnetic volcanic rocks.	
M101	MR21	L	L			Prominent magnetic low. Corresponds with part of Csejtey and Griscom (1978) anomaly 25.	Located over J trondhjemite.	Weakly to non-magnetic intrusive rocks.	Csejtey and Griscom (1978)
M102	MR19	L	L	NE		NE-elongate magnetic low.	Located over Q sediments, and Pz volcanic and sedimentary rocks.	May be due to reversely magnetized volcanic rocks.	
M103	MR19	H	L			Prominent magnetic high.	Located over T-K granitic and Pz volcanic and sedimentary rocks.	May be due to magnetic volcanic rocks or possibly intrusive rocks.	
M104	MR21	L	L	NS		NS-elongate magnetic low.	Located over T volcanic rocks. Aligned along Talkeetna River.	May be due to reversely magnetized volcanic rocks.	
M105	MR24	H	I			Prominent large irregular magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 28, and part of "Tyone Creek anomalies" of Andreasen et al. (1964). Domain M105B corresponds with Csejtey and Griscom (1978) anomaly 29b. Located over edge of a gravity high (GR11) and borders a gravity low (GR15).	Located over outcrops of Cz and Mz sedimentary, and J-Tr Talkeetna arc rocks.	Likely due to strongly magnetic J-Tr mafic volcanic and associate intrusive rocks.	Andreasen et al. (1964); Csejtey and Griscom (1978)
M106	MR25	H	I			Prominent long wavelength magnetic high. Corresponds with part of "Copper River Basin anomaly" of Andreasen et al. (1964), and magnetic feature VII of Griscom and Case (1982). Located over a gravity low (GR15).	Located over Q sediments.	Deeply buried source (perhaps at depths of ~10mi, Andreasen et al., 1964) of magnetic volcanic or plutonic rocks.	Andreasen et al. (1964); Griscom and Case (1982)
M107	MR25	H	R			Large prominent magnetic high. Corresponds with part of "Copper River Basin anomaly" of Andreasen et al. (1964). Located over a gravity low (GR15).	Located over Q sediments.	Deeply buried source (perhaps at depths of ~10mi, Andreasen et al., 1964) of magnetic volcanic or plutonic rocks.	Andreasen et al. (1964)
M108	MR18	H	L			Prominent circular magnetic high. Corresponds with Griscom (1979) anomaly Pc.	Located over Q alluvial deposits.	Believed to be caused by buried magnetic plutonic rocks (Griscom, 1979).	Griscom (1979)
M109	MR18	H	I			Irregular shaped prominent magnetic high. Corresponds with part of Griscom (1979) anomaly Vc2. Also includes several small anomalies Vrc, and Pc of Griscom (1979).	Located over Q alluvial deposits.	Believed to be caused by buried magnetic plutonic and reversely magnetized volcanic rocks (Griscom, 1979).	Griscom (1979); Hackett (1978b)
M110		H	L	NE		NE-elongate prominent magnetic high.	Located mostly over Q alluvial deposits. Occurs over some outcrops of T granitic rocks.	Likely due to concealed magnetic intrusive rocks.	Hackett (1978b)
M111	MR19	H	I	NE		Prominent NE-trending magnetic high.	Located over T granitic and Pz volcanic and sedimentary rocks.	Magnetic volcanic or intrusive rocks.	Hackett (1978b)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M112	MR19	H	L			Circular magnetic high.	Located over T granitic and Pz volcanic and sedimentary rocks.	Magnetic volcanic or intrusive rocks.	Hackett (1978b)
M113	MR19	L	L			Small oval magnetic low. Corresponds with a gravity high (G11).	Located over Pz volcanic and sedimentary rocks.	May be due to reversely magnetized volcanic rocks.	
M114	MR19	H	L	NE		NE-elongate magnetic high.	Located over T-K granitic and Pz volcanic and sedimentary rocks.	May be due to magnetic volcanic rocks or possibly intrusive rocks.	
M115	MR20	H	I			Irregular-shaped magnetic high containing several prominent highs. Domain M115B corresponds with Csejtey and Griscom (1978) anomaly 14. Largely corresponds with gravity high (G42).	Located over granitic, T volcanic, J granodioritic and Pz metamorphic rocks.	Magnetic volcanic and/or plutonic rocks.	Csejtey and Griscom (1978)
M116	MR22	H	L			Small circular magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 28.	Located over outcrops of J granitic, and J-Tr Talkeetna arc rocks.	May be due to magnetic granitic or volcanic rocks. Believed by Csejtey and Griscom (1978) to be due to mafic volcanic rocks.	Csejtey and Griscom (1978)
M117	MR22	H	L			Small magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 28.	Located over T volcanic rocks.	May be due to magnetic granitic or volcanic rocks. Believed by Csejtey and Griscom (1978) to be due to mafic volcanic rocks.	Csejtey and Griscom (1978)
M118	MR22	H	I			Prominent magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 28.	Located over outcrops of T volcanic rocks and J-Tr Talkeetna arc rocks.	Strongly magnetic T and J-Tr mafic volcanic and associate intrusive rocks.	Csejtey and Griscom (1978)
M119	MR24	H	I			Large prominent magnetic high. Corresponds with anomaly 33 of Csejtey and Griscom (1978)and part of "Copper River Basin anomaly" of Andreasen et al. (1964). Located at the edge of a gravity low (GR17).	Located over T and J sedimentary rocks and Q sediments	Believed to be due to concealed magnetic Talkeetna arc rocks (Csejtey and Griscom, 1978).	Andreasen et al. (1964); Csejtey and Griscom (1978)
M120	MR19	H	L	NE		Prominent NE-trending magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 11. Corresponds with gravity high (G29).	Located over Q alluvial deposits.	Likely due to concealed strongly magnetic intrusive rocks.	Csejtey and Griscom (1978); Hackett (1978a,b)
M121	MR18	H	L			Circular magnetic high.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Hackett (1978b)
M122	MR20	H	L	E		EW-elongated magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978)
M123	MR20	H	L			Small magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978)
M124	MR20	H	L			Small magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978)
M125	MR20	H	L			Small magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978)
M126	MR22	H	L	NE		NE-elongated magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 26.	Located over outcrops of J granitic rocks, J trondhjemite, J-Tr Talkeetna arc rocks, and T volcanic rocks.	May be due to magnetic granitic or volcanic rocks.	Csejtey and Griscom (1978)
M127	MR22	H	L			Small magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 31a.	Located over T volcanic rocks.	Magnetic volcanic rocks.	Csejtey and Griscom (1978)
M128		H	L			Small circular magnetic high. Included in Csejtey and Griscom (1978) anomaly 33.	Located over J sedimentary rocks and Q sediments.	Likely due to buried volcanic or intrusive rocks. Believed to be due to concealed magnetic Talkeetna arc rocks (Csejtey and Griscom, 1978).	Csejtey and Griscom (1978)
M129	MR18	H	I			Prominent magnetic high.	Located over Q alluvial deposits.	May be due to concealed magnetic volcanic or plutonic rocks.	

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M130		L	I	NW		NW-elongate magnetic low containing two prominent lows. Part of Burns and Winkler (1994) Anomaly 20a; part of Griscom (1979) anomaly Vrc	Located over Q alluvial deposits.	Believed to be caused by buried reversely magnetized volcanic rocks (Griscom, 1979).	Hackett (1978b); Griscom (1979); Burns and Winkler (1994)
M131	MR19	H	L	NE		Prominent NE-trending magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 11, and Burns and Winkler (1994) anomaly 19a.	Located mostly over Q alluvial deposits, and some T sedimentary rocks. Partly corresponds with K-J intrusive rocks (Grantz et al., 1963).	Likely due to concealed strongly magnetic intrusive rocks.	Csejtey and Griscom (1978); Hackett (1978b); Burns and Winkler (1994)
M132	MR19	H	L	NE		Prominent NE-trending magnetic high. Corresponds with Burns and Winkler (1994) anomaly 19a.	Located mostly over Q alluvial deposits, and some T-K granitic rocks.	Likely due to concealed strongly magnetic intrusive rocks.	Hackett (1978b); Burns and Winkler (1994)
M133	MR20	L	L			Large isolated magnetic low. Corresponds with part of Csejtey and Griscom (1978) anomaly 12, and part of Burns and Winkler (1994) anomaly 18.	Corresponds with outcrop of T-K granitic rocks.	Weakly to non-magnetic intrusive rocks.	Csejtey and Griscom (1978); Burns and Winkler (1994)
M134	MR20	H	L			Small magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13, and Burns and Winkler (1994) anomaly 20a.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978); Burns and Winkler (1994)
M135	MR20	H	L			Small magnetic high. Corresponds with Csejtey and Griscom (1978) anomaly 13, and Burns and Winkler (1994) anomaly 16a.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Csejtey and Griscom (1978); Burns and Winkler (1994)
M136	MR22	H	L	NE		NE-elongate magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 12.	Located over J granodioritic and T sedimentary, and Mz and Pz sedimentary and Talkeetna arc rocks.	May be due to magnetic volcanic or intrusive rocks.	Burns and Winkler (1994)
M137	MR22	H	L	NE		NE-elongate magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 12.	Located over J granodioritic and T sedimentary, J sedimentary, and Mz and Pz sedimentary and Talkeetna arc rocks.	May be due to magnetic volcanic or intrusive rocks.	Burns and Winkler (1994)
M138	MR22	H	L			Small circular magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 31a; part of Burns and Winkler (1994) anomaly 11.	Located over outcrops of T volcanic rocks.	Magnetic volcanic rocks.	Csejtey and Griscom (1978); Burns and Winkler (1994)
M139	MR22	H	L	E		EW-elongate prominent magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 31a.	Located over outcrops J-Tr Talkeetna arc, and T volcanic rocks.	Magnetic volcanic rocks.	Csejtey and Griscom (1978)
M140	MR22	H	L			Small magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 11.	Located over outcrops T volcanic, and J sedimentary rocks.	Magnetic volcanic rocks.	Burns and Winkler (1994)
M141	MR22	H	L	NE		NE-elongate magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 11.	Located over outcrops T volcanic, T intrusive, J sedimentary, and Mz and Pz Talkeetna arc rocks.	Magnetic volcanic or intrusive rocks.	Burns and Winkler (1994)
M142	MR26	H	L			Circular magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 6b.	Located over outcrops of T intrusive, and J and K sedimentary rocks.	Magnetic intrusive rocks.	Burns and Winkler (1994)
M143	MR23	H	L			Circular magnetic high. Corresponds with part of Csejtey and Griscom (1978) anomaly 31a.	Located over T volcanic rocks.	Magnetic volcanic rocks.	Csejtey and Griscom (1978)
M144	MR26	H	L	E		EW-elongate magnetic high. Corresponds with part of anomalies 8c, 6b of Burns and Winkler (1994).	Located mostly over outcrops of Mz and Pz Talkeetna arc rocks, but also outcrops of T volcanic, J sedimentary, K sedimentary rocks.	Magnetic volcanic rocks.	Burns and Winkler (1994)
M145	MR26	H	L	E		EW-elongate magnetic high. Corresponds with anomaly 6d of Burns and Winkler (1994), and "Horn Mts. feature" of Andreasen et al. (1964).	Located over outcrops of Mz and Pz Talkeetna arc, and J and K sedimentary rocks.	Magnetic volcanic rocks.	Andreasen et al. (1964); Burns and Winkler (1994)
M146	MR26	L	L	E		EW-elongate magnetic low.	Largely covered by Q sediments, but includes some outcrops of K sedimentary rocks.	May be due to thick section of weakly to non-magnetic sedimentary rocks.	
M147	MR26	L	L	E		EW-elongate magnetic low.	Covered by Q sediments.	May be due to thick section of weakly to non-magnetic sedimentary rocks.	
M148	MR26	H	L			Moderate magnetic high. Part of "Durham Creek anomaly" of Andreasen et al. (1964).	Covered by Q sediments.	May be due to concealed magnetic volcanic rocks.	Andreasen et al. (1964); Case et al. (1986)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M149	MR26	L	L	E		EW-elongate magnetic low.	Covered by Q sediments.	May be due to thick section of weakly to non-magnetic sedimentary rocks.	
M150	MR18	H	I			Prominent magnetic high region. Part of "Mount Susitna anomaly group" of Grantz et al. (1963). Located largely over a gravity low (GR12). Southern part located over gravity high (GR16).	Located over Q alluvial deposits.	Believed to be caused by concealed magnetic volcanic, plutonic, and some metamorphic rocks (Grantz et al., 1963).	Grantz et al. (1963)
M151		H	L			Prominent magnetic high. Corresponds with Burns and Winkler (1994) anomaly 19b.	Located over Q alluvial deposits.	Believed to be due to buried magnetic T volcanic rocks (Burns and Winkler, 1994).	Hackett (1978b); Burns and Winkler (1994)
M152	MR20	L	L			Small magnetic low. Corresponds with part of Burns and Winkler (1994) anomaly 2a.	Located over T sedimentary rocks and nearby T-K granitic rocks.	May be due to concealed strongly magnetic intrusive rocks.	Hackett (1978b); Burns and Winkler (1994)
M153	MR20	H	I			Irregular shaped moderate magnetic high region. Corresponds with Burns and Winkler (1994) anomaly 16a.	Located over T-K granitic rocks.	Magnetic granitic rocks.	Burns and Winkler (1994)
M154	MR21	H	L			Circular magnetic high. Corresponds with Burns and Winkler (1994) anomaly 16b.	Located over outcrops of granitic rocks and J trondhjemite.	Magnetic granitic rocks.	Burns and Winkler (1994)
M155		L	L	NE		NE-elongate prominent magnetic low. Corresponds with part of Burns and Winkler (1994) anomaly 13. Located over a gravity high region (G46).	Located over J intermediate intrusive, and Mz and Pz sedimentary and Talkeetna arc rocks.	Likely due to reversely magnetized volcanic or intrusive rocks.	Burns and Winkler (1994)
M156	MR26	H	L	E		EW-elongate narrow magnetic high. Corresponds with part of anomaly 6b of Burns and Winkler (1994).	Located over T volcanic, T felsic to intermediate intrusive, J and K sedimentary, and Mz and Pz Talkeetna arc rocks.	Magnetic mafic volcanic and perhaps intrusive rocks.	Burns and Winkler (1994)
M157	MR26	H	L			Prominent magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 6b.	Located over outcrops of T intrusive, J sedimentary, and Mz and Pz Talkeetna arc rocks.	Magnetic volcanic or intrusive rocks.	Burns and Winkler (1994)
M158	MR26	H	L	NE		NE-trending prominent magnetic high. Corresponds with anomaly 6c of Burns and Winkler (1994). Corresponds with a gravity high (G47).	Located over K sedimentary, and Mz and Pz Talkeetna arc rocks.	Magnetic mafic volcanic and perhaps intrusive rocks.	Burns and Winkler (1994)
M159	MR26	H	I			NE-elongate magnetic high. Corresponds with anomaly 7d of Burns and Winkler (1994), and "Twin Lakes anomaly" of Andreasen et al. (1964).	Mostly covered by Q sediments. Located over some outcrops of Mz and Pz Talkeetna arc, and K sedimentary rocks.	Magnetic mafic volcanic and perhaps intrusive rocks.	Andreasen et al. (1964); Burns and Winkler (1994)
M160	MR26	L	L	NE		NE-trending magnetic low.	Mostly covered by Q sediments. Located over some outcrops of Mz and Pz Talkeetna arc, and K sedimentary rocks.	May be due to thick section of weakly to non-magnetic sedimentary rocks.	
M161	MR26	H	I	E		EW-trending magnetic high.	Occurs over outcrops of Mz and Pz Talkeetna arc, and J granitic and granodioritic rocks.	Moderately magnetic volcanic or intrusive rocks.	
M162	MR19	L	L	NE		NE-trending elongate magnetic low. Corresponds with part of Burns and Winkler (1994) anomaly 18.	Located over T-K granitic rocks.	Weakly to non-magnetic intrusive rocks.	Burns and Winkler (1994)
M163	MR21	H	L	NE		Prominent NE-elongate magnetic high. Corresponds with Burns and Winkler (1994) anomaly 16b. Domain lies near and parallel to Castle Mtn fault.	Located over Pz metasedimentary and metavolcanic, and T-K granitic rocks.	May be due to magnetic volcanic rocks.	Burns and Winkler (1994)
M164		H	L	E		EW-elongate magnetic high. Corresponds with Burns and Winkler (1994) anomalies 8b, 7g.	Located over T sedimentary, and mafic intrusive rocks.	Magnetic mafic intrusive rocks.	Burns and Winkler (1994)
M165	MR26	L	I	E		EW-elongate magnetic low. Corresponds with anomaly 9b of Burns and Winkler (1994).	Located mostly over T sedimentary rocks, but also over T felsic to mafic intrusive and minor volcanic rocks.	Thick section of weakly to non-magnetic sedimentary rocks.	Burns and Winkler (1994)
M166	MR26	H	L			Circular magnetic high. Corresponds with anomaly 7c of Burns and Winkler (1994).	Located over K sedimentary, and Mz and Pz Talkeetna arc, and small outcrop of mafic intrusive rocks.	Magnetic mafic volcanic and perhaps intrusive rocks.	Burns and Winkler (1994)
M167	MR27	H	L	NE		Small NE-elongate magnetic high. Corresponds with part of Burns and Winkler (1994) anomaly 7i.	Located over J schist and outcrops of K mafic and ultramafic rocks.	Magnetic mafic and ultramafic rocks.	Burns and Winkler (1994)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	fabric	domain definition	geologic province	inferred source	references
M168	MR28	H	I	E		EW-elongate magnetic high. Mostly corresponds with anomaly 5 (and parts of anomalies 8c, 6a) of Burns and Winkler (1994).	Located over T sedimentary, J granitic, and Mz and Pz Talkeetna arc rocks.	Magnetic mafic volcanic and intrusive rocks.	Burns and Winkler (1994)
M169	MR28	H	I	E	E	EW-trending prominent magnetic high containing several prominent highs. Corresponds with "Northern Chugach Mts. anomaly" of Andreasen et al. (1964) and Case et al. (1986). Corresponds with a gravity high (GR19).	Located over J-Tr Talkeetna arc and J mafic and ultramafic rocks. In the Border Ranges, feature correlates with mafic and ultramafic rocks (Case et al., 1986; Burns, 1982). In the Anchorage quadrangle feature correlates with diorites and tonalites.	Dense and magnetic mafic gabbros. Feature has been modeled by Burns (1982) as moderately south dipping on its southern edge, steeply north dipping on its northern edge, and having a total depth of 6km.	Andreasen et al. (1964); Burns (1982); Griscom and Case (1983), Case et al. (1986); Case et al. (1986); Burns and Winkler (1994)
M170	MR27	L	I			Pronounced magnetic low. Corresponds with Burns and Winkler (1994) anomaly 9a, and part of Grantz et al. (1963) magnetic anomaly pattern 7 (Cook Inlet pattern). Located over a gravity low (GR18). Northern edge lies along a gravity high (GR16).	Located over Q alluvial deposits.	Non-magnetic sedimentary rocks.	Grantz et al. (1963); Burns and Winkler (1994)
M171	MR29	H	L	NE		NE-trending elongate magnetic high. Corresponds with anomaly 1b of Burns and Winkler (1994).	Located over J mafic and ultramafic, and K leucotonalite and trondhjemite rocks.	Magnetic mafic and ultramafic rocks.	Burns and Winkler (1994)
M172		H	L			Prominent magnetic high.	Located over T granitic rocks.	Magnetic intrusive rocks.	
M173	MR27	H	L			Moderate narrow magnetic high.	Located over Q sediments, and near outcrops of T granitic rocks.	May be due to magnetic intrusive rocks.	
M174	MR28	H	I	NE	NE	NE-trending magnetic high containing several prominent NE-elongate highs. Domains M174C,D,E correspond with anomaly 2c of Burns and Winkler (1994); Domain M174B corresponds with anomaly 1a of Burns and Winkler (1994); Domain M174A corresponds with anomaly 2B of Burns and Winkler (1994).	In the Border Ranges, feature correlates with mafic and ultramafic rocks (Case et al., 1986; Burns 1982). In the Anchorage quadrangle feature correlates with diorites and tonalites.	Dense and magnetic mafic gabbros. Feature has been modeled by Burns (1982) as moderately south dipping on its southern edge, steeply north dipping on its northern edge, and having a total depth of 6km.	Grantz et al. (1963); Burns (1982); Griscom and Case (1983), Case et al. (1986); Burns and Winkler (1994); Saltus et al. (2001)
M175	MR29	H	L	NE		Small moderate NE-trending magnetic high.	Located over K oceanic tectonic melange.	May be due to faulted moderately magnetic melange rocks.	

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2B** provides a list of regional magnetic domains (figure 12). Table columns are as follows: **domain** – regional domain number corresponding to the map labels (figure 12); **hi/lo/both** – type of anomaly associated with domain [hi(H)=positive, lo(L)=negative, both(B)=domain contains highs and lows]; **fabric** – trend of geophysical fabric internal to domain; **domain definition** – geophysical character of domain; **geologic province** – geologic units overlying or associated with domain; **references** – geologic and geophysical references pertaining to domain or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

domain	hi/lo/ both	fabric	domain definition	geologic province	references
MR1	H		Moderate magnetic high distinguished from low magnetic domain to the south (MR5) by a northeast-trending magnetic gradient. Located primarily over Toklat gravity high domain (GR1) and gravity low G5. N-trending "streaking" of anomalies is an artifact of low data density.	Located over parts of Yukon-Tanana, Pingston, and McKinley terranes. Southern boundary coincides with McKinley strand of Denali Fault Zone.	
MR2	H	NE, NW	Domain of moderate magnetic expression. Southern boundary is defined by a subdued northeast-trending magnetic gradient. Character is similar to domains MR1 and MR3. Located over western part of Yanert Glacier moderate gravity high (GR2).	Located over parts of Pingston and McKinley terranes, between McKinley (to south) and Hines Creek (to north) strands of the Denali Fault Zone. Southern boundary coincides with McKinley strand.	
MR3	B	E	Domain of low to moderate magnetic expression. Southern boundary is defined by a east-trending magnetic gradient that corresponds with McKinley strand of the Denali Fault Zone (Campbell and Nokleberg, 1997; Barnes and Csejtey, 1985). Eastern boundary is defined by northwest-trending magnetic low and lineations (GRL1, MRL2, and MRL3). Located over eastern part of Yanert Glacier moderate gravity high (GR2).	Located over parts of Pingston and McKinley terranes, bounded by McKinley strand (to south) and Hines Creek (to north) strands of the Denali Fault Zone.	Barnes and Csejtey (1985); Campbell and Nokleberg (1997)
MR4	L		Domain of low to moderate magnetic expression. Southern boundary is defined by a northwest trending magnetic gradient that corresponds with McKinley strand of the Denali Fault Zone (Campbell and Nokleberg, 1997). Western boundary defined by northwest-trending magnetic low and magnetic lineations GRL1, MRL2, and MRL3. Located over small gravity high (G2) and lows (G1, G4).	Located over Yukon-Tanana terrane, northeast of Hines Creek strand of the the Denali Fault Zone.	Campbell and Nokleberg (1997)
MR5	L	NE	Regional magnetic low. Corresponds with Southern Alaska magnetic trough of Saltus et al. (1999c), and includes anomalies 1,4a-e,2a-c,3b-c of Csejtey and Griscom (1978); southwestern part described as "Kahiltna Pattern" by Grantz et al. (1963). Corresponds with a broad relative gravity low. Overlies the Denali Highway (GR3) and Susitna Glacier (GR4) gravity lows; but also the Tsusena (GR5), Tokositna (GR9), and Bunco-Byers Lake (GR10) gravity highs. E-trending linear fabric at western edge of domain (north of 63 degrees latitude) corresponds with a survey boundary and is an artifact of the survey merging process.	Occurs partly over Q and T sediments of the northern Susitna basin and Broad Pass. Northeastern part overlies Mz northern Talkeetna flysch basin and Maclaren terrane. Western part overlies Chulitna, terrane and late Mz Kahiltna flysch basin. Flysch deposits, their metamorphosed equivalents, and Paleocene intrusives derived from melting of flysch are all weakly magnetic. Bounded to north by McKinely Strand of Denali Fault zone, and to the southeast by Talkeetna Suture Zone. Approixmately equivalent to "Detritia" (Arth, 1994) - a region of initial strontium isotopic values intermediate between oceanic and continental crust.	Grantz et al. (1963); Csejtey and Griscom (1978); Saltus et al. (1999c)
MR6	H	NW	Strongly magnetic terrain consisting of several prominent northwest-trending magnetic highs and lows. Coincides with a prominent gravity high (particularly over western part of domain associated with the Fish Lake and Tangle Lakes intrusive complexes). Southwestern part corresponds with a prominent gravity high region (GR8). Northeastern part corresponds with moderate gravity high (G8).	Domain overlies several strongly magnetic, large layered mafic-ultramafic intrusive complexes (Fish Lake, Tangle Lakes, Rainy, Canwell) thought to represent roots and feeders to the Nikolai flood basalts. Part of the Wrangellia terrane.	

domain	hi/lo/ both	fabric	domain definition	geologic province	references
MR7	L	E	Regional magnetic low punctuated by several distinct magnetic highs (e.g., M43). Includes part of "Maclaren-Gulkana anomalies" of Andreasen et al. (1964). Largely coincides with Maclaren-Tangle gravity low (GR7).	Largely underlain by Q sediments. Located over metamorphosed volcanic and sedimentary of late Tr to Carboniferous age, and possibly older rocks. Part of the Wrangellia terrane.	Andreasen et al. (1964)
MR8	H	NE	Narrow northeast-trending domain consisting of several prominent magnetic highs. Part of the Southern Alaska magnetic high of Saltus et al. (1999c), and includes anomalies 5,8,15b,18,20a,21,22 of Csejtey and Griscom (1978). Approximately overlies, but narrower than, corresponding zone of gravity highs (GR6). Domain is dominated by NE-trending magnetic fabric.	Occurs along northwestern edge of the Wrangellia terrane. Associated with mafic volcanic and gabbroic intrusive rocks of the Nikolai Greenstone; strong magnetic highs may also indicate ultramafic rocks with same association.	Csejtey and Griscom (1978); Saltus et al. (1999c)
MR9	L	E	EW-trending magnetic low. Corresponds with part of "MaClaren-Gulkana anomalies" of Andreasen et al. (1964). Partly located over a gravity high (G27).	Metamorphosed volcanic and sedimentary Carboniferous and older rocks. Steep magnetic gradients suggest shallow magnetic sources. Part of the Wrangellia terrane.	Andreasen et al. (1964)
MR10	H	E	Narrow EW-trending band of magnetic highs including several prominent highs. Corresponds with part of "MaClaren-Gulkana anomalies" of Andreasen et al. (1964). Largely located at edge of a gravity high (G27).	Largely underlain by Q sediments, but corresponds with outcrops of Pz metasedimentary and metavolcanic, and some J (?) mafic and ultramafic rocks. Part of the Wrangellia terrane.	Andreasen et al. (1964)
MR11	L	NE	Regional magnetic low punctuated by several distinct magnetic highs. Domain includes anomalies 15g,16,17,19,20b,20c,21,22, and parts of anomalies 10,15a,18,23 of Csejtey and Griscom (1978). Southern margin of domain, in part, coincides with the Tsisi fault. Centered over, but broader than the regional gravity low between Clearwater-Daneka (GR6) and Windus-Hex Mountain (GR11A) gravity highs.	Part of the Wrangellia terrane. Regional low reflects weakly magnetic metasedimentary (shale, chert, siliceous siltstone, limestone) rocks of Mississippian to middle Tr age. Magnetic highs reflect Tr gabbroic sills, and J (?) hornblende-rich plutonic rocks.	Csejtey and Griscom (1978)
MR12	L	E	Prominent EW-elongate magnetic low. Corresponds with part of "MaClaren-Gulkana anomalies" of Andreasen et al. (1964). Includes parts of anomalies 23,25 of Csejtey and Griscom (1978). Located over a gravity low region, including discrete gravity lows (e.g., G26, G28).	Largely underlain by Q sediments, but includes outcrops of Pz metasedimentary and metavolcanic, and J (?), metagranitic rocks. Isolated highs may be due to slightly magnetic plutons or concealed mafic rocks. Part of the Wrangellia terrane. Southern boundary coincides with West Fork Fault.	Andreasen et al. (1964); Csejtey and Griscom (1978)
MR13	H	E	Prominent narrow EW-trending magnetic high. Corresponds with part of Southern Alaska magnetic high of Saltus et al. (1999c), and includes parts of anomalies 26,27 of Csejtey and Griscom (1978). Corresponds with West Fork magnetic feature (feature VI) of Griscom and Case (1982). Corresponds with part or all of several gravity highs (G31, G32).	Northern boundary is coincident with West Fork Fault. Occurs along northern edge of the re-defined, restricted Peninsular terrane. Associated with mafic and ultramafic igneous rocks.	Csejtey and Griscom (1978); Saltus et al. (1999c)
MR14	H		Regional NE-trending magnetic high containing several prominent highs and lows. Includes anomalies 24a-e, and part of anomaly 23 of Csejtey and Griscom (1978). Western margin coincides in part with the Tsisi fault (Glen, 2004). Corresponds with, but less extensive than, Windus-Hex Mtn. belt gravity high (GR11A). Domain is dominated by NE-trending magnetic fabric.	Part of the Wrangellia terrane. Overlies middle J intermediate composition plutonic rocks (granodiorite, hornblende diorite) and greenschist to amphibolite facies metamorphic wall rocks.	Csejtey and Griscom (1978)
MR15	H	E	Regional magnetic high containing several prominent highs. Part of Southern Alaska magnetic high of Saltus et al. (1999c), and includes anomaly 29a, and parts of anomalies 26,28 of Csejtey and Griscom (1978). Overlaps gravity highs GR11 and GR11B.	Underlain by Q sediments of the western Copper River basin. Outcrops are mainly Early J Talkeetna Formation (volcanic arc) and minor K or J granitic plutonic rocks. Part of Peninsular terrane.	Csejtey and Griscom (1978); Campbell (1987); Saltus et al. (1999c)

domain	hi/lo/ both	fabric	domain definition	geologic province	references
MR16	L	NW	Magnetic low. Part of Southern Alaska magnetic high of Saltus et al. (1999c), and includes anomaly 29a, and parts of anomalies 26,28 of Csejtey and Griscom (1978). Southwestern part located over Nowhere-Big Bones gravity high (GR11B). Northern part located over a gravity low (G30). Domain is dominated by NW-trending magnetic fabric.	Underlain by Q sediments of the western Copper River basin. Rare outcrops of K or J granitic plutonic rocks. Presumed to be part of Peninsular terrane.	Csejtey and Griscom (1978); Saltus et al. (1999c)
MR17	H		Corresponds with Mount Susitna group of magnetic highs of Grantz et al. (1963). Part of Southern Alaska magnetic high of Saltus et al. (1999c). Located over Alexander-Shulin Lake gravity low (GR12). N-trending "streaking" of anomalies is an artifact of low data density.	Located over Q alluvial deposits of the Lower Susitna Valley. Probably underlain by Wrangellia terrane.; Mt. Susitna group of highs was attributed to volcanic, plutonic, and lesser metamorphic rocks (Grantz et al., 1963)	Grantz et al. (1963); Hackett (1978a,b); Saltus et al. (1999c)
MR18	H	NE, NW	Regional magnetic high containing several prominent highs and lows. Includes anomaly 11, and part of anomalies 10,13 of Csejtey and Griscom (1978). Part of Southern Alaska magnetic high of Saltus et al. (1999c). Located over a gravity high region (e.g., G40, G41, and southwest part of GR13). Domain is dominated by NE-trending magnetic fabric.	Mafic volcanic and extrusive rocks of the Nikolai Greenstone and Pz (?) metasedimentary rocks. Includes some late K to early T granitic intrusions. Part of the Wrangellia terrane.	Csejtey and Griscom (1978); Hackett (1978a,b); Saltus et al. (1999c)
MR19	H	NE, NW	Regional NE-trending magnetic high containing several prominent highs and lows. Includes anomaly 14, and part of anomalies 12,13,10,15a,23 of Csejtey and Griscom (1978). Domain is characterized by NE and WNW-trending magnetic fabrics. Overlies mixed gravity highs and part of West Talkeetna High gravity block (GR13).	Southwestern end includes latest K and Paleocene granitoid plutons of Willow Creek District. Plutons intrude metamorphosed Pz to Mz metavolcanic and metasedimentary rocks of the Wrangellia terrane. At northern end of domain, Eocene and younger volcanic rocks coincide with a relative magnetic low.	Csejtey and Griscom (1978)
MR20	L	NE	NE-trending magnetic low. Corresponds with Csejtey and Griscom (1978) anomaly 25. Located over regional gravity high, but local gravity low (G43, GR14, GR11). Domain is dominated by NE-trending magnetic fabric.	Distinct magnetic low corresponds to youngest (150 Ma), trondjhemitic, phase of Middle J batholith. Southeastern part of the Wrangellia terrane. Southern end bounded by Castle Mountain Fault Zone.	Csejtey and Griscom (1978)
MR21	B	NE	Prominent magnetic high containing several prominent anomalies. Includes anomaly 30, and parts of anomalies 26,31,28,26 of Csejtey and Griscom (1978). Part of Southern Alaska magnetic high of Saltus et al. (1999c). Correlates with high gravity region (parts of GR17, GR11B). Domain is dominated by NE-trending magnetic fabric.	North of Castle Mountain Fault Zone. Northern part is Early J Talkeetna Formation volcanic arc rocks; Central part of domain is underlain by Eocene and younger volcanic rocks; southern end includes minor J intrusions and T non-marine sedimentary rocks. part of Peninsular terrane.	Csejtey and Griscom (1978); Saltus et al. (1999c)
MR22	L		Magnetic low region. Includes anomaly 31b, and parts of anomalies 32,33,34 of Csejtey and Griscom (1978). Corresponds with a local gravity low.	North of Castle Mountain Fault Zone. Underlain by marine and non-marine sedimentary rocks. Part of the Peninsular terrane.	Csejtey and Griscom (1978)
MR23	H		Prominent magnetic high containing several prominent highs. Includes anomaly 29b, and parts of anomalies 28,33 of Csejtey and Griscom (1978). Part of Southern Alaska magnetic high of Saltus et al. (1999c). Straddles edge of Copper River Basin gravity low (GR15), and E. Talkeetna block gravity high (GR11).	Located over Early J Talkeetna Formation volcanic arc, middle J Naknek Formation sedimentary rocks and K, T and Q non-marine sediments Part of the Peninsular terrane.	Csejtey and Griscom (1978); Campbell (1987); Saltus et al. (1999c)
MR24	H		Prominent broad-wavelength magnetic high. Corresponds with part of Southern Alaska magnetic high of Saltus et al. (1999c). Corresponds with Copper River Basin magnetic anomaly of Andreasen et al. (1964), and feature VII of Griscom and Case (1982). Corresponds with eatern part of Copper River Basin gravity low (GR15).	Located over Q sediments of Copper River basin; persumably overlies part of the Peninsular terrane. Broad high attributed to deeply buried source (possibly at depth of 15km; Andreasen and others, 1964) of magnetic igneous rocks.	Andreasen et al. (1964); Griscom and Case (1982); Saltus et al. (1999c)

domain	hi/lo/ both	fabric	domain definition	geologic province	references
MR25	B	ENE	EW-elongate moderate magnetic high containing several prominent magnetic highs and lows. Domain is dominated by ENE-trending fabric. Includes parts of anomalies 33,34 of Csejtey and Griscom (1978). Mostly located over Copper River Basin gravity low (GR15). Western portion located over a gravity high (GR17, G47). Domain contains several large elongate magnetic lows.	Minor outcrops of K and T non-marine sedimentary rocks. Interpreted to overlie part of the Peninsular terrane.	Csejtey and Griscom (1978)
MR26	L		Magnetic low. Partly corresponds with Cook Inlet pattern of Grantz et al. (1963). Located over Big Lake-Jonesville gravity low (GR18).	Located mostly over non-magnetic Q alluvial deposits, and T and late K non-marine sedimentary rocks.	Grantz et al. (1963); Saltus et al. (2001)
MR27	H	ENE	Prominent narrow belt of magnetic highs. Includes several anomalies (e.g., 2b-d, 5) of Burns and Winkler (1994). Includes Knik Arm anomaly of Grantz et al. (1963). Corresponds with Northern Chugach Mountains magnetic anomaly (feature V) of Griscom and Case (1982) and Case et al. (1986). Correlates with a prominent gravity high (GR19).	Underlain by Early J Talkeetna volcanic arc and associated basement and magmatic roots. Along the Border Ranges fault zone, feature correlates with mafic, gabbroic and ultramafic rocks (Case et al., 1986; Burns, 1982), diorites and tonalites. Feature has been modeled (Burns, 1982) as having a moderately south dipping southern edge, steeply north dipping northern edge, and a total depth of 6km. Part of the Peninsular terrane.	Grantz et al. (1963); Burns (1982); Griscom and Case (1983), Case et al. (1986); Burns and Winkler (1994); Saltus et al. (1999c); Saltus et al. (2001)
MR28	L		Prominent magnetic low. Corresponds with Burns and Winkler (1994) anomaly 22. Part of Chugach magnetic trough of Saltus et al. (1999c). Faint NW-trending lineations (apparent between -148 and -149 degrees longitude) are an artifact of low data density.	Accreted Upper K flysch of Chugach Terrane.	Burns and Winkler (1994); Saltus et al. (1999c)

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2C** provides a list of magnetic lineations (figure 12). Table columns are as follows: **feature** – feature number corresponding to the map labels (figure 12); **regional domain** – the regional domain within which the feature lies (refer to table 2B); **scale** – scale of feature (Regional, Intermediate, Local – see text for definition of scales); **trend** - trend of feature in map view; **feature definition** – geophysical character of feature; **geologic province** – geologic units overlying or associated with feature; **inferred source** – inferred source of geophysical anomaly; **references** – geologic and geophysical references pertaining to feature or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

feature	regional domain	scale (R,I,L)	trend	feature definition	geologic province	inferred source	references
ML1	MR5	L	NE	NE-trending magnetic gradient that is best seen in high resolution Broad Pass aeromagnetic survey (Burns, 2002). Corresponds with anomaly M3 of Pritchard (1998). Located along magnetic domains M16, M12.	Corresponds with outcrops of serpentinite (Clautice et al., 2001). Lies near and parallel to inferred boundary between Kahiltna and north Talkeetna flysch basins (Ridgway et al., 2002), and to outcrops of Chulitna, West Fork, and Broad Pass terranes.	Narrow zone of strongly magnetic serpentinite.	Pritchard (1998); Clautice et al. (2001); Burns (2002); Ridgway et al. (2002)
ML2	MR5	L	NE	NE-trending magnetic gradient that is best seen in high resolution Broad Pass aeromagnetic survey (Burns, 2002). Corresponds with anomaly M2 of Pritchard (1998). Roughly corresponds with southern boundary of gravity and magnetic highs (G9, M22).	Corresponds with outcrops of serpentinite (Clautice et al., 2001). Lies near and parallel to outcrops of Chulitna, West Fork, and Broad Pass terranes.	Narrow zone of strongly magnetic serpentinite.	Pritchard (1998); Clautice et al. (2001); Burns (2002)

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2D** provides a list of regional magnetic lineations (figure 12). Table columns are as follows: **feature** – feature number corresponding to the map labels (figures 12); **regional domain** – the regional domain within which the feature lies (refer to table 2B); **scale** – scale of feature (Regional, Intermediate, Local – see text for definition of scales); **trend** – trend of feature in map view; **feature definition** – geophysical character of feature; **geologic province** – geologic units overlying or associated with feature; **inferred source** – inferred source of geophysical anomaly; **references** – geologic and geophysical references pertaining to feature or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

feature	regional domain	scale (R,I,L)	trend	feature definition	geologic province	inferred source	references
MRL1	MR3	R	E	Moderate magnetic gradient.	East end corresponds with Hines Creek Fault (Campbell and Nokleberg, 1997; Nokleberg et al., 1994; Barnes and Csejtey, 1985).	Fault	Barnes and Csejtey (1985); Nokleberg et al. (1994); Campbell and Nokleberg (1997)
MRL2	MR3, 4	R	NW	Moderate magnetic gradient. Corresponds roughly with boundary between regional magnetic domains MR3 and MR4.	Corresponds in part with Mt Pillsbury fault (Plafker et al., 1994).	Fault	Plakfer et al., (1994)
MRL3	MR3, 4	R	NW	Moderate magnetic gradient. Corresponds roughly with boundary between regional magnetic domains MR3 and MR4.	Corresponds with Trident Glacier Fault (Campbell and Nokleberg, 1997).	Fault	Campbell and Nokleberg (1997)
MRL4	MR1, 2, 5	R	ENE	Moderate magnetic gradient. Corresponds with southern boundary of regional magnetic domain MR2, and part of MR3.	Eastern end may coincide in part with Denali Fault (Plafker et al., 1994).	Fault	Plafker et al. (1994)
MRL5	MR3, 5	R	E	Moderate magnetic gradient. Defined by the southern boundary of E-trending moderate magnetic highs (M9,M10). Corresponds with southern boundary of regional magnetic domain MR3.	Corresponds with Denali Fault (Campbell and Nokleberg, 1997). Corresponds with McKinley strand feature of Barnes and Csejtey (1985).	Fault	Barnes and Csejtey (1985); Campbell and Nokleberg (1997)
MRL6	MR5, 6	R	NE	Prominent magnetic gradient. Marks NW extent of regional magnetic domain MR8.	Corresponds partly with Broxson Gulch fault (Nokleberg et al., 1994; Plafker et al., 1994). Corresponds with Talkeetna thrust and Broxson Gulch thrust features of Barnes and Csejtey (1985). Marks NW extent of Wrangellia terrane.	Fault	Barnes and Csejtey (1985); Nokleberg et al. (1994); Plafker et al. (1994)
MRL7	MR6	R	WNW	Prominent magnetic gradient. Corresponds with Eureka Creek lineament of Campbell and Nokleberg (1997), Barnes and Csejtey (1985).	Marks the northern edge of the Fish Lake ultramafic complex.	Fault	Barnes and Csejtey (1985); Campbell and Nokleberg (1997)
MRL8	MR11, 14	R	NE	Prominent magnetic gradient marking western edges of several prominent magnetic highs.	Coincides with Tsisi fault (Glen, 2004).	Fault	Glen (2004)
MRL9	MR12, 13	R	E, WNW	Prominent magnetic gradient. Corresponds with northern edge of West Fork magnetic feature (feature VI) of Griscom and Case (1982). Marks northern boundary of regional magnetic domain MR13.	Corresponds with West Fork fault (Nokleberg et al., 1994).	Fault	Nokleberg et al. (1994)
MRL10	MR5, 17	R	ENE	Prominent magnetic gradient. Marks the northern boundary of prominent magnetic domain MR17. Corresponds with part of Grantz et al. (1963) magnetic trend 2 (Peters Creek contact).	Occurs over Q sediments.	May reflect a buried fault or contact contrasting granitic or volcanic rocks to SE and sedimentary rocks to NW (Grantz et al., 1963).	Grantz et al. (1963)
MRL11	MR24	R	NW	Subdued magnetic gradient. Alignment of magnetic maxspots that coincides with NW-trending gravity ridge.	Eastern part corresponds with contact between T-K intrusive rocks and sedimentary rocks	Contrast between magnetic volcanic and plutonic rocks with non-magnetic sedimentary rocks.	
MRL12	MR17, 18, 19, 20, 26	R	E	Prominent (in west) to subdued (in east) magnetic gradient. Contact between magnetic low (MR26) to the south and magnetic high regions to the north (MR17, MR18, MR19).	Eastern part corresponds with contact between T-K intrusive rocks and sedimentary rocks	Contrast between magnetic volcanic and plutonic rocks with non-magnetic sedimentary rocks.	
MRL13	MR21, 22, 24, 25	R	NE	Prominent magnetic gradient.	Western end corresponds with parts of Castle Mountain and Caribou faults (Plafker et al., 1994; Grantz et al., 1963).	Fault	Grantz et al. (1963); Plafker et al. (1994)
MRL14	MR25	R	WNW	Prominent magnetic gradient marking northeastern edge of gravity low (M165). Marks northern edge of magnetic low.	Corresponds in part with east end of Castle Mountain fault (Plafker et al., 1994).	Fault	Plafker et al. (1994)

feature	regional domain	scale (R,I,L)	trend	feature definition	geologic province	inferred source	references
MRL15	MR26	R	ENE	Subdued magnetic gradient. Lies close to and parallel to part of Grantz et al. (1963) magnetic trend 4 (Moquawkie contact).	Corresponds with contact between T sedimentary rocks and J schist.	May be due to magnetic contrast between schist and sedimentary rocks.	Grantz et al. (1963)
MRL16	MR25, 26, 27	R	ENE	Prominent magnetic gradient. Marks northern edge of prominent magnetic domain MR27. Corresponds with part of Grantz et al. (1963) magnetic trend 8 (Knik Arm Anomaly).	In the Border Ranges, feature correlates with mafic and ultramafic rocks (Case et al., 1986; Burns, 1982). In the Anchorage quadrangle feature correlates with diorites and tonalites.	Dense and magnetic mafic gabbros. Feature has been modeled by Burns (1982) as having a moderately south dipping southern edge, steeply north dipping northern edge, and a total depth of 6km.	Grantz et al. (1963); Burns (1982); Griscom and Case (1983), Case et al. (1986); Saltus et al. (2001)

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2E** provides a list of gravity domains (figure 11). Table columns are as follows: **domain** – domain number corresponding to the map labels (figure 11); **regional domain** – the regional domain within which the domain lies (refer to table 2B); **hi/lo/both** – type of anomaly associated with domain [hi(H)=positive, lo(L)=negative, both(B)=domain contains highs and lows] **scale** – scale of feature (Regional, Intermediate, Local – see text for definition of scales); **trend** – trend of feature in map view; **feature name** – name of gravity domain; **domain definition** – geophysical character of domain; **geologic province** – geologic units overlying or associated with domain; **inferred source** – inferred source of geophysical anomaly; **references** – geologic and geophysical references pertaining to domain or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	feature name	domain definition	geologic province	inferred source	references
G1		L	I		Trident Glacier low	Moderate gravity low.	Located over Q & T sediments over Yukon-Tanana terrane.	Low density sedimentary rocks.	
G2		H	I		Granite Mtn high	Moderate gravity high. Corresponds partly with moderate magnetic high (M3).	K granites that intrude Pz metasedimentary rocks of the of Yukon Tanana terrane.	Dense granitic rocks.	
G3		H	L		Gale high	Moderate gravity high. Corresponds partly with moderate magnetic high (M10).			
G4		L	I		Mt Silvertip low	Moderate magnetic low.	Pz metasedimentary rocks of the of Yukon Tanana terrane.	Low density sedimentary rocks.	
G5	GR1	L	I		Turtle Hill low	Moderate gravity low.			
G6	GR6	L	I		Monaghan Flats low	Prominent gravity low occurring over the Monahan flat. Shape of domain is poorly defined due to poor gravity data coverage.			
G7	GR11	H	L		Cottonwood Ck high	Circular moderate gravity high. Shape of domain is poorly defined due to poor gravity data coverage. Corresponds partly with prominent magnetic high (M26A).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	Dense mafic and ultramafic rocks.	
G8		H	I		Canwell high	Moderate gravity high. Corresponds partly with prominent magnetic high (M21).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone (Canwell complex).	Dense mafic and ultramafic rocks.	
G9	GR1	H	I	NE	Chulitna block	Moderate NE-trending gravity high. Corresponds with prominent magnetic high (M22).			
G10	GR5	H	L		EFC (East Fork Chulitna) high	Moderate gravity high.			
G11	GR9	H	I		upper Clearwater Ck high	Circular gravity high. Corresponds partly with prominent magnetic high (M33B).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	Dense mafic and ultramafic rocks.	
G12	GR11	H	I	NW	Fish Lake high	Prominent NW-trending gravity high. Corresponds with prominent magnetic high (M26).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone (Fish Lake complex).	Dense mafic and ultramafic rocks.	
G13		L	L		Summit Lake low	Moderate gravity low.			
G14	GR9	H	I		Way high	Prominent gravity high. Corresponds with several prominent magnetic highs (M31, M32, M38).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone	Dense mafic and ultramafic rocks.	
G15	GR10	L	I	ENE	Round / Maclaren River low	Prominent gravity low. Occurs over a regional magnetic low (MR7, M42).			
G16	GR10	H	L		West Tangle high	Small gravity high.	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone (west Tangle complex).	Dense mafic and ultramafic rocks.	
G17	GR10	L	I	E	Dickey Lake low	E-trending gravity low.			
G18	GR10	H	L	NW	Upper Tangle Lake high	Small NW-trending gravity high.	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone (south Tangle complex).	Dense mafic and ultramafic rocks.	
G19		L	L		South Paxson Lake low	Small gravity low. Corresponds with part of "West Fork feature" of Andreasen et al. (1964).			Andreasen et al. (1964)
G20	GR11	H	L	NW	Sportsman's Lodge high	NW-trending gravity high. Occurs over a moderate gravity high (MR8, M20).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	Dense mafic and ultramafic rocks.	
G21		L	I	NE	Devil's Canyon low	NE-trending gravity low.	SE of Portage Creek fault.		
G22	GR9	H	L		Fog Canyon high	Small prominent gravity high. Corresponds with a prominent magnetic high (M59, MR8).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	Dense mafic and ultramafic rocks.	
G23	GR9	H	I		North Nik Hills high	Prominent gravity high. Corresponds partly with prominent magnetic high (M52A).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone. Anomaly extends N & NW of known extent of outcrops.	Dense mafic and ultramafic rocks.	
G24	GR9	H	L		D-2 high	Small prominent gravity high. Occurs over prominent magnetic high (M52).	Mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	Dense mafic and ultramafic rocks.	
G25	GR12	H	I	NE	Windus high	Large prominent NE-trending gravity high. Corresponds with regional magnetic high domain (MR14).	Middle-Late J plutons intruding Wrangellia terrane.	Dense plutonic rocks.	

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	feature name	domain definition	geologic province	inferred source	references
G26		L	I		Wonderly high	Moderate gravity low. Occurs over prominent regional magnetic low (MR12).			
G27		H	I	E	Keg high	Prominent E-trending gravity high occurring over the Alphabet hills Corresponds with a prominent magnetic low (MR9).			
G28		L	I	E	Hogan Hill low	Gravity low. Occurs over prominent regional magnetic low (MR12).			
G29	GR14	H	L		Boggy ridge high	Prominent circular gravity high. Occurs partly over prominent magnetic high (M90).		May be due to dense mafic and ultramafic rocks related to mid-Tr Nikolai Greenstone.	
G30		L	I	NW	Y Lake low	Narrow, northwest-trending gravity low that lies north of and parallel to the Tyone River. Corresponds with the West Tyone low anomaly of Andreasen et al. (1964). Corresponds with magnetic low (M85).		Buried low density intrusive or sedimentary rocks.	Andreasen et al. (1964)
G31		H	I	E	Bragg high	Prominent E-trending gravity high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964) -- an east trending gravity high. Feature is associated with magnetic high region (MR13).		Likely due to dense mafic and ultramafic intrusive and extrusive rocks.	Andreasen et al. (1964)
G32		H	L	NW	Sourdough high	Moderate gravity high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964) -- an east trending gravity high. Feature is associated with a prominent magnetic high (M87).		Likely due to dense mafic and ultramafic intrusive and extrusive rocks.	Andreasen et al. (1964)
G33		H	L		Lug high	Western end of east trending gravity high. Corresponds with part of "West Fork feature" of Andreasen et al. (1964). Feature is associated with magnetic high. Occurs partly over the Talkeetna River valley. Occurs over a moderate magnetic high (M75).		Likely due to dense mafic and ultramafic intrusive and extrusive rocks.	Andreasen et al. (1964)
G34		L	I	NE	Larson Lake low	NE-trending gravity low.			
G35	GR14	H	I		Wells Mtn high	Prominent gravity high. Located over a moderate magnetic low (MR11) that is punctuated by moderate magnetic highs (M100).			
G36		L	I	NW	King & Queen - Remus Low	Moderate NW-trending gravity low. Located over a moderate magnetic low (MR11).	Anomaly has same trend as T volcanic rocks comprising basaltic andesite flows and dacitic domes.	Low density volcanic and volcaniclastic rocks.	
G37	GR12	H	I		Terrace Ck. high	Large prominent gravity high. Occurs over a prominent magnetic high (M92).	Middle-Late J plutons intruding Wrangellia terrane.	Dense plutonic rocks.	
G38	GR12	H	I	NE	Crater Lake high	Large prominent gravity high. Occurs over a prominent regional magnetic high (MR21).			
G39	GR16	L	I		Gakona low	Gravity low corresponding to "Gakona low" of Andreasen et al. (1964). Corresponds with a broad magnetic high (M24).		Likely caused by thick section of low density upper Mz basin filling sedimentary rocks overlying depressed Pz basement rocks.	Andreasen et al. (1964)
G40	GR14	H	L		Wolverine high	Prominent gravity high. Occurs over prominent magnetic high (MR18, M120, M131).			Hackett (1978a,b)
G41	GR14	H	L		Spring high	Prominent circular gravity high. Anomaly coincides with magnetic domain (MR20.)			
G42	GR14	H	I		Xylic high	Prominent gravity high. Occurs over prominent magnetic high (M115).	NE edge coincides with fault bounding T volcanic rocks.		
G43	GR15	L	I	NE	High glaciers low	Moderate NE-trending gravity low. Occurs over a prominent magnetic low (MR20).			
G44	GR16	L	I		Old Man Lake low	Conspicuous broad gravity low centered around Old Man Lake. Bordered on north and south by gravity highs. DomainsG44A,B correspond to "Old Man Lake low" of Andreasen et al. (1964). Domain G44C corresponds to "Glenallen low" of Andreasen et al. (1964).	Lies along the axis of the Matanuska geosyncline.	Likely caused by thick section of low density upper Mz basin-filling sedimentary rocks overlying depressed Pz basement rocks.	Andreasen et al. (1964)

domain	regional domain	hi/lo/ both	scale (R,I,L)	trend	feature name	domain definition	geologic province	inferred source	references
G45	GR16	L	I		Glenallen low	Gravity low corresponding to "Glenallen low" of Andreasen et al. (1964). Corresponds with a broad magnetic high.		Likely caused by thick section of low density upper Mz basin-filling sedimentary rocks overlying depressed Pz basement rocks.	Andreasen et al. (1964)
G46	GR18	H	L		Doone high	Prominent gravity high.			
G47		H	I	E	Fortress Ridge high	E-trending prominent gravity high. Corresponds with a prominent magnetic high (M158).			
G48	GR19	L	I		Big Lake low	Prominent gravity low. Corresponds with a regional magnetic low (MR26).	Sedimentary basin over Cook Inlet.	Low density sedimentary rocks and perhaps low density basement sources. Saltus et al. (2001) suggest that serpentinized mafic intrusives could explain the gravity low and magnetic high located over center of the basin occurring south of the study boundary.	Saltus et al. (2001)

Table 2. Geophysical features of the Talkeetna Mountains region.**Table 2F** provides a list of regional gravity domains (figure 11). Table columns are as follows:**domain** – regional domain number corresponding to the map labels (figure 12);**hi/lo/both** – type of anomaly associated with domain [hi(H)=positive, lo(L)=negative, both(B)=domain contains highs and lows];**trend** – trend of feature in map view; **feature name** – name of regional gravity domain; **domain definition** – geophysical character of domain; **geologic province** – geologic units overlying or associated with domain; **inferred source** – inferred source of geophysical anomaly;**references** – geologic and geophysical references pertaining to domain or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

domain	hi/lo/ both	trend	feature name	domain definition	geologic province	inferred source	references
GR1	H		Toklat high	Broad moderate gravity high. Southern edge of domain is poorly constrained due to poor gravity data coverage. Corresponds with a moderate regional gravity high (MR1).	Spans flysch basin, Chulitna, Pingston McKinley, Windy, Dillinger, and Yukon-Tanana terranes.		
GR2	H		Yanert Glacier high	Gravity high. Western edge of domain is poorly constrained due to poor gravity data coverage.	Devonian continental marine metasedimentary and metavolcanic rocks.		
GR3	L		Denali Highway low	Gravity low south of the Denali Fault that corresponds with regional magnetic low (MR5).	Spans flysch basin, Maclaren, and Nenana terranes.		
GR4	L	E	Susitna Glacier low	Gravity low south of the Denali Fault that corresponds with regional magnetic low (MR5).	Largely located over metamorphic belt of Maclaren terrane.		
GR5	H	NE	Tsusena high	Moderate gravity high that corresponds with regional magnetic low (MR5) that is punctuated by several prominent magnetic highs (e.g., M30, M51, M58).	Located over flysch basin.	May be due to buried block of dense Wrangellia-related oceanic crust.	
GR6	H	NE	Clearwater - Daneka belt high	Prominent narrow NE-trending elongate gravity high. Corresponds with a prominent magnetic high (MR8).	Located over leading edge (NW) of Wrangellia terrane. Mostly associated with Nikolai greenstone-related rocks. Anomaly extends NW of known surface exposures.	Dense mafic and ultramafic rocks.	
GR7	L	E	Maclaren - Tangle low	EW-trending gravity low.	Located over Wrangellia terrane.	The low magnetic and gravity values, and corresponding lack of high frequency magnetic anomalies over the western part of domain (G15, M42) suggest the presence of a thick sequence of sedimentary rocks (perhaps ~2km).	
GR8	H	NW	Amphitheater Mts belt high	Prominent NW-trending elongate gravity high. NW end largely corresponds with a prominent magnetic high (M26).	Located over leading edge (N) of Wrangellia terrane. Associated with Tr mafic and ultramafic rocks.	Dense mafic and ultramafic rocks.	
GR9	H	E	Tokositna high	Gravity high. Northern edge of domain is poorly constrained due to poor gravity data coverage. Corresponds with a regional magnetic low (MR5).			
GR10	L	NE	Bunco-Byers Lake high	Narrow NE-trending elongate gravity low. Occurs over a regional magnetic low (MR5).	Located over flysch basin.	Low density sedimentary rocks.	
GR11	H	NE,E	East Talkeetna Block high (GR11); Windus-Hex Mountain belt high (GR11A); Nowhere - Big Bones belt (GR11B)	Prominent gravity high containing several smaller prominent highs (GR11A, GR11B, G25, G37, G38). Internal highs GR11A and GR11B correspond with prominent magnetic highs MR14, and MR21&MR15, respectively. Relative gravity low (between GR11A and GR11B) corresponds with regional magnetic low (MR20).	Located over Wrangellia terrane. GR11: Late J trondjhemite and T sedimentary and volcanic basin to its SE. Straddles boundary between Wrangellia and Peninsular terranes (as defined herein); GR11A: middle-Late J granodiorite, diorite, and tonalite plutons intruding Wrangellia; Northern boundary of GR11B corresponds with Black River fault system.		Barnes et al. (1994)
GR12	L		Alexander-Shulin Lake low	Prominent gravity low. Southeastern edge of domain is poorly constrained due to poor gravity data coverage. Corresponds with regional magnetic high (MR17).	Located over Cz sedimentary cover.	Low density sedimentary rocks.	Ehm (1983); Barnes et al. (1994)
GR13	H	NE	West Talkeetna Block high	Prominent gravity high containing several prominent highs. Spans several prominent magnetic highs within regional highs (MR18, MR19).	Located over Wrangellia terrane.		
GR14	L	NE	Sovereign Mtn. Low	NE-trending gravity low. Occurs partly over the Talkeetna river valley. Corresponds with a prominent magnetic low (MR20).	Located over Wrangellia terrane.		

domain	hi/lo/ both	trend	feature name	domain definition	geologic province	inferred source	references
GR15	L	E	Copper River Basin low(GR15); Slide Mtn-Tolsona low (GR15A)	Conspicuous broad east-trending gravity low centered around Old Man Lake. Bordered on north and south by gravity highs. Domain GR15A corresponds to "Old Man Lake low" of Andreasen et al. (1964). Axis of the feature follows that of the Matanuska geosyncline. Corresponds with regional magnetic high (MR24).	Lies along the axis if the Matanuska geosyncline. Located over K, T, and Q sedimentary rocks filling Copper River basin and surrounding areas.	Likely caused by thick section of upper Mesozoic basin filling sedimentary rocks overlying depressed Paleozoic basement rocks.	Andreasen et al. (1964); Ehm (1983); Barnes et al. (1994)
GR16	H	E	Willow Creek ridge high	EW-trending gravity high. Parts of domain are poorly constrained due to poor gravity data coverage. Occurs over northern edge of regional gravity low (MR26).	Located over Wrangellia terrane. Largely covered by Cz sediments.	May be due to buried ridge of basement or dense intrusive rocks.	Wescott and Witte (1982)
GR17	H	E	Kings River-Monarch high	Prominent gravity high.	Located over Wrangellia terrane.		
GR18	L	NE	Big Lake-Jonesville low	NE-trending gravity low containing a prominent low at its SE end. Corresponds with southern and eastern parts of regional gravity low (MR26).	Occurs over sedimentary basin in the Matanuska River valley filled with Cz sediments.	Southern partly corresponds with Cook Inlet where sources are likely low density sedimentary rocks and perhaps low density basement. Saltus et al. (2001) suggest that serpentinized mafic intrusives could explain the gravity low and magnetic high.	Grantz et al. (1963); Ehm (1983); Barnes et al. (1994); Saltus et al. (2001)
GR19	H	E	Mt. Wickersham high	Prominent narrow (>100x10km) EW-trending gravity high. Associated with a prominent narrow (>100x10km) magnetic high (MR27). Domain corresponds with a tectonically complex zone of converging faults (e.g. Castle Mtn, Caribou faults).	Located over the Border ranges complex at the northern Chugach Mountains front. Inferred (Andreasen et al., 1964) to be associated with volcanic and plutonic rocks of the Talkeetna Formation. Locally occurs over the Tazlina mafic-ultramafic plutonic belt (Case et al., 1986).	Mafic and ultramafic volcanic and plutonic rocks of the Talkeetna Formation, and or Tazlina mafic-ultramafic belt.	Andreasen et al. (1964); Winkler et al. (1980); Burns (1982); Case et al. (1986); Burns et al. (1991); Barnes et al. (1994)
GR20	H	E	Tarr Glacier high	Prominent gravity high. Occurs over prominent regional magnetic low (MR28).	Located over Chugach terrane.	May be due to oceanic crustal rocks associated with the Border Ranges mafic and ultramafic rocks buried beneath the Chugach terrane.	

Table 2. Geophysical features of the Talkeetna Mountains region. **Table 2G** provides a list of gravity lineations (figure 11). Table columns are as follows: **feature** – feature number corresponding to the map labels (figure 11); **regional domain** – the regional domain within which the feature lies (refer to table 2B); **scale** – scale of feature (Regional, Intermediate, Local – see text for definition of scales); **trend -** trend of feature in map view; **feature definition** – geophysical character of feature; **geologic province** – geologic units overlying or associated with feature; **inferred source** – inferred source of geophysical anomaly; **references** – geologic and geophysical references pertaining to feature or associated rock units. Abbreviations used in the table include: compass directions (e.g., N, S, E, W, NE, NW, SE, SW, WNW, ENE…); ages (Q=Quaternary, T=Tertiary, K=Cretaceous, J=Jurassic, Tr=Triassic, Cz=Cenozoic, Mz=Mesozoic, Pz=Paleozoic); geophysical feature types (M = magnetic domains, MR = regional magnetic domains, ML = magnetic lineations, MRL = regional magnetic lineations, G = gravity domains, GR = regional gravity domains, GL = gravity lineations). Red-highlighted text refers to geophysical domains given in this table.

feature	regional domain	scale (R,I,L)	trend	feature definition	geologic province	inferred source	references
GL1		R	NW	Subdued gravity gradient. Corresponds with magnetic features MRL2, MRL3, and with western boundary of regional magnetic domain MR4.	Corresponds with parts of Trident Glacier and Denali faults (Plafker et al., 1994; Campbell and Nokleberg, 1997).	Fault	Plafker et al. (1994); Campbell and Nokleberg (1997)
GL2		R	NW	Gravity gradient marking NE edge of prominent gravity high GR11. GRL1 and GRL2 bound the "West Tyone low" of Andreasen et al. (1964) -- a narrow gravity low that lies north of and parallel to the Tyone river.		Edge of low density intrusive or sedimentary rocks.	Andreasen et al. (1964)
GL3		R	NW	Gravity gradient marking boundary between prominent gravity high (G31) and low (G30). GRL1 and GRL2 bound the "West Tyone low" of Andreasen et al. (1964) -- a narrow gravity low that lies north of and parallel to the Tyone river.		Edge of low density intrusive or sedimentary rocks.	Andreasen et al. (1964)

Table 3. Geophysical / lithotectonic terranes defined in this study and their geophysical character. Previous tectonostratigraphic terrane names, lithologies and ages are after Silberling et al. (1994).

Geophysical / lithogeophysical terrane (this study)	Abbreviation	Relationship to previously defined Tectono-stratigraphic terranes	Correlation with previously identified geophysical terranes	Geophysical Terrane Character	Age
Chugach	CG	Chugach	CG of Saltus et al., 1997; Chugach Magnetic Trough (CMT) of Saltus et al., 1999c.	Regional magnetic low and high-to-moderate gravity values. Northern boundary with Peninsular Terrane is sharply delineated by prominent gravity and magnetic gradients that cross from lower values over the Chugach to higher values over the Border Ranges.	Upper Cretaceous - Triassic
Chulitna	CH	Chulitna	KH1 of Saltus et al. 1997; SAMT of Saltus et al., 1999c.	Geophysical signature same as enclosing Kahiltna Flysch Basin.	Upper Devonian - Jurassic
Kahiltna Flysch Basin	KH	Northwestern half of previously defined Kahiltna terrane / overlap assemblage. Includes former West Fork terrane.	KH1 of Saltus et al., 1997; SAMT of Saltus et al., 1999c.	Relatively non-magnetic but contains some plutons with anomalies (Saltus, 1997).	Late Jurassic to Late Cretaceous
N Talkeetna Flysch Basin	NT	Southeasten half of previously defined Kahiltna terrane / overlap assemblage; Includes former Broad Pass, Clearwater, and Susitna terranes; Includes Maclaren, Nenana and Windy tectonstratigraphic terranes.	KH1 of Saltus et al., 1997; SAMT of Saltus et al., 1999c.	Relatively non-magnetic; Includes former Susitna, Broad Pass and Clearwater terranes, which are part of flysch basin assemblage. Maclaren, Nenana and Windy terranes, although lithologically distinct, are not geophysically distinguishable.	Late Triassic (?) to Late (?) Cretaceous flysch; Mississippian to Late Triassic basement below flysch.
Peninsular	PE	Subset of former Peninsular terrane.	PE1 of Saltus et al., 1997; S AK magnetic high (SAMH) of Saltus and others, 1999c.	Regional gravity and magnetic high - (as defined here) is rimmed by prominent narrow bands of gravity and magnetic highs. Characterized by a broad wavelength magnetic high and gravity low over the Copper River basin.	Permian - Cretaceous
Wrangellia	WR	Wrangellia + part of former Peninsular terrane	WR and PE2 of Saltus et al., 1997; S AK magnetic high (SAMH) of Saltus et al., 1999c.	Regional gravity and magnetic high region. Northern and northwestern edge of terrane is rimmed by prominent narrow bands of gravity and magnetic highs. Southern boundary (contact with the Peninsular terrane) is marked by another prominent band of gravity and magnetic highs.	Mississippian to Upper Jurassic
Yukon-Tanana	YT		YT2 of Saltus et al., 1997.		middle Paleozoic - late Mesozoic
Undifferentiated terranes N of the Denali Fault Zone	U	Includes Dillinger, McKinley , and Pingston tectonstratigraphic terranes	PN of Saltus et al., 1997.	Moderate magnetic and gravity high region; Pingston has high gravity and low magnetic relief.	Lower Paleozoic - Lower Jurassic (Dillinger)