Western Ecosystems, Inc.
Ecological Consultants
905 West Coach Road, Boulder, CO 80302 (303) 442-6144

June 21, 2001

Mr. Tom Warnes
Seminole Land Holdings
P.O. Box 23358
Silverthorne, CO 80498

Re: Results of 2001 boreal toad breeding season monitoring on Silver Mountain Village, Summit County, Colorado.

Dear Tom:

As you know, the Colorado Division of Wildlife (CDOW) recommended that surveys of potential boreal toad (*Bufo boreas boreas*) breeding habitats be conducted on the Silver Mountain Village (SMV) property. This recommendation recognized that the only potential breeding habitats on the property occur south of Ruby Ranch Road, which would isolate and buffer those habitats from proposed SMV development north of the road. Having received authorization from you to conduct the surveys, this letter documents the results of the 2001 surveys, representing the second of two consecutive years of surveys.

Surveys were conducted on May 16, 29, and June 12, 2001 following general Goettl and Boreal Toad Recovery Team (1997) and Boreal Toad Conservation Strategy Team (1997) guidelines, as selectively modified by Boreal Toad Recovery Team (1998) and conversations with the CDOW (T. Kroening). The nocturnal survey was conducted on May 16 after a diurnal reconnaissance of the site; the other surveys were diurnal. Based on 2000 survey results, I thought it would be better to conduct the nocturnal survey earlier in the breeding season when adult toads were more likely to be present and the ponds less covered emergent aquatic vegetation, rather than waiting until subsequent replications. All surveys covered all potentially suitable boreal toad breeding habitats on SMV, limited to the active beaver pond complex south of Ruby Ranch Road. That wetland complex extends over properties other than SMV. The surveys did not cover the entire complex, but only those portions on SMV property, as shown on the attached map. The survey area erred on the biologically conservative side and covered the entire ponds bisected by the property line, plus one pond above it. Surveys were timed to coincide with the period when adult toads, eggs, and tadpoles would be present at breeding sites and when evidence of toads would be most detectable.

No evidence of boreal toads was located on SMV during the 2001 surveys. However, beaver ponds along the unnamed intermittent creek south of Ruby Ranch Road contain potentially suitable

breeding habitat, although it is apparently unoccupied. Non-breeding habitats outside of this wetland complex are limited and hostile. Adult striped chorus frogs (*Pseudacris triseriata*) were detected calling from the larger beaver ponds in the wetland complex, all on Ruby Ranch, during all surveys. Calling activity was greatest on May 16, with substantial numbers still calling during the day on May 29. No other amphibians were detected during the surveys.

It is possible that previously unidentified boreal toad populations may persist in suitable habitats on the west side of the Blue River Valley, south of I-70, based on known populations upstream. A large boreal toad breeding complex occurs in North Ten Mile Creek and a population was discovered in Meadow Creek in 1998 (T. Kroening, CDOW, pers. comm.). Until recently a breeding population also occurred in Straight Creek. Other extant populations also occur in upper tributaries of the Snake and Blue Rivers. The Straight Creek population, if extant, is now largely isolated from the west side of the Blue River Valley by the Blue River, intervening development, and unsuitable habitat. However, toads washed downstream into the Blue River from other populations could conceivably colonize downstream areas. Nevertheless, it would be a circuitous route indeed for a toad to climb out the Blue River, find its way west through residential and commercial developments, cross Highway 9, and cross the SMV pasture (where the intermittent creek supporting the beaver ponds south of Ruby Ranch Road terminates) to colonize that wetland complex. More likely, toads would now have to colonize this wetland from the Meadow Creek population via a cross-country (terrestrial) route, which is not impossible. Until the late 1960's, when the first bore of the Eisenhower Tunnel was opened, all the above populations were "connected" and the riparian corridor along the Blue River was possibly a local movement corridor.

Attached are completed copies of the 2001 survey forms and map. I should also forward a copy of this letter and forms to the CDOW for their files. Please review this letter and authorize me to forward a copy to the CDOW.

Please call me if you have any questions.

Sincerely,

Richard W. Thompson
Certified Wildlife Biologist
Western Ecosystems, Inc.

RWT/s
Attachments
Cc: D. Marshall, dhm design

Literature Cited:

Boreal Toad Conservation Strategy Team. 1997. Draft conservation strategy for the southern Rocky Mountain population of the boreal toad (*Bufo boreas boreas*). U.S. Fish and Wildlife Service. Denver, CO.

Boreal Toad Recovery Team. 1998. Boreal toad conservation plan and agreement. Colorado Div. Wildl. Denver, CO.

Goettl, J.P. and Boreal Toad Recovery Team. 1997. Boreal toad (*Bufo boreas boreas*) (southern Rocky Mountain population) recovery plan. Colorado Div. Wildl. Denver, CO. 50 pp.

AMPHIBIAN SURVEY DATA SHEET - USGS-BRD, 4512 McMurry Ave., Fort Collins, CO 80525-3400
(circle choice for shaded variables; supply value for others)

DATE May 16, 01	BEGIN TIME 2041	END TIME 2144	OBSERVERS RJ

LOCALITY Silver Mtn Village — Nest Rep 1

STATE	COUNTY Summit	MAP NAME	OWNER	ELEVATION (circle Scale) M FT

T	R	S	SECTION DESCRIPTION	UTM ZONE	NORTHING (or LAT)	EASTING (or LON)

AMPHIBIAN AND/OR GARTER SNAKE SPECIES PRESENT (INDICATE NUMBERS IN CATEGORIES IF POSSIBLE) — CIRCLE METHOD AND INDICATE IF VOUCHER SPECIMEN WAS COLLECTED

Mottled Sculpin RwBT

SPECIES	ADULTS/JUVENILES	CALLING?	TADPOLES/LARVAE	EGG MASSES	METHOD:
		Y (N)			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
Pseudacris	adult	(Y) N	N	N	VISUAL (AURAL ID) INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES (NO)
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
FISH PRESENT	YES ??? (NO)	FISH SPECIES:			METERS OF SHORELINE
ENTIRE SITE SEARCHED?	(YES) NO	IF NO, INDICATE AREA			M² OF HABITAT

PHYSICAL AND CHEMICAL ENVIRONMENT (CHEMISTRY VARIABLES OPTIONAL - USE EXTRA SPACES FOR ADDITIONAL MEASUREMENTS)

WEATHER:	CLEAR	(OVERCAST) Night RAIN	SNOW	WIND:	(CALM)	LIGHT	STRONG
AIR TEMP (circle scale)	47 °C (°F)	WATER TEMP (circle scale)	40 °C (°F)	COLOR:	(CLEAR) STAINED	TURBIDITY:	CLEAR (CLOUDY)
pH		ANC					

see 2000 notes

SITE DESCRIPTION - (SKETCH SITE AND PUT ADDITIONAL COMMENTS ON BACK OF SHEET) OMIT THIS SECTION IF DATA HAVE BEEN COLLECTED ON A PREVIOUS VISIT

ORIGIN:	NATURAL	MAN-MADE	DRAINAGE:	PERMANENT	OCCASIONAL	NONE	
DESCRIPTION:	PERMANENT LAKE/POND	TEMPORARY LAKE/POND	MARSH/BOG	STREAM	SPRING/SEEP	ACTIVE BEAVER POND	INACTIVE BEAVER POND
SITE LENGTH (M)	SITE WIDTH (M)		MAXIMUM DEPTH:	<1 M	1-2 M	>2 M	
STREAM ORDER	1	3	4	5	6		
PRIMARY SUBSTRATE:	SILT/MUD	SAND/GRAVEL	COBBLE	BOULDER/ROCK	OTHER		
% OF LAKE MARGIN WITH EMERGENT VEGETATION	0	1-25	25-50	>50			
EMERGENT VEGETATION SPECIES (LIST IN ORDER OF ABUNDANCE)							
NORTH SHORELINE CHARACTERS:	SHALLOWS PRESENT	SHALLOWS ABSENT	EMERGENT VEG PRESENT	EMERGENT VEG ABSENT			
DISTANCE (M) TO FOREST EDGE	FOREST TREE SPECIES:						

1 Giant H_2O beetle

Rev. 1/97

AMPHIBIAN SURVEY DATA SHEET - USGS-BRD, 4512 McMurry Ave., Fort Collins, CO 80525-3400

(circle choice for shaded variables; supply value for others)

Pseudacris
RWBB
Y Wbl.
Beaver (sign)
E (fire trucks)
H WP
B-t Hum
Mag.
Cliff Swall
Sng Spar
Mallard
D (f fed)
Race "
ARob

DATE May 29, 01	BEGIN TIME 1444 -	END TIME 1528	OBSERVERS RJ
LOCALITY SMU Rep 2			
STATE CO	COUNTY Summit	MAP NAME	OWNER	ELEVATION (circle Scale) M FT

T	R	S	SECTION DESCRIPTION	UTM ZONE	NORTHING (or LAT)	EASTING (or LON)

AMPHIBIAN AND/OR GARTER SNAKE SPECIES PRESENT (INDICATE NUMBERS IN CATEGORIES IF POSSIBLE) — **CIRCLE METHOD AND INDICATE IF VOUCHER SPECIMEN WAS COLLECTED**

SPECIES	ADULTS/JUVENILES	CALLING?	TADPOLES/LARVAE	EGG MASSES	METHOD:
	Pseudacris	(Y) N			VISUAL/(AURAL ID) INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES (NO)
	Adults calling and Bay Road — in ponds several during survey, but part of same complex	Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y (N) —	BT's.		VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
FISH PRESENT	(YES) ??? NO	FISH SPECIES:	1, 14-16" trout in lowest pond		
ENTIRE SITE SEARCHED?	(YES) NO	IF NO, INDICATE AREA			METERS OF SHORELINE M² OF HABITAT

PHYSICAL AND CHEMICAL ENVIRONMENT (CHEMISTRY VARIABLES OPTIONAL - USE EXTRA SPACES FOR ADDITIONAL MEASUREMENTS)

WEATHER:	(CLEAR) — 50% sun	OVERCAST	RAIN	SNOW	WIND:	(CALM) — (LIGHT)	STRONG (depends on scene activity)
AIR TEMP 47 °C (°F) (circle scale)	WATER TEMP 38-40° °C (°F) (circle scale)	COLOR:	(CLEAR)	STAINED	TURBIDITY:	(CLEAR) — (CLOUDY)	
pH	ANC						

SITE DESCRIPTION - (SKETCH SITE AND PUT ADDITIONAL COMMENTS ON BACK OF SHEET) OMIT THIS SECTION IF DATA HAVE BEEN COLLECTED ON A PREVIOUS VISIT

ORIGIN:	NATURAL	MAN-MADE	DRAINAGE:	PERMANENT	OCCASIONAL	NONE	
DESCRIPTION:	PERMANENT LAKE/POND	TEMPORARY LAKE/POND	MARSH/BOG	STREAM	SPRING/SEEP	ACTIVE BEAVER POND	INACTIVE BEAVER POND
SITE LENGTH (M)	SITE WIDTH (M)	MAXIMUM DEPTH:	<1 M	1-2 M	>2 M		
STREAM ORDER	1	3	4	5	6		
PRIMARY SUBSTRATE:	SILT/MUD	SAND/GRAVEL	COBBLE	BOULDER/ROCK	OTHER		
% OF LAKE MARGIN WITH EMERGENT VEGETATION:	0	1-25	25-50	>50			
EMERGENT VEGETATION SPECIES (LIST IN ORDER OF ABUNDANCE)							
NORTH SHORELINE CHARACTERS:	SHALLOWS PRESENT	SHALLOWS ABSENT	EMERGENT VEG PRESENT	EMERGENT VEG ABSENT			
DISTANCE (M) TO FOREST EDGE	FOREST TREE SPECIES:						

sed 2000

H_2O level in 2nd to lowest pond has dropped ~1' since last survey — looks wetland newly low & flows. All other ponds @ same (pk) levels.

Rev. 1/97

AMPHIBIAN SURVEY DATA SHEET - USGS-BRD, 4512 McMurry Ave., Fort Collins, CO 80525-3400

(circle choice for shaded variables; supply value for others)

DATE June 17, 01	BEGIN TIME 1657	END TIME 1748	OBSERVERS RJ

LOCALITY Silver Mtn Village, Silverthorne

STATE CO	COUNTY Summit	MAP NAME	OWNER	ELEVATION (circle Scale) M FT

T	R	S	SECTION DESCRIPTION	UTM ZONE	NORTHING (or LAT)	EASTING (or LON)

AMPHIBIAN AND/OR GARTER SNAKE SPECIES PRESENT (INDICATE NUMBERS IN CATEGORIES IF POSSIBLE) — CIRCLE METHOD AND INDICATE IF VOUCHER SPECIMEN WAS COLLECTED

SPECIES	ADULTS/JUVENILES	CALLING?	TADPOLES/LARVAE	EGG MASSES	METHOD:
Pstri	1 adult calling from 1st pond 2 complex	(Y) N	N	N	VISUAL/(AURAL ID) INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES (NO)
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
		Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
	1 in lowest pond	Y N			VISUAL/AURAL ID INHAND DIP NET/SEINE TRAPPED VOUCHER COLLECTED? YES NO
FISH PRESENT	✓ YES ??? NO	FISH SPECIES: ?			
ENTIRE SITE SEARCHED?	(YES) NO	IF NO, INDICATE AREA			METERS OF SHORELINE M² OF HABITAT

PHYSICAL AND CHEMICAL ENVIRONMENT (CHEMISTRY VARIABLES OPTIONAL - USE EXTRA SPACES FOR ADDITIONAL MEASUREMENTS)

WEATHER:	✓ CLEAR — high thin clouds to	OVERCAST	RAIN	SNOW	WIND:	(CALM) — (LIGHT) STRONG
AIR TEMP (circle scale) 74 °C (°F)	WATER TEMP (circle scale) 54–58 °C (°F)	COLOR:	(CLEAR)	STAINED	TURBIDITY:	(CLEAR) — (CLOUDY)
pH	ANC					

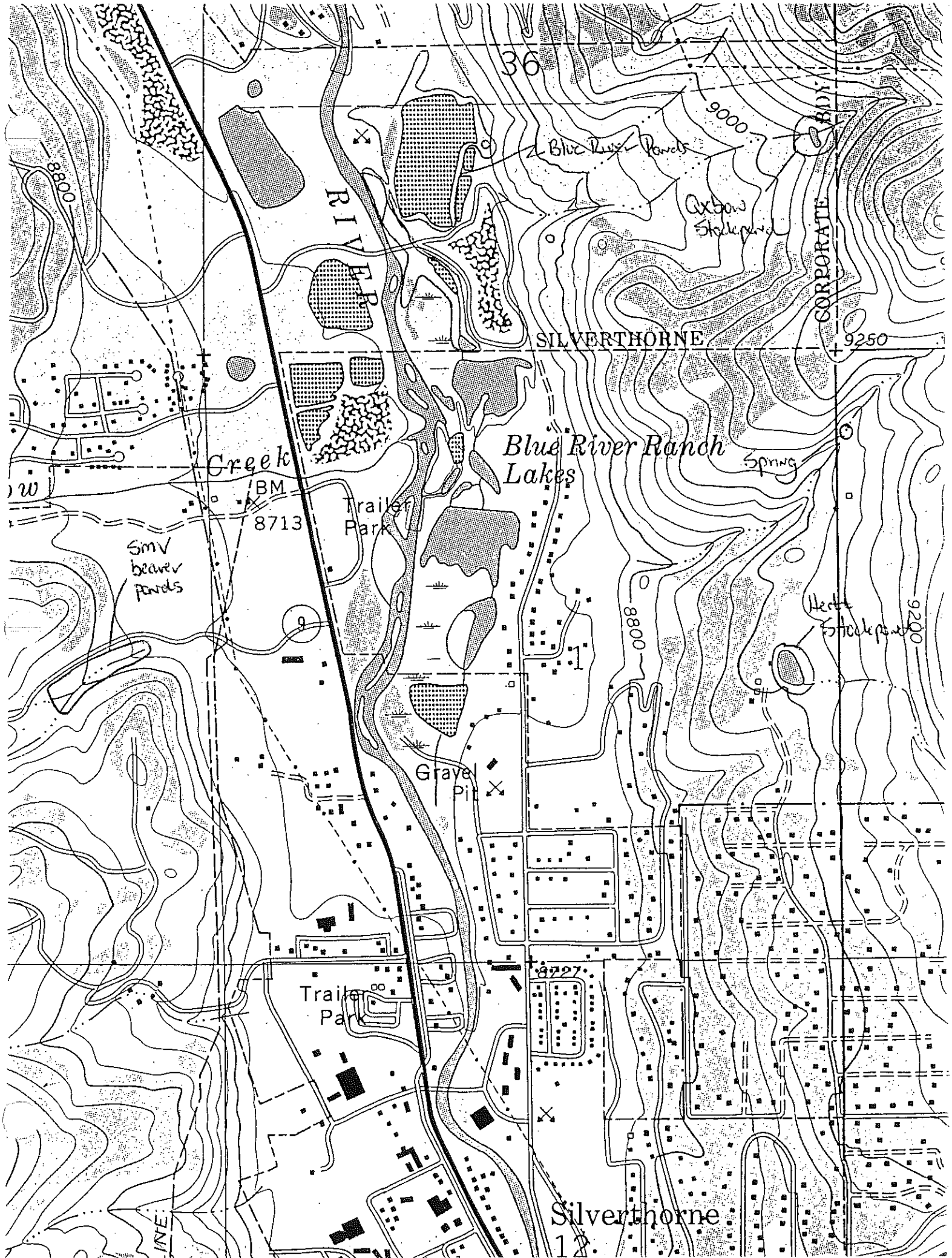
SITE DESCRIPTION - (SKETCH SITE AND PUT ADDITIONAL COMMENTS ON BACK OF SHEET) OMIT THIS SECTION IF DATA HAVE BEEN COLLECTED ON A PREVIOUS VISIT

see prev

ORIGIN:	NATURAL	MAN-MADE	DRAINAGE:	PERMANENT	OCCASIONAL	NONE	
DESCRIPTION:	PERMANENT LAKE/POND	TEMPORARY LAKE/POND	MARSH/BOG	STREAM	SPRING/SEEP	ACTIVE BEAVER POND	INACTIVE BEAVER POND
SITE LENGTH (M)	SITE WIDTH (M)		MAXIMUM DEPTH:	<1 M	1-2 M	>2 M	
STREAM ORDER	1	3	4	5	6		
PRIMARY SUBSTRATE:	SILT/MUD	SAND/GRAVEL	COBBLE	BOULDER/ROCK	OTHER		
% OF LAKE MARGIN WITH EMERGENT VEGETATION	0	1-25	25-50	>50			
EMERGENT VEGETATION SPECIES (LIST IN ORDER OF ABUNDANCE)							
NORTH SHORELINE CHARACTERS:	SHALLOWS PRESENT	SHALLOWS ABSENT	EMERGENT VEG PRESENT	EMERGENT VEG ABSENT			
DISTANCE (M) TO FOREST EDGE	FOREST TREE SPECIES:						

Carex now ≥ 2' above H_2O level - Can't see between. Area of open H_2O considerably smaller

RUBB
Ycwh
S Spa
Tree Swal
Barn (Swa?)
Musk (sc.)
Rocc (t)


36
9000
Blue River Ponds
Oxbow Stockpond
RIVER Rd
CORPORATE BDY
8800
SILVERTHORNE
9250
Creek
BM
8713
Trailer Park
Blue River Ranch Lakes
Spring
SMV beaver ponds
8800
9200
Heede Stockpond
1
Gravel Pit
8727
Trailer Park
Silverthorne
12