GEOMORPHOLOGIC FACTORS IN THE FAILURE OF GENERAL BURGOYNE'S NORTHERN CAMPAIGN OF 1777

by
Kenneth G. Johnson and Krista Reichert
Department of Geosciences
Skidmore College
Saratoga Springs, New York 12866

INTRODUCTION

Throughout human history the natural landscape has imposed limitations and offered opportunities to those who would use it. Certainly, in warfare this has always been a fundamental truth – a truth that Lieutenant- General John Burgoyne understood fully when in 1775 he proposed his plan for the British Northern Campaign of 1777. This strategic plan,"Thoughts for Conducting War on the Side of Canada", which was in fact not particularly original, called for a three-pronged invasion (see figure 1) which would involve using waterways in the upper St. Lawrence and Mohawk Valleys and in the Hudson-Champlain lowland to transport armies which would converge on Albany, New York and thereby isolate the fervently rebellious New England colonies from those colonies south of New York. A possible follow-up element of the plan was to then turn east and advance on Boston (Ketchum, 1997). Albany was important also because it served as the supply base for the Northern Department of the American Army.

This field trip will focus on the path of advance of Burgoyne's army from Fort Anne south through Fort Edward and Saratoga (now Schuylerville) to Bemis Heights, where 225 years ago the American forces under Major General Horatio Gates defeated the British army and turned the tide of the American Revolution. The final stop will be at the Saratoga National Historical Park, where from 2:00 pm to 3:15 pm there will be period music, interpretive activities and a mass tactical demonstration at the Barber Wheatfield, ground of the second of the Battles of Saratoga.

GEOMORPHOLOGIC SETTING OF THE NORTHERN CAMPAIGN

According to Thornbury (1965), the Hudson–Champlain lowland comprises the Northern section of the Ridge and Valley geomorphic province. The section differs significantly from the Middle and Southern sections in that: (1) it is much narrower, (2) longitudinal ridges are notably fewer and entirely lacking in the northern two-thirds of the section, (3) major drainage lines are longitudinal rather than transverse, and (4) it has been glaciated. In addition, the Hudson-Champlain section is bordered along most of its length by conspicuously higher terrain on both the east and the west, with the exception of the Mohawk Valley west of Albany.

Ordovician Hudson River shale underlies the Hudson-Champlain lowland between the Delaware and Hudson Rivers. At about Kingston (see figure 2), some 10 miles north of the Precambrian Hudson Highlands, a change characterized by a distinct difference in the geology on the east and west sides of the Hudson lowlands occurs. On the west side of the valley Hudson River shales and Devonian limestones form the bedrock. East of the Hudson River the rocks are mainly slates of the Slate Belt (Dale, 1899). The precise nature of the boundary between the two types of rocks, Logan's Line, is controversial. Whatever the nature of this boundary, there is a clear difference in the landscape on the two sides of the valley. West of the Hudson River there is a marked topographic lineation reflecting folds similar to those farther south in Pennsylvania and Virginia. These ridge heights, however, are measured in tens of feet rather than hundreds, and ridge lengths in miles rather than tens of miles (Thornbury, 1965).

Glacial deposits are abundant in the Hudson-Champlain Lowland. These include ground moraine, outwash sand and gravel, lacustrine silts and clays and kame terrace deposits. The silts and clays were deposited in glacial Lake Albany (Woodworth, 1905); many deltas mark the shoreline and level of this former lake. The relationship between these sedimentary facies and the deglacial history of the Hudson River Valley have been interpreted and reported on by Chapman (1942), LaFleur (1965, 1979), Connally and Sirkin (1969), Connally (1973), Dineen and Rogers (1979), DeSimone (1977,1985), DeSimone and LaFleur (1985) and Johnson (1985), among others.

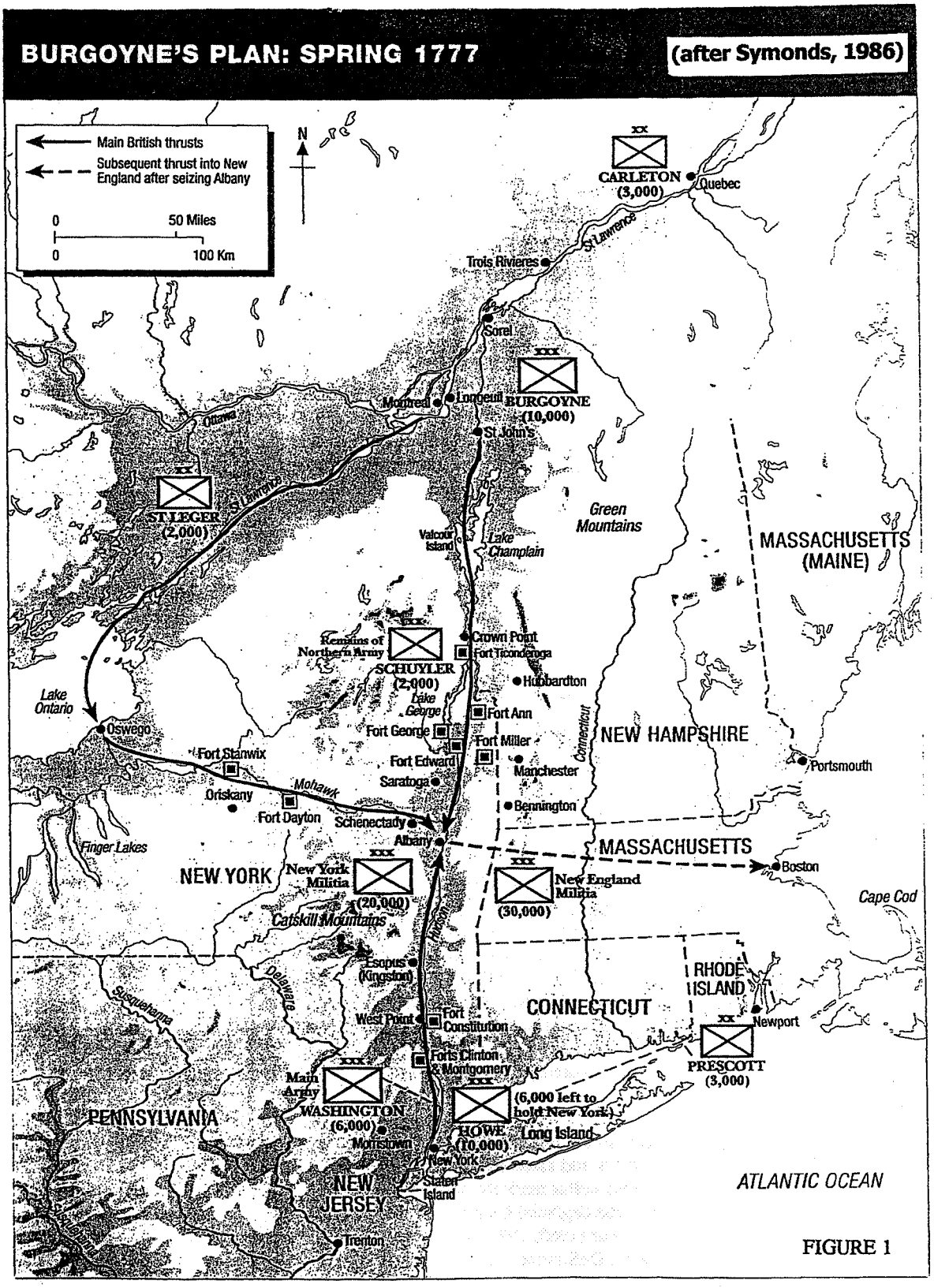

BURGOYNE'S PLAN: SPRING 1777
(after Symonds, 1986)
Main British thrusts
Subsequent thrust into New England after seizing Albany
0
50 Miles
0
100 Km
N
CARLETON
(3,000)
Quebec
St Lawrence
Trois Rivieres
Sorel
BURGOYNE
(10,000)
Montreal
Longueil
St John's
Ottawa
ST LEGER
(2,000)
St Lawrence
Green Mountains
Lake Champlain
Valcour Island
MASSACHUSETTS
(MAINE)
Remains of Northern Army
SCHUYLER
(2,000)
Crown Point
Fort Ticonderoga
Hubbardton
Lake George
Fort Ann
Lake Ontario
Oswego
Fort George
Fort Miller
Connecticut
NEW HAMPSHIRE
Portsmouth
Fort Stanwix
Fort Edward
Manchester
Saratoga
Mohawk
Oriskany
Fort Dayton
Schenectady
Bennington
Albany
Finger Lakes
NEW YORK
New York Militia
(20,000)
MASSACHUSETTS
New England Militia
(30,000)
Boston
Cape Cod
Catskill Mountains
Hudson
Esopus
(Kingston)
RHODE ISLAND
Delaware
Susquehanna
CONNECTICUT
West Point
Fort Constitution
Newport
Forts Clinton & Montgomery
PRESCOTT
(3,000)
Main Army
WASHINGTON
(6,000)
(6,000 left to hold New York)
HOWE
(10,000)
Long Island
PENNSYLVANIA
Morristown
New York
Staten Island
NEW JERSEY
ATLANTIC OCEAN
Trenton

FIGURE 1


ADIRONDACK MTS.
Blue Mtn. Lake
Lake Pleasant
Glen Falls
Hudson Falls
Saratoga Spgs.
Rome
Utica
Oneida
Herkimer
Gloversville
Johnstown
Ballston Spa.
Fonda
Amsterdam
Canajoharie
Schenectady
Cohoes
Troy
Albany
Cooperstown
Schoharie
Norwich
Oneonta
Delhi
Hudson
Catskill
Pittsfield
Kingston
CATSKILL MTS.
TACONIC RANGE
MASSACHUSETTS
VERMONT
(after Bier, 1964)

FIGURE 2

Long before the first shots of the American revolution were fired, the Hudson-Champlain Lowland was a key corridor for both commerce and warfare in North America. Native Americans used it as the "Great Warpath" and, starting with the Dutch traders, Europeans used the corridor as an entryway for commerce and settlement and as a battleground in the struggles for control of the New World.

EARLY PROGRESS OF THE NORTHERN CAMPAIGN

Burgoyne's army was impressive as it departed St. John's June 17th, 1777. In numbers, British and German troops were almost evenly divided for a total of more than 7,000 men. The remaining 3,000 men were Canadian militia and Indians (Ketchum, 1997). As it turned out, however, a major flaw in the plan was the reliance of the army on enormous baggage trains, which beyond the southern end of Lake Champlain were needed to transport equipment, ammunition and supplies, including 138 artillery pieces ranging in size from 24-pounders to 4.4 inch mortars.

Transport was not a problem between June 17th and July 6th, as all equipment and men were carried south on the lake in bateaux, which made between 9 and 20 miles per day (Ketchum, 1997). This changed south of Skenesborough (see figure 3), where poorly constructed two-wheeled wagons turned out to be largely inadequate on what in that area passed for roads. The importance of these wagons, and the draft animals needed to pull them, is highlighted by the fact that hundreds of them were required to move the army (30 of these just to carry the baggage of the general and his staff).

The British occupied Crown Point on June 26th and after a 4-day siege took Fort Ticonderoga on July 6th, in part because of the poor condition of the fort itself and the Americans defending it and in part because the British accomplished "the impossible" by dragging artillery to the top of Mt. Defiance, which commanded all of the American defenses, including the fort and the water route south to Skenesborough (Symonds, 1986). Before the British were able to put the artillery into action, however, General St. Clair, the American commander, withdrew his approximately 2,500 men southeast into Vermont and south to Skenesborough, with Burgoyne's forces in hot pursuit.

With his arrival at Skenesborough on July 8th, Burgoyne became concerned that the rapid advance of his troops had left the bulk of his supply column behind (see table 1). Although most of the artillery was to be floated down Lake George and then hauled to the Hudson River, he felt that it was necessary for the troops to wait for supplies at Skenesborough until the entire army could advance 30 miles along the Wood Creek drainage to Fort Edward. This decision and the selection of this particular route of advance presented the Americans with a magnificent gift of time (Ketchum, 1997), and they put it to very good use.

It is significant that most of St. Clair's men escaped to fight another day and it is even more noteworthy that the victory at Ticonderoga and the occupation of Skenesborough marked the high water mark of Burgoyne's Northern Campaign. Up until then, the landscape had presented opportunities for his forces, and he had capitalized on them. From Skenesborough south, limitations in the form of difficult terrain, bad weather conditions and effective delaying tactics on the part of General Schuyler's American forces turned the campaign into a nightmare for Burgoyne and his troops. The ultimate blow was General Gates' skillful exploitation of the lay of the land at Bemis Heights, described in elegant detail by Schnitzer (2002).

LATER DIFFICULTIES OF THE NORTHERN CAMPAIGN

General Burgoyne's strategic analysis of the military opportunities offered by the natural landscape of northern New York was excellent. His army and those of Howe to the south and St. Leger to the west could use natural corridors and their waterways to move quickly and easily through the heavily forested terrain. He recognized that the lack of roads in the as yet undeveloped region was a limitation, but that this was compensated for by the waterways that led directly from the British base in Canada to Albany and ultimately to New York City. The supply lines would be long, but the combination of water transport and the opportunity to forage for food and re-supply of draft animals in a region reported to be inhabited by supporters of Great Britain would compensate for the length of the supply lines. Unfortunately for Burgoyne, his early tactical successes and rapid advance, the slow progress of his supply column and the collapse of the other two prongs of his strategic plan combined to convince him that he should proceed south from Skenesborough with caution and deliberation. As noted above, Generals Schuyler and Gates used this gift of time to good effect.

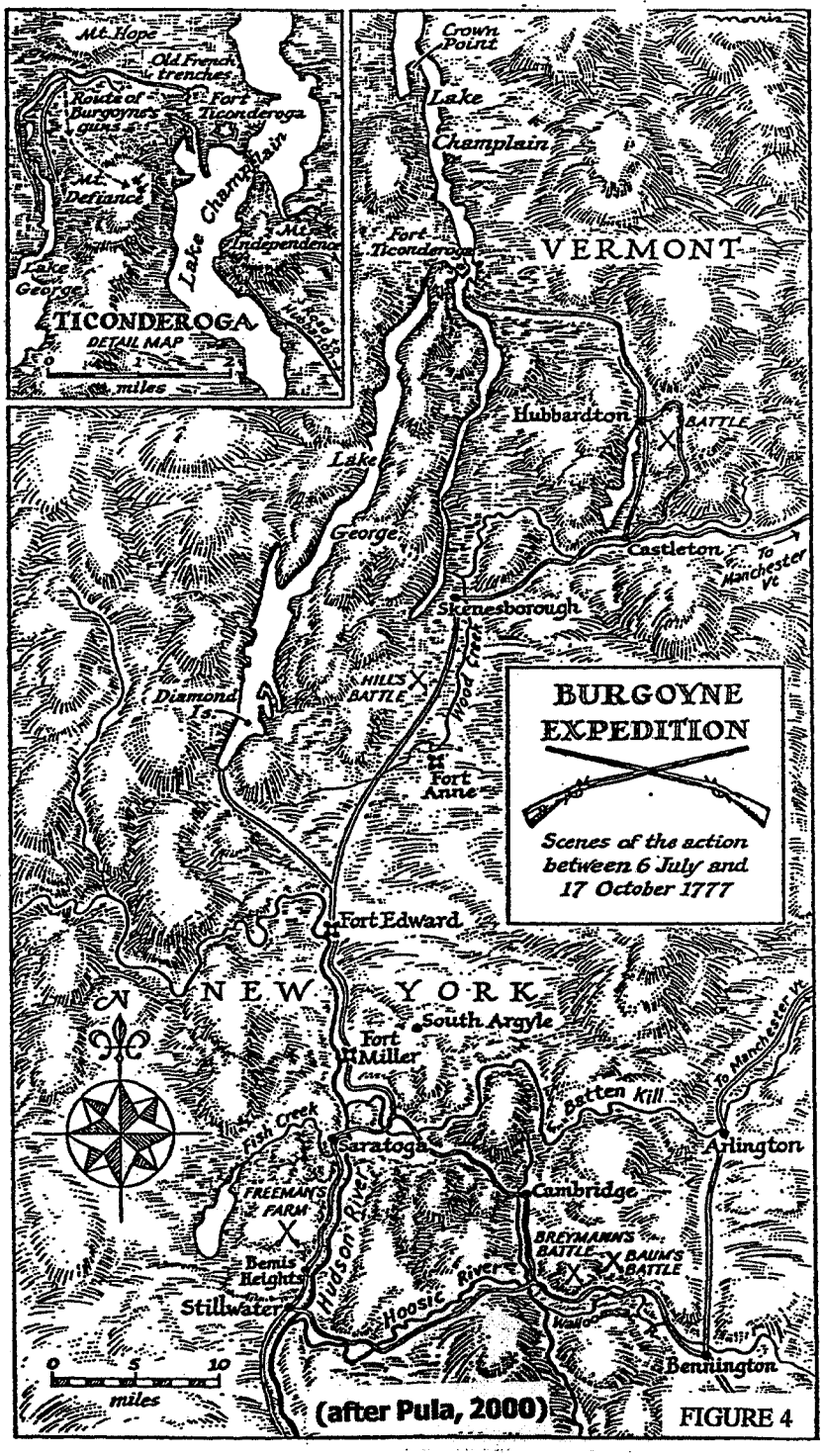

Mt. Hope
Old French trenches
Routes of Burgoyne's guns
Fort Ticonderoga
Mt. Defiance
Lake Champlain
Mt. Independence
Lake George
TICONDEROGA
DETAIL MAP
0 1
miles
Crown Point
Lake Champlain
Fort Ticonderoga
VERMONT
Hubbardton
BATTLE
Lake George
Castleton
To Manchester Vt
Skenesborough
Diamond Is.
HILLS BATTLE
Fort Anne
BURGOYNE EXPEDITION
Scenes of the action between 6 July and 17 October 1777
Fort Edward
NEW YORK
South Argyle
Fort Miller
Batten Kill
To Manchester Vt
Fish Creek
Saratoga
Arlington
FREEMAN'S FARM
Cambridge
Hudson River
BREYMANN'S BATTLE
BAUM'S BATTLE
Bemis Heights
Stillwater
Hoosic River
Walloomsac
Bennington
0 5 10
miles
(after Pula, 2000)

FIGURE 4

Chronology of Burgoyne's Northern Campaign of 1777

June	17	General Burgoyne departs St. John's (now St. Jean) with an army of some 10,000 men and an artillery train of 138 guns
	26	Burgoyne captures Crown Point
July	1	Siege of Fort Ticonderoga begins
	5	St. Claire evacuates Fort Ticonderoga under cover of darkness
	6	British occupy Fort Ticonderoga and Skenesborough (now Whitehall)
	7	Battle of Hubbardton
	8	Burgoyne establishes headquarters in Skenesborough Large number of Indians from west arrive at British camp
	8	Battle of Fort Anne Americans burn fort and fall back to Fort Edward
	24	British break camp for march to Hudson River at Fort Edward
	26	British reach Fort Anne
	27	Massacre of Allen family by Indians
	28	Murder of Jane McCrea by Indians
	30	British occupy Fort Edward Americans withdraw to Fort Miller, Saratoga (now Schuylerville) and Stillwater
August	2	Colonel St. Leger begins siege of Fort Stanwix
	6	Battle of Oriskany
	11	Colonel Baum's force departs Fort Miller for Bennington
	16	Battle of Bennington British complete pontoon bridge across Hudson River just north of Saratoga
	19	General Gates assumes command of Northern Department
	22	Fort Stanwix siege lifted and St. Leger retreats to Canada
September	13	British army crosses to west bank of Hudson River just north of Saratoga
	15	Kosciuszko completes American defensive network at Bemis Heights
	19	Battle at Freeman Farm
October	7	Battle at Barber Wheatfield
	9	Burgoyne retreats to Saratoga
	17	Burgoyne surrenders at Saratoga

TABLE 1

AMERICAN EXPLOITATION OF THE LANDSCAPE AND USE OF TERRAIN TO BUY TIME

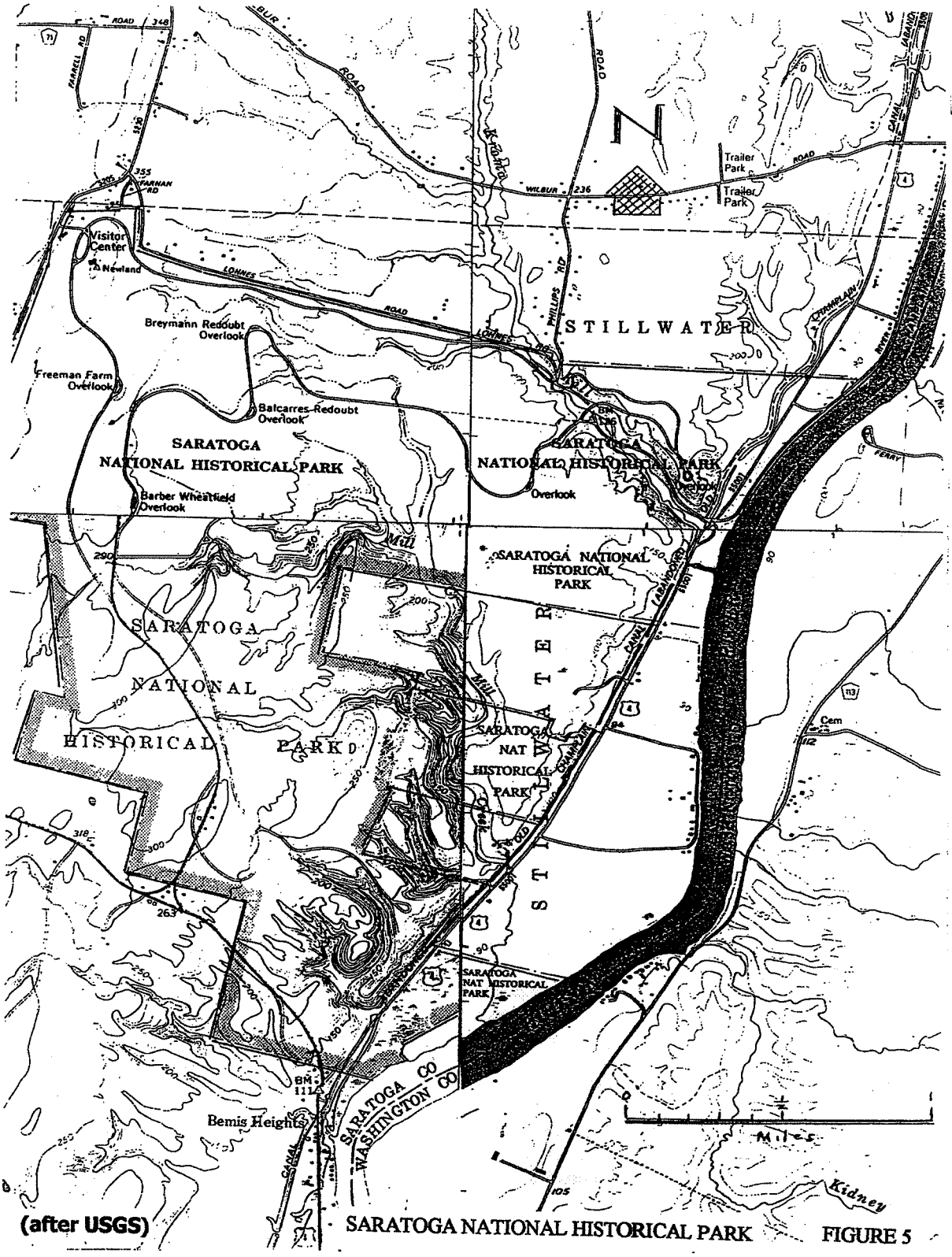
Prior to the beginning of the Northern Campaign, the American Northern Army, commanded by General Schuyler, was in bad shape. After the Crown Point, Ticonderoga, Hubbardton, Skenesborough and Fort Anne engagements it could barely be considered an army, but the officers and men remaining under arms were on home ground and they proved very adept at harassing British forces, evading open battle with them and using delaying tactics. For example:

- The 30-mile march from Skenesborough to Fort Edward followed Wood Creek for most of the way. This land at that time was covered by dense forest with underbrush and was very poorly drained. As luck would have it, July of 1777 was excessively rainy, hot and humid. A crude trail connected Skenesborough and Fort Anne and beyond that even the trail was hardly worthy of the name. The British had to hack out a primitive road, with numerous bridges over the creek and its tributaries in order to accommodate the large supply-wagon train. This entire valley is underlain by lake clay and alluvium, with a short stretch of exposed bedrock around and immediately north of Fort Anne (Connally, 1997). Swamps are numerous along the route; one that had to be crossed is 3 miles long. Schuyler's plan was simple – it was to keep his army out of harms way, husband his resources, and prevent the British from doing whatever it was they had in mind to do (Ketchum, 1997). American soldiers-turned-axemen felled trees across trails and road, dammed streams and destroyed bridges, while the abnormally heavy rains flooded scores of acres and created new bogs. The effect of this American activity on what was a very limiting natural landscape was that it was 22 days between the British occupation of Skenesborough and their occupation of Fort Edward, only 30 miles south.

- Fort Edward was an important control point at the south end of the portage to Lake George and the portage to Skenesborough on Lake Champlain. The Americans realized that, in point of fact, the fort could not be defended, in part because it was overlooked by high ground close-by to the northwest and in part because it was in very poor repair. The high ground is co-extensive with the outer edge of the foreset and bottomset beds of the Glens Falls glacio-lacustrine delta and the site of the fort is on Holocene alluvium underlain by glacio-lacustrine silt and clay (Connally, 1997). As Burgoyne failed to control his Indians, and they terrorized the countryside, the British forces approached Fort Edward and the Americans abandoned the fort and withdrew south towards Fort Miller, a small post that protected a portage around rapids in the Hudson River.

- The Americans continued their withdrawal farther south, and Burgoyne ordered a force under Colonel Baum southeast from Fort Miller to capture provisions and horses at Bennington. This expedition was decisively defeated in the Walloomsac water gap, with a loss of over 900 men killed, wounded, captured or missing (Ward, 1952; Ketchum, 1997). On August 16th, the same day as the battle of Bennington, General Fraser's advance corps completed a pontoon bridge across the Hudson just north of Saratoga, at the foot of rapids formed by steeply dipping Normanskill shale. Ironically, Burgoyne's army did not cross this bridge to the west bank of the Hudson until September 13th, almost a month later. Burgoyne continued to give the Americans the precious gift of time, and on September 15th Colonel Kosciuszko, General Gates' very able engineering officer, completed the well-designed defensive network at Bemis Heights. With that action, the Americans defined the ground on which their defense of the Hudson-Champlain corridor would play out. Schnitzer (2002) argues that "Burgoyne and Gates' meeting-place was preordained by their aims and the landscape."

- About 8 miles south of Saratoga the river swings west against bluffs (Bemis Heights) that rise 200 feet above the floodplain on the west side of the valley. Immediately north of the bluffs and below them a wetland (vley) occupies the narrow floodplain, with River Road squeezed against the west bank of the river. The geomorphic configuration of this eight-mile stretch is dominated by glacio-lacustrine sediments (Heath, et. al., 1963) that are cut by hanging valleys on both the west and east sides of the glacially-deepened Hudson Lowland. To the west, the land rises to NNE-SSW trending drumlinoid ridges consisting of a thin layer of till and other Pleistocene sediment on folded interbedded shale and sandstone. These hills are referred to locally as ruckytucks. With this landscape, and its almost complete cover of dense forest, it is hard to imagine a more limiting terrain for the advancing British forces than that at Bemis Heights.



SARATOGA NATIONAL HISTORICAL PARK FIGURE 5

Schnitzer (2000) concisely places the events of September 19th and October 7th in context:

> "The battles of Saratoga ultimately occurred where they did because regional physiography met the objectives of the British, while localized topography served the defensive aims of the Americans. Burgoyne, moving along the time-tested route of advance to Albany, required both the Hudson River and the Road to Albany to move his large, heavily laden force. Gates, charged with defending against Burgoyne's invasion, consciously chose the natural bottleneck at Bemis Heights as the "properest Station" to stop them (Gates, 1977). These two knowledgeable leaders' forces battled at this place not by default, but by design.
>
> The American encampment and fortification of the valley, bluffs, Bemis Heights, and the summit at the Neilson house relied on the strategic characteristics of the landscape. The Americans fully exploited their superior topographic position, forcing Burgoyne to move away from the Hudson to attack the Americans from the west where they could equalize the elevational difference between attacker and attacked."

The decisive British defeat on October 7th convinced Burgoyne that night withdrawal north to Saratoga was necessary. This was accomplished in heavy, cold rain under great pressure from the Americans. The road, on glacio-lacustrine Lake Albany clay, was a quagmire. At Saratoga, the Americans again effectively used the lay of the land to surround the British fortified camp and cut off their avenue of escape east across the Hudson and north to Fort Edward. They did this:

- By positioning General Fellows' artillery on the heights located to the east across the Hudson opposite Saratoga. This ground marks the sharply defined western margin of the Pleistocene Battenkill Delta.

- By sending Colonel Morgan's riflemen into the heavily wooded area of stabilized Pleistocene sand dunes directly west of the British fortified camp.

- By placing artillery on Stark's Knob (see road log description) overlooking the rapids which the British had used on September 13th to cross to the west bank of the Hudson, and which would have been the logical avenue for them to retreat north to Fort Edward.

On October 17th, General Burgoyne, with honor, signed the Convention of Saratoga, and presented his sword to General Gates. Gates, to his credit, returned the sword to Burgoyne; and the British forces marched to Fort Hardy, situated at the edge of the village on the Hudson River floodplain, and grounded arms. The Northern Campaign of 1777, four months to the day after it began, was over.

ACKNOWLEDGEMENTS

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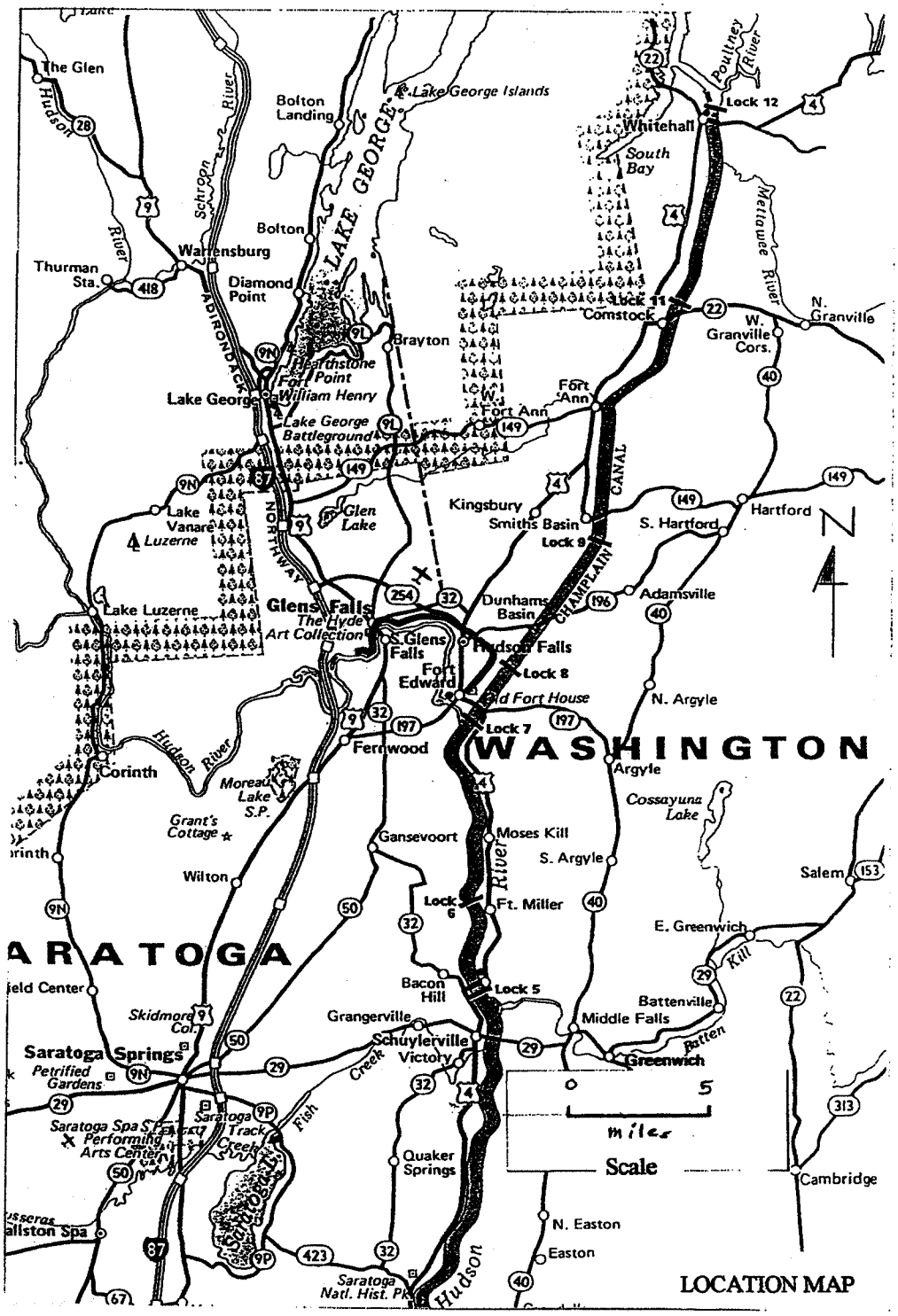
The Glen
Hudson River
Schroon River
Bolton Landing
LAKE GEORGE
E. Lake George Islands
Poultney River
Lock 12
Whitehall
South Bay
Bolton
Warrensburg
Thurman Sta.
Diamond Point
ADIRONDACK
Hatchie Bowie River
Lock 11
Comstock
W. Granville
N. Granville
Brayton
Hearthstone Point
William Henry
Lake George
Fort Ann
Lake George Battleground
CANAL
Kingsbury
Smiths Basin
Lock 9
S. Hartford
Hartford
Lake Vanare
Luzerne
Glen Lake
NORTHWAY
Lake Luzerne
Glens Falls
The Hyde Collection
Dunhams Basin
CHAMPLAIN
Adamsville
S. Glens Falls
Hudson Falls
Lock 8
Fort Edward
Old Fort House
N. Argyle
Lock 7
Fernwood
WASHINGTON
Argyle
Corinth
Hudson River
Moreau Lake S.P.
Grant's Cottage
Cossayuna Lake
Gansevoort
Moses Kill
S. Argyle
Salem
Wilton
Lock 6
Ft. Miller
E. Greenwich
Kill
SARATOGA
Bacon Hill
Lock 5
Battenville
Middle Falls
Grangerville
Skidmore Col.
Schuylerville
Victory
Saratoga Springs
Petrified Gardens
Batten
Greenwich
Saratoga Spa S.P.
Performing Arts Center
Saratoga Track
Fish Creek
Quaker Springs
0 5
miles
Scale
Cambridge
N. Easton
Easton
Ballston Spa
Saratoga Natl. Hist. Pk.
Hudson
LOCATION MAP
N

FIGURE 6

Road Log
Field Trip C.9
Geomorphologic Factors in the Failure of General Burgoyne's Northern Campaign of 1777

The first part of this field trip will follow the general path of that portion of Burgoyne's baggage train that was floated south on Lake George from Ticonderoga and then hauled by wagon from Lake George to Fort Edward. Comments on points of interest for this part of the trip are from a paper (1985) by Anson Piper, Professor of Geology Emeritus, Adirondack Community College. The surficial geology of this region has been mapped by Connally (1973).

Cumulative Miles	Miles from Last Point	Route Description
0		In Lake George Village, start at the corner of McGillis St. and Canada St. (Rt. 9) and proceed south on Rt. 9.
2.3	2.3	Bloody Pond, a kettle lake and scene of two French and Indian War skirmishes.
2.6	0.3	On the right (west), an outcrop of Precambrian (Grenville) gneiss. French Mountain, on the left, is a horst on the east side of the Lake George graben. The military road passed below the present road and this was the site of the French ambuscade of the Provincials and Iroquois, known as "The Bloody Morning Scout". Colonel Ephraim Williams, whose estate funded the founding of Williams College, was killed standing on a glacial erratic boulder. The colonials and Mohawks managed to withdraw from "Rocky Gulch" to Lake George, leaving some 100 casualties behind.
4.7	2.1	Kame terrace capped by Lake Albany clays.
5.3	0.6	Immediately north of the Great Escape Amusement Park, on the left, is a low area which is an extension of Glen Lake, an ice block lake. Rt. 9 crosses Five Mile Run, the site of several French and Indian War ambuscades.
5.5	0.2	INTERSECTION – Rt. 9 and Round Pond Rd. – Turn left (east).
6.0	0.5	Round Pond (and Paradise Beach), a kettle lake with an esker on each side at the west end.
6.7	0.7	Round Pond Rd. continues northeast as Blind Rock Rd., which leads down from the kame and esker complex to Bay Road.
7.5	0.8	INTERSECTION – Blind Rock Rd. and Bay Rd. – Turn right (south) on Bay Rd.
7.9	0.4	On left, Adirondack Community College, which is situated on glacio-lacustrine clays overlying Ordovician Beekmantown carbonates.
9.3	1.4	INTERSECTION (at traffic light) – Bay Rd. and Quaker Rd. (at the drainage divide between the Lake Camplain/Lake George basin and the Hudson River basin). – Turn left (east) on Quaker Rd. (Rt.254).

10.1	0.8	CONTINUE ON QUAKER RD (Rt. 254) THROUGH RIDGE RD (Rt. 9L) INTERSECTION.
11.8	1.7	INTERSECTION of Quaker Rd. (Rt. 254) with Dix Ave. at traffic light. Dix Ave. follows part of the route of the old military road from Fort Edward to Lake George, which skirted a low area and then swung west and north to avoid the swamp through which Quaker Rd. passes.
12.2	0.4	T-INTERSECTION – Rt. 254 Quaker Rd. ends. Bear left (east) and continue on Rt. 254 (now River St.)
13.5	1.3	River St. hugs the northeast bank of the Hudson River and climbs to the Hudson Falls Village Park. Drive to the right around the park and continue south on Rt. 4 (Main St.). Rt. 4, which enters Hudson Falls from the northeast follows the northwest side of the Champlain Canal. This is the Wood Creek Valley, which Burgoyne used to advance from Skenesborough (now Whitehall) through Fort Anne to Fort Edward (see p. C.9-7)
14.5	1.0	STOP #1 Pull off road on right side
		STOP #1 – UNION CEMETARY -- This location is on the gently sloping top of the Glens Falls glacio-lacustrine delta. Connally (1973) maps these delta facies as foreset and bottomset sands, underlain by shale bedrock. It is easy to understand why the settlement that preceeded present-day Hudson Falls was called "Sandy Hill". Jane McCrae, murdered by Burgoyne's Indians, is buried in the cemetary. It is ironic that she was engaged to a junior officer in Burgoyne's forces and members of her family were British sympathizers. The Americans made maximum use of her murder for propaganda purposes.
		Continue south on Rt. 4
15.4	0.9	Approximate location of site where Jane McCrea was murdered. A blockhouse in the defensive network of Fort Edward was located where the school athletic field is now situated.
15.5	0.1	Continue down hill into Village of Fort Edward
16.0	0.5	At traffic light – INTERSECTION OF RT 4 and ROUTE 197; Continue southeast on Rt. 4.
16.2	0.2	On Right, site of Fort Edward (see p. C.9-7). Only a small portion of the moat of this fort remains, even though prior to 1800 it was the largest British military installation in North America. The fort was never besieged or defended, except against small raiding parties.
16.3	0.1	Bridge over Fort Edward Creek. ON LEFT, an old canal aqueduct over the creek.

16.5	0.2	On right, Old Fort House Museum, built prior to the Revolution of materials said to have been scavenged from buildings at Fort Edward.
16.6	0.1	CROSS Champlain Canal just north of Lock 7. This water barrier did not exist prior to the 19th Century and consequently the military road extended down the east side of the Hudson River.
18.8	2.2	On the right, the first burial site of Jane McCrea and the grave of a militia Lieutenant who was killed the same day, during the Indian attacks near Fort Edward.
21.2	2.4	CROSS Moses Kill
23.4	2.2	On the right, across the canal, FORT MILLER.
24.9	1.5	Old lock foundation on the left.
26.1	1.2	Bridge over Hudson River into Saratoga County. Bridge is just upstream from the rapids, now a dam, that were exploited by the British to build a pontoon bridge to the west bank of the Hudson. General Fraser's advance corps completed the bridge the same day as the Battle of Bennington, but Burgoyne's army did not cross it until almost a month later.
26.9	0.8	STOP #2 –STARK'S KNOB – At the junction of Rt. 4 and Stark's Knob Road. Immediately west of this point an abrupt hill was used by the Americans to set up an artillery position that commanded the road and the river crossing that Burgoyne planned to use in his retreat north after the Battles of Saratoga. The knob is a mass of pillow basalt, that probably was pushed westward in one of the Taconic thrusts. It is generally agreed that it is allochthonous. The knob has been quarried for road metal and is much smaller than it origianlly was.
28.0	1.1	In Schuylerville (Saratoga in 1777), at the first traffic light, TURN RIGHT (west) onto Rt. 29, the General Philip Schuyler Commemorative Highway. The road climbs west out of the Hudson Valley.
28.2	0.2	At the entrance to the Schuylerville Central School, Rt. 29 crosses the position of the breastworks of Burgoyne's fortified camp and west of this at a higher elevation is an area of stabilized sand dunes composed of reworked material deposited in Glacial lake Albany.
29.0	0.8	LEAVE Rt. 29 and turn left (south) on Saratoga County Rt. 338. Colonel Morgan held this position to prevent a British retreat to the west. Follow this road to –
29.7	0.7	STOP # 3 – The SARATOGA BATTLE MONUMENT. This is a location that overlooks the Hudson Valley about 10 miles north of Bemis Heights, where the Battles of Saratoga were fought.

30.4	0.7	CONTINUE down the hill into the southern part of Schuylerville to Rt. 4 and turn right (south).
30.5	0.1	CROSS FISH CREEK, which drains Saratoga Lake about 15 miles to the west. ON THE LEFT, the Schuyler house, manorial home of General Schuyler, which for tactical reasons was burned by Burgoyne during his retreat after the Battles of Saratoga. The house was rebuilt and is now a National Park historical site.
30.0	0.5	On right, an outcrop of Ordovician Normanskill shale. Other outcrops are present along the road farther south.
32.9	1.9	On left, site of Dovegat House, which served as Burgoyne's headquarters.
33.1	0.2	COVEVILLE – The Cove, a Hudson River backwater, is part of a plunge basin formed when the waters of present-day Fish Creek entered glacial Lake Fort Ann at this point. The British used this backwater to anchor some of their transport bateaux just before the Battles at Bemis Heights.
36.0	2.9	Wilbur Road, on right, leads to the Saratoga National Veterans Cemetary.
36.9	0.9	Entering National Park Lands.
37.4	0.5	ENTRANCE to Saratoga National Historical Park. Our manner of entrance and activities there will be determined by the events connected with the 225th Anniversary of the Battles of Saratoga that are taking place on September 29th. STOP #4