NYSGA GUIDEBOOKS AND GEOSPATIAL INDEX NOW AVAILABLE ONLINE FOR FREE

Otto H. Muller
Geology Department
Alfred University

fmuller@alfred.edu

David Valentino
Department of Atmospheric and Geological Sciences
SUNY at Oswego

NYSGA
New York State Geological Association

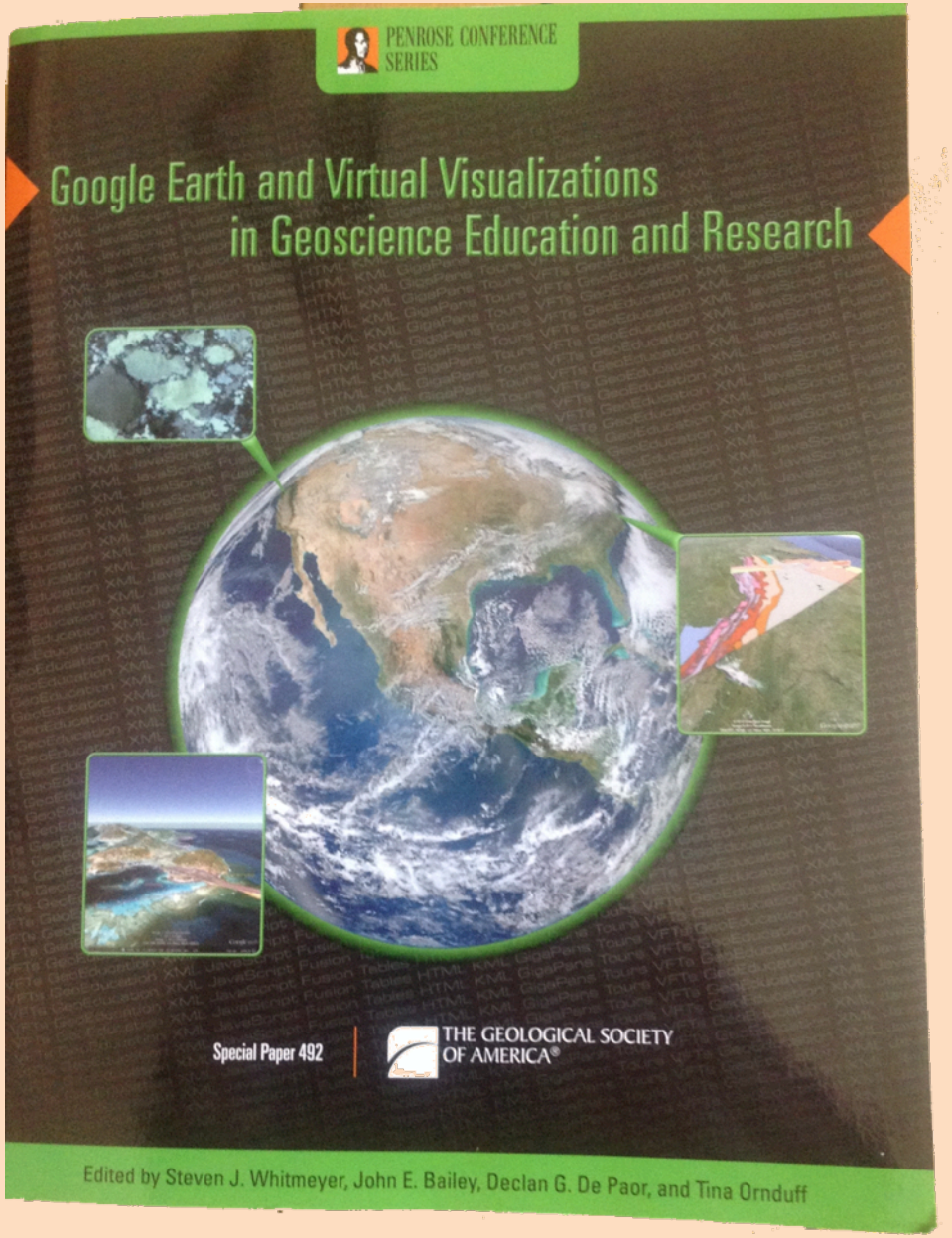
60 years of evolving thoughts
...about the same rocks

Complete instructions, useful for other Field Trip Guidebooks, can be found in GSA Special Paper 492:

Google Earth and Virtual Visualizations in Geoscience Education and Research

Whitmeyer, Bailey, DePaor and Ornduff, eds.

2012



NYSGA
New York State Geological Association

The Process

Scan Roadlogs from Guidebook or obtain PDF

Do Optical Character Recognition (OCR)

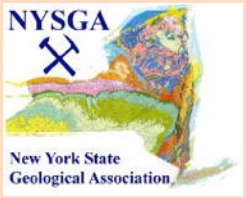
Plot route on Google Earth

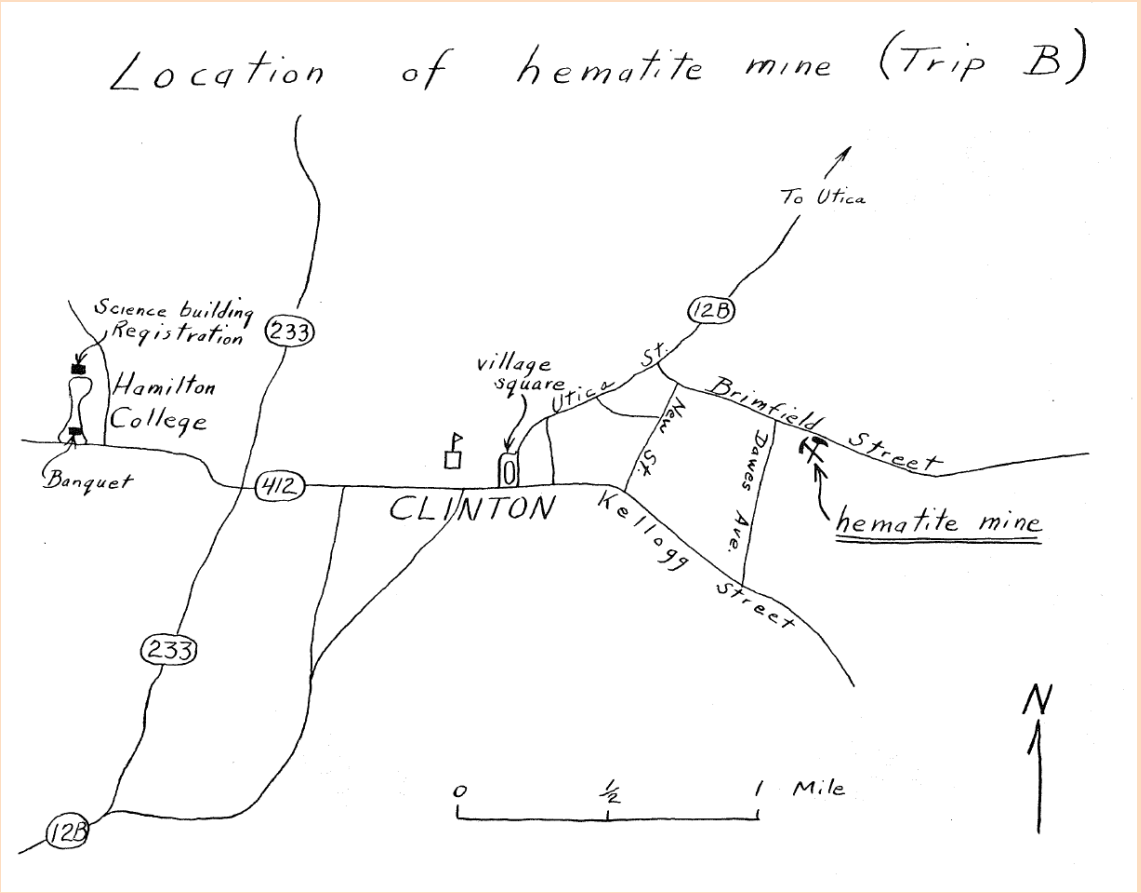
Put Placemarks on route with results from OCR

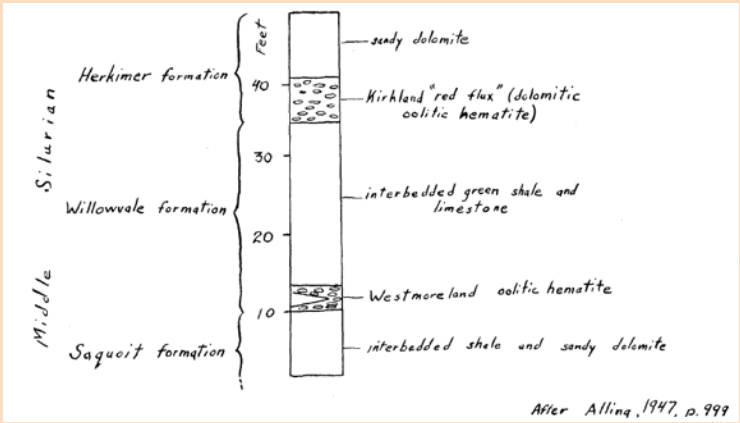
Adjust content, styles, etc., of kml file

Clean up in Filemaker

Upload kml file to Web and to Fusion Tables







1960 Trip B went underground in the Clinton Metallic Paint Co. mine. The mine closed in 1963.

NYSGA
New York State Geological Association

47.9 Turn right at sign for Mohawk Campsites 300 yards before TeePee; bear right at Y.

48.1 STOP #1: The Cherry Valley Limestone outcrops for several hundred feet along the roadside and is one of the most extensive outcrops available for study. This location was chosen as the type section for the study conducted during the summer of 1968. The contact between the Cherry Valley and the Union Springs member below is gradational over a distance of 0.2 feet. The lowermost portion of the Cherry Valley contains abundant brachiopods and ammonoids. It is a medium grained dark gray skeletal limestone separated from the middle beds by a thin zone of Aulopora. The central unit is a nodular bed composed of medium grained limestone interbedded with argillaceous layers. The limestones, up to 0.6 feet thick, are broken into nodules; a case of sedimentary boudinage. The central unit is only slightly fossiliferous. The zone above the central unit is similar to the basal unit in that it contains a thin zone of Aulopora which separates it from the massive bed above. The uppermost unit of the Cherry Valley is a massive medium to coarse grained limestone with abundant orthocone nautiloids and brachiopods. The brachiopods found in the uppermost layers vary from those found in the basal layers. The Cherry Valley is gradational with the shales above which are extremely fossiliferous with brachiopods and bryozoans.

John Cottrell

1972 Trip G

Stop #3. Lower to Middle Devonian airfall tephra beds, U.S. Rte. 20 cuts, near Cherry Valley, NY. (between ca. 42.821797°, -74.731025° to ca. 42.822202°, -74.723747°)

Roadcuts on the south side of Rte. 20 east of Rte. 166 expose a long, nearly continuous section of the Lower Devonian Kalkberg, Oriskany, Esopus and Schoharie formations, and the Middle Devonian Onondaga Formation. Additional outcrops to the east expose the Union Springs and Oatka Creek formations (Marcellus subgroup of Ver Straeten 2007b). See Figure 13 for more details.

Charles VerStraeten
Gordon Baird
Paul Karabinos
Scott Samson
Carlton E. Brett

2012 Trip A7

NYSGA
New York State Geological Association

a) Seneca Member of Onondaga Limestone at Stop 4 of this trip. Prominent crevice of Tioga B Tephra visible at base. Hammer for scale in lower left, at base of outcrop.

b) Close-up view of Tioga B at Stop 4, showing 12 cm thick K-bentonite clay bed. Deep recession due to bioerosion (decades of geologists collecting samples).

2012 Trip A7

NYSGA
New York State Geological Association

Progress to date:

40 Guidebooks

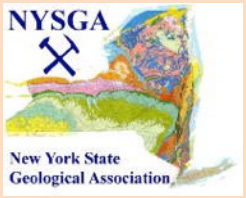
443 Trips

6,523 Placemarks

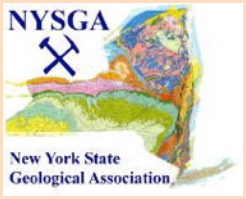
2,482 Stops

4,041 Views

(155,096 lines of code and data)



Year	Host Institution	Location	Pages	Trips
1956	University of Rochester	Rochester	121	7
1957	NY State Museum	Wellsville	66	5
1958	City College of CUNY	Peekskill	51	6
1959	Cornell University	Ithaca	136	3
1960	Hamilton College	Clinton	61	4
1961	R.P.I.	Troy	96	5
1962	Brooklyn College	Port Jervis	90	5
1963	SUNY Binghamton	Binghamton	116	5
1964	Syracuse University	Syracuse	126	17
1965	Union College	Schenectady	111	4
1966	SUNY Buffalo	Niagara Falls	116	11
1967	SUNY New Paltz	Newburgh	128	8
1968	Queens Coll. CUNY	Flushing	260	10
1969	SUNY Plattsburgh	Plattsburgh	183	10
1970	SUNY Cortland	Cortland	139	9
1971	SUNY Potsdam	Potsdam	150	6
1972	Colgate; Utica College	Utica	222	10
1973	SUNY Brockport	Rochester	177	9
1974	SUNY Fredonia	Fredonia	187	15
1975	Hofstra University	Hempstead	327	17
1976	Vassar College	Poughkeepsie	297	14
1977	SUNY Oneonta	Oneonta	455	17
1978	Syracuse University	Syracuse	385	21
1979	R.P.I.	Troy	457	18
1980	Rutgers at Newark	Newark, NJ	400	20
1981	SUNY Binghamton	Binghamton	282	13
1982	SUNY at Buffalo	Amherst	385	13
1983	SUNY Potsdam	Potsdam	103	9
1984	Hamilton College	Clinton	352	14
1985	Skidmore College	Saratoga Springs	268	13
1986	Cornell University	Ithaca	279	10
1987	SUNY New Paltz	Kingston	350	16
1988	SUNY Plattsburgh	Plattsburgh	278	12
1989	OCCC	Middletown	302	14
1990	SUNY Fredonia	Fredonia	437	13
1991	SUNY Oneonta	Oneonta	488	17
1992	Colgate (2 Volumes)	Hamilton	258	12
		Saranac Lake	75	2
1993	St. Lawrence Univ.	Canton	271	16
1994	University of Rochester	Rochester	590	13
		Total:	**9,575**	**443**



Google Fusion Table

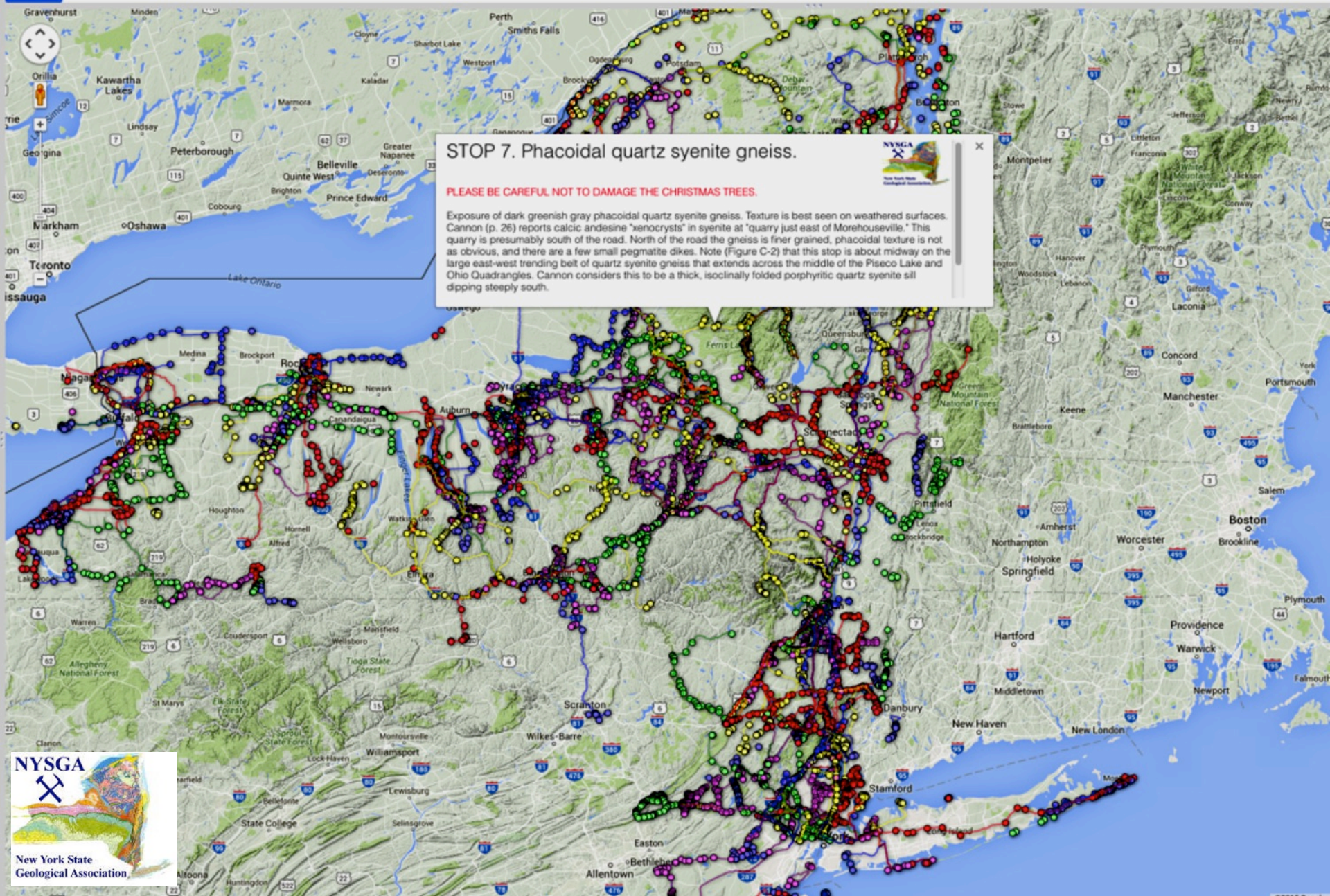
NYSGA 1956-94

Imported at Sun Oct 18 10:25:27 PDT 2015 from NYSGA 1956-78,1980-91,94 modified.csv.

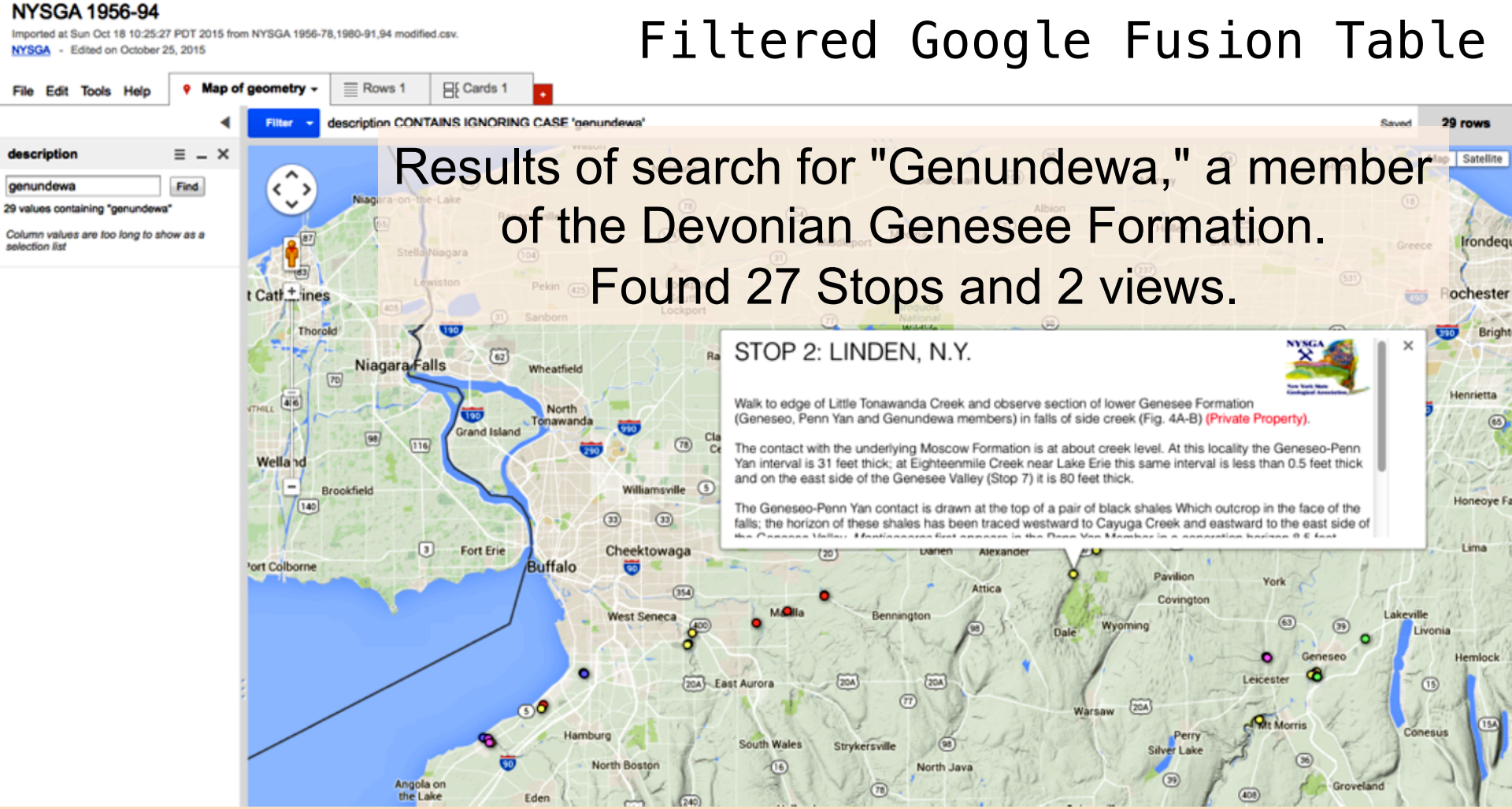
NYSGA - Edited on October 25, 2015

File Edit Tools Help | Map of geometry | Rows 1 | Cards 1

Filter | No filters applied

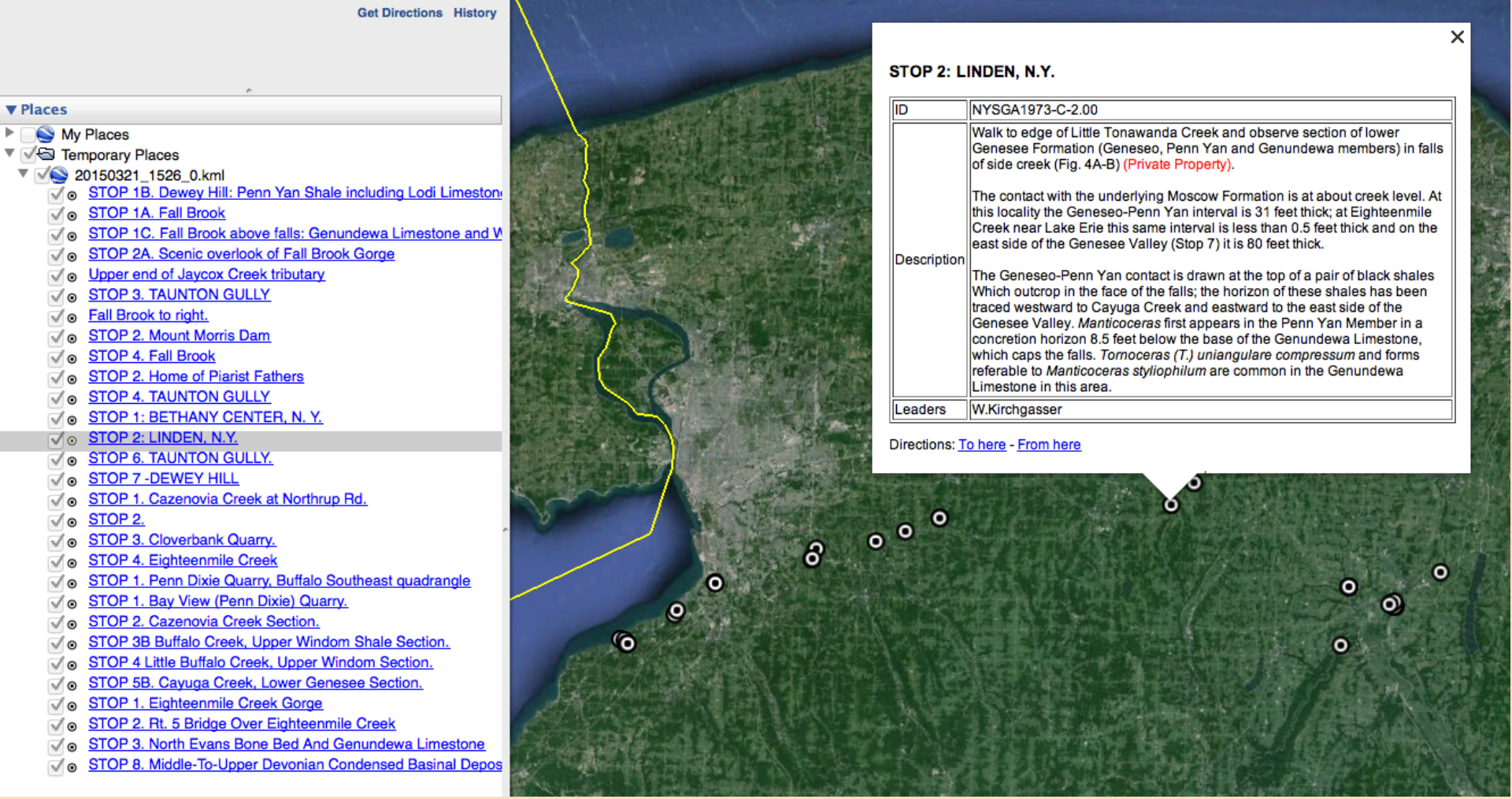


Filtered Google Fusion Table



https://www.google.com/fusiontables/embedviz?q=select+col10+from+1bG25L1djySdBuRRYo1W1pgod8NmnEdUC6rvnR2tL+where+col1+contains+ignoring+case+'genundewa'&viz=MAP&h=false&lat=42.7415458067229 25&lng=-78.42467770253904&t=4&z=10&l=col10&y=2&tmplt=2&hml=KML

NYSGA
New York State Geological Association



Desktop Google Earth showing output from FileMaker search for "Genundewa," a member of the Devonian Genesee Formation.
Found 27 Stops and 2 views.

NYSGA
New York State Geological Association

Google Earth Pro

Google Earth & Street View

NYSGA 1971
NYSGA 1972
NYSGA 1973
NYSGA 1974
NYSGA 1975
NYSGA 1976
NYSGA 1977
NYSGA 1978
NYSGA 1979
NYSGA 1980
NYSGA 1981
NYSGA 1982
NYSGA 1983
NYSGA 1984
NYSGA 1985
NYSGA 1986
NYSGA 1987
NYSGA1988
NYSGA 1989
NYSGA1990
NYSGA 1991
NYSGA 1992.kml
NYSGA 1993
A1: PRECAMBRIAN GEOLOGY OF THE NORTHWEST ADIRONDACK
A2: THE POTSDAM-GRENVILLE CONTACT REVISITED (I)
A3: CAMBRO-ORDOVICIAN STRATIGRAPHY, SEDIMENTATION, AN
A4: THE LATE GLACIAL ORIGIN OF THE CLINTON COUNTY FLATR
A5: RETHINKING GRENVILLE-AGE DEFORMATION - DUCTILE SHEA
B1: BEDROCK EROSIONAL FORMS PRODUCED BY GLACIAL PROCES
B2: THE POTSDAM-GRENVILLE CONTACT REVISITED (II)
B3: SEDIMENTOLOGY AND DIAGEI
B3: SEDIMENTOLOGY AND DIAGENESIS OF THE POTSDAM SAND
STOP 1. Upper portion of the Theresa Formation.
Roadcuts on both sides of Route 37 expose tidal flat facies of the upper portion of the Theresa Formation. The basal beds
STOP 2. Middle portion of the Theresa Formation
The roadcuts at this stop expose the middle portion of the Theresa Formation. The rhythmic interbedding of yellow-white
STOP 3. Contact between Potsdam and Theresa fms.
The contact between the uppermost Potsdam Sandstone and basal Theresa Formation is exposed on the south side of Route
STOP 3a. Replicates last stop
This stop replicates the sequence observed at our last stop, and we will only stay a short time to examine the features of
STOP 4. Contact between lower and upper Potsdam Sandstone
The contact between the lower and upper portions of the Potsdam Sandstone is exposed in the roadcut on the
STOP 5. Proterozoic/Potsdam unconformity
The unconformity between the basal Potsdam Sandstone and underlying Proterozoic gneisses is exposed in the roadcut on
STOP 6. Typical lower Potsdam Sandstone
The roadcut on the southeast side of Route 12 exposes typical lower Potsdam Sandstone. Plane-bedded medium- and fine-
STOP 7. Proterozoic/Potsdam unconformity
The unconformity between the basal Potsdam Sandstone and Proterozoic gneisses is again exposed in these large roadcuts
STOP 8. Conglomerates in the Potsdam formation
These long roadcuts on Interstate Route 81 expose a sequence of conglomerates and pebble-cobble sandstones in the
B4: SOME CLASSIC MINERAL COLLECTING SITES IN ST. LAWRENCE

Earth Gallery

Tour Guide

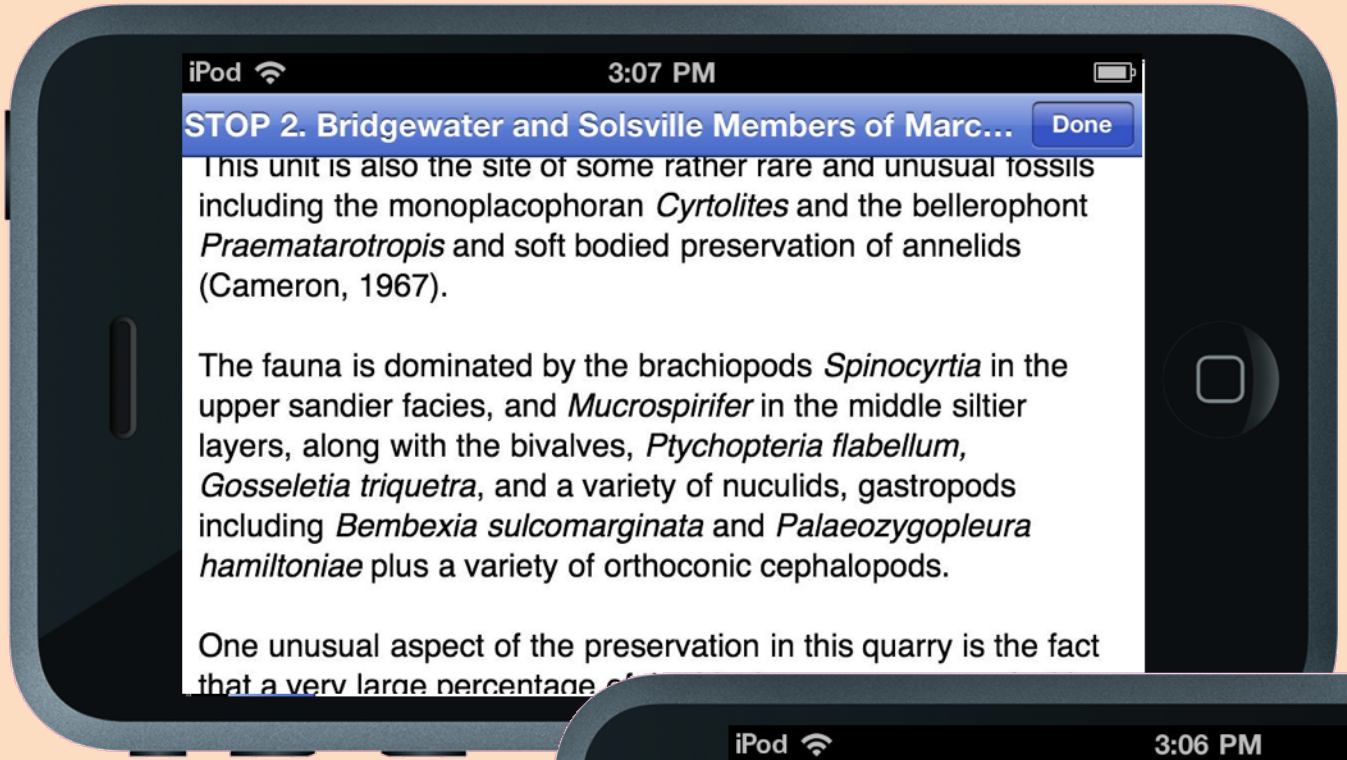
STOP 5. Proterozoic / Potsdam unconformity

The unconformity between the basal Potsdam Sandstone and underlying Proterozoic basement gneisses is exposed in this roadcut on the southeast side of Route 12. This contact represents a time interval of some 600 million years. The basal sandstones here exhibit large-scale low angle planar-tabular cross bedding, and are devoid of trace and body fossils. The depositional setting for this facies is problematic, although shallow marine tidal inlet, beach or aeolian dune environments are potentially workable facies models.

Considerable variation in color pattern is evident in the Potsdam Sandstone, with the basal 0.5-1.0 meters white to light grey in color, whereas the upper portion of the outcrop exhibits the pink, red, orange and salmon colors often seen in the Potsdam Sandstone used as a building stone. In this section, the deeply colored beds contain abundant tiny (2-50 micron) disseminated hematite and leucoxene crystals with these pigments both surrounding detrital quartz grains and imbedded in later authigenic silica cement. Highly corroded grains of detrital magnetite and ilmenite in the colored sandstones appear to have been the source of iron and titanium which subsequently precipitated as hematite (probably with a goethite precursor) and leucoxene under oxidizing diagenetic conditions. The white sandstones immediately above the unconformity contain no hematite or leucoxene, although limonite-goethite halos of relatively recent origin are locally developed around magnetite grains. The pristine condition of the majority of magnetite and ilmenite grains indicates that these basal sands never suffered a persistent oxidizing diagenetic history. The proximity of these unoxidized grains to the underlying pyritic gneisses suggests that the pore waters near the contact were "Eh-buffered" by the alteration of pyrite and Fe-silicates in the gneisses, thus preventing breakdown of the magnetite and ilmenite, and the subsequent precipitation of pigmenting agents.

Note that the sole surface of the lowermost sandstone bed mimics the shape of the underlying (now weathered) basement erosional surface.

B.W.Selleck
NYSGA 1983 Trip 9 Stop 5.00



As seen on Google Earth Mobile…

NYSGA
New York State Geological Association

The Progress

Began with a goal of putting trips on GE

OCR of road logs permits searching

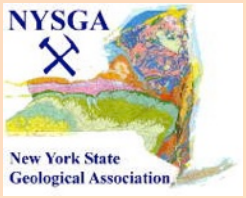
Google Fusion table permits filters and custom output

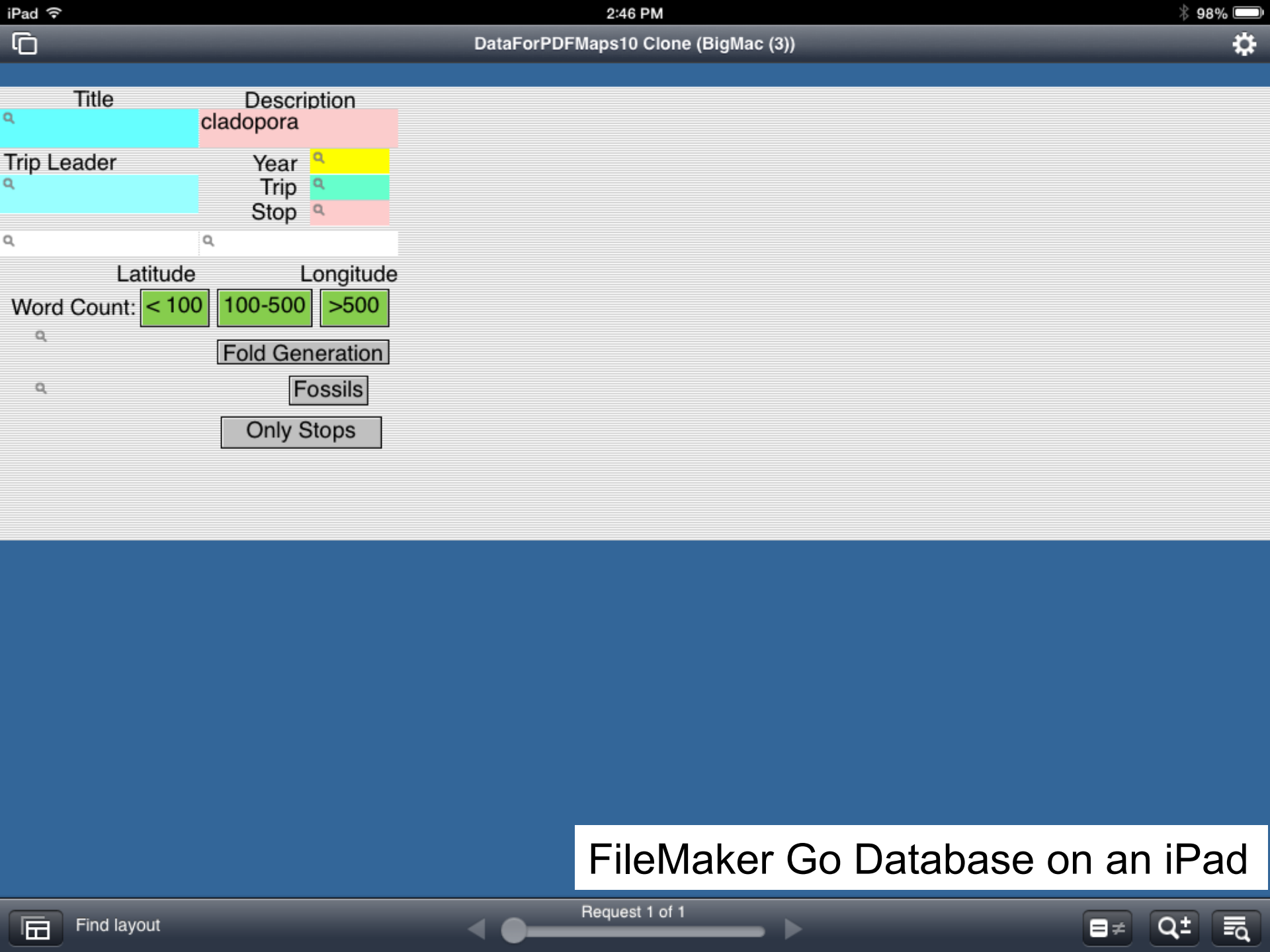
But Fusion Tables are “Experimental”

FileMaker database leads to secure future

FileMaker Go permits use in the field

Export to other apps permits use on OSM maps




iPad
2:46 PM
98%
DataForPDFMaps10 Clone (BigMac (3))
Title
Description
cladopora
Trip Leader
Year
Trip
Stop
Latitude
Longitude
Word Count:
< 100
100-500
>500
Fold Generation
Fossils
Only Stops
FileMaker Go Database on an iPad
Find layout
Request 1 of 1

Actinoptera boydi
Actinoptera decussata
Ambocoelia umbonata
Ancyrocrinus spinosus
Athyris spiriferoides
Atrypa "reticularis"
Aulopora elleri
Aulopora sp.
Aviculopecten fasciculatus
Bactrites aciculum
Bembexia sulcomarginata
Chonetes scitulus
Chonetes vicinus
Cimitaria recurva
Conularia undulata
Cornellites flabellus
Cupularostrum congregata
Cypricardella bellistriata
Cypricardella tenuistriata
Cyrtina hamiltonensis
Cyrtonella mitella
Devonchonetes syrtalis
Devonochonetes coronatus
Dictyotomaria capillaria
Dipleura dekayi
Echinocaris punctata
Echinocaris sp.
Eiytha fimbriata
Favosites sp.
Giyptodesma erectum
Giyptotomaria (Dictyotomaria) capillaria
Goniophora hamiltonensis
Goniophora rugosa
Goniphora hamiltonensis
Gosselettia triquetra
Grammysia arcuata
Grammysia bisulcata
Grammysia circularis
Grammysia constricta
Grammysia cuneata
Grammysia elliptica
Grammysia globosa
Grammysia lirata
Grammysia obsoleta
Grammysioidea alveata
Greenops boothi
Gyronema lirata
Hederella filiformis
Hyolithes ligea
Hyolithes neapolis
Leiopteria rafinesquii
Leiopteria sayi
Leptodesma spinigerum
Lindstroemella aspidum
Lingula delia
Lingula Eunctata
Lingula punctata
Longispina mucronatus
Lyriopecten macrodontus
Mediospirifer audaculus
Michelinoceras constrictum
Modiomorpha cencentrica
Modiomorpha concentrica
Modiomorpha mytiloides
Modiomorpha subulator
Monotrypella abruptus
Mourlonia lucina
Mourlonia subzona
Mucrospirifer mucronatus
Murchisonia micula
Naticonema lineata
Naticopsis sp.
Nucula bellistriata
Nucula corbuliformis
Nucula lirata
Nucula opima
Nuculites cuneaformis
Nuculites oblongata
Nuculites oblongatus
Nuculites triqueter
Oehlertella pleurites
Orbiculoidea media
Orthonota undulata
Palaeoneilo constricta
Palaeoneilo emarinata
Palaeoneilo fecunda
Palaeoneilo muta
Palaeoneilo plana
Palaeozygopleura hamiltoniae
Paleschara incrustans
Paracyclas elliptica
Paracyclas lirata
Paradiceras
Parallellodon hamiltoniae
Patellilabia (Phragmosphaera) lyra
Petrocrania hamiltoniae
Phacops rana
Pholadella radiata
Piatyceras (Piatyostoma) sp.
Piatyceras (Platyceras) erectum
Piatyceras sp.
Praematuratropis ovatus
Prothyris lanceolata
Protolepidodendron sp.
Protoleptostrophia perplana
Pterinopecten undosus
Ptomatis rudis
Reptaria stolonifera
Retispira leda
Rhinocaris columbina
Rhipidomella penelope
Ruedemannia trilix
Sinuitina brevilineatus
Solemya vetusta
Sphenotus truncatus
Spinocyrtia granulosa
Spinulicosta spinu licosta
Spyroceras crotalum
Spyroceras crotalum
Spyroceras crotalunn
Stictopora
Styliolina sp.
Sulcoretepora incisurata
Taeniopora exigua
Taonurus
Tellinopsis subemarrginata
Tornoceras discoidea
Tornoceras discoideum
Trepospira (?Angyomphalus)peneg labra
Tritonephon rotalinea
Tropidoleptus carinatus

List of Fossils From Index

Number of Records Found: 4

1982 A2 1.00	STOP 1. Ridgemount Quarry
1982 A2 2.00	STOP 2. Port Colborne West Quarry
1990 SatC 6.00	STOP 6: South Haul Road To Robert Moses Power Plant
1994 B2 3.00	STOP 3. DOLOMITE PRODUCTS QUARRY, PENFIELD

Export to: Pocket Earth | KML | Back

FileMaker Go Database on an iPad

basin-ward of shallow, winnowed platforms developed north (?) of this area. Gates-DeCew sediments accumulated in shallow subtidal areas below fair-weather wave base but subjected to frequent storm wave disturbance. Most of the higher quarry wall is composed of brownish grey to medium grey, medium-to thick-bedded, sandy dolostone which displays planar and bidirectional cross-stratification. Layers and lenses of crinoidal grainstone occur in the lower 5 m which terminate at the top of the lower level of the quarry. The meter-thick bed just below the second bench of the quarry (approximately 12.5 m) is highly crinoidal and contains intraclasts as well as rare rugosan and favositid corals. It is overlain by a 9 m (28.5 ft) interval of medium and even-bedded, sandy dolostone, with thin shaley partings, that appears to correlate with the Goat Island and Eramosa formations of the Lockport Group.

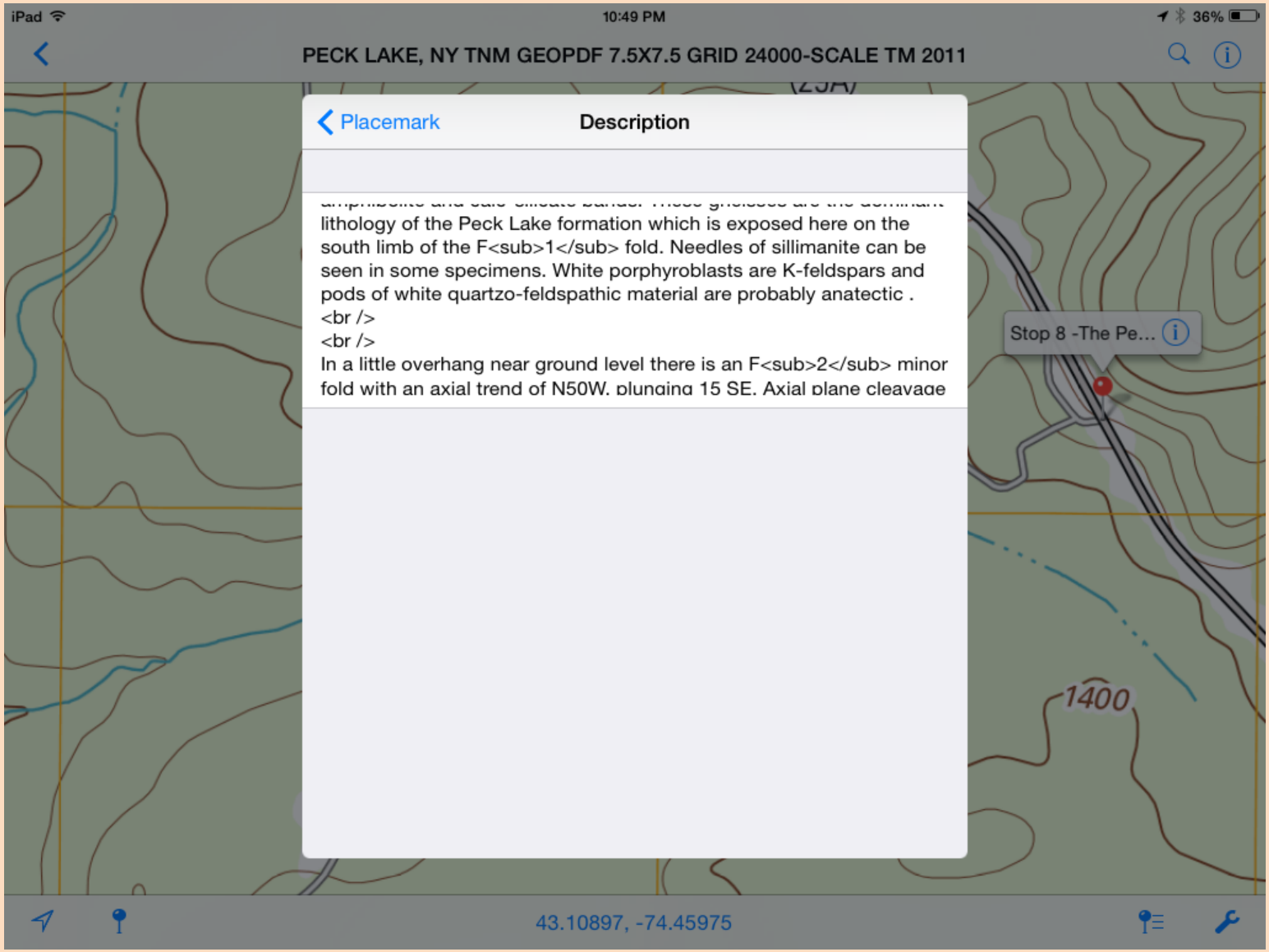
The entire 15 m interval, corresponding to the members of the Gasport, Goat Island, and Eramosa formations, is enriched in quartz sand in the Rochester area, and the name Penfield Formation is perhaps useful in emphasizing this facies distinction. However, it should be noted that members, and even certain marker beds, in the Gasport interval can be traced across the facies change. Crowley (1973, unpubl.) emphasized the locally sandy nature of the Penfield and interpreted the unit as representing a shallow water sandy shoal or "Penfield island"; but the persistence of sedimentary cycles and elements of the typical Gasport marine fauna into the Penfield area indicates an environment similar to that of the typical Gasport facies. Crinoidal grainstones of the Gasport and sandy crinoidal dolostones of the lower Penfield represent similar environments, i.e., a shallow wave-winnowed and perhaps tidally-influenced (bimodal cross stratification) shelf with local shoals or bars, close to fair weather wave base. The increased sand content of this facies in the Penfield area appears to indicate a local source of siliciclastics north of this region. Upper units are thinner-bedded and more argillaceous than the Gasport equivalents and record a transition to somewhat lower energy, probably deeper water environments similar to those in which the Gates-DeCew interval sediments accumulated.

The highest beds exposed in the Penfield Quarry consist of massive, highly fossiliferous and vuggy dolostones that were assigned to the lower 5.5 m (17 ft) portion of the "Oak Orchard Member" by Zenger (1965); recent study demonstrates that the term Oak Orchard is invalid, and we assign these beds to the Eramosa Formation Prominent, 0.5 m thick, light grey-weathering, dolostone beds occur about 2 and 3 m below the top of the quarry. Dark biostromal beds on either side of these horizons are rich in poorly preserved, and typically mineralized tabulate corals (*Favosites, Cladopora*), and small domal stromatoporoids. These beds contain numerous large vugs which are lined with nodular anhydrite, scalenohedral calcite, pink saddle dolomite, celestite, sphalerite, rare fluorite and sulfides; these vugs are the principal source of the Penfield minerals. Although the vuggy beds are inaccessible in the vertical quarry walls, they can be examined readily in large fallen blocks piled on the higher bench in the quarry.

The upper Lockport strata at Penfield (>5 m) are distinctly less sandy than the lower beds and more highly fossiliferous. The Eramose interval records a general decrease in the input of siliciclastic sediments and the development of coral-stromatoporoid biostomes and associated carbonate sediments in shallow, but relatively quiet water environments.

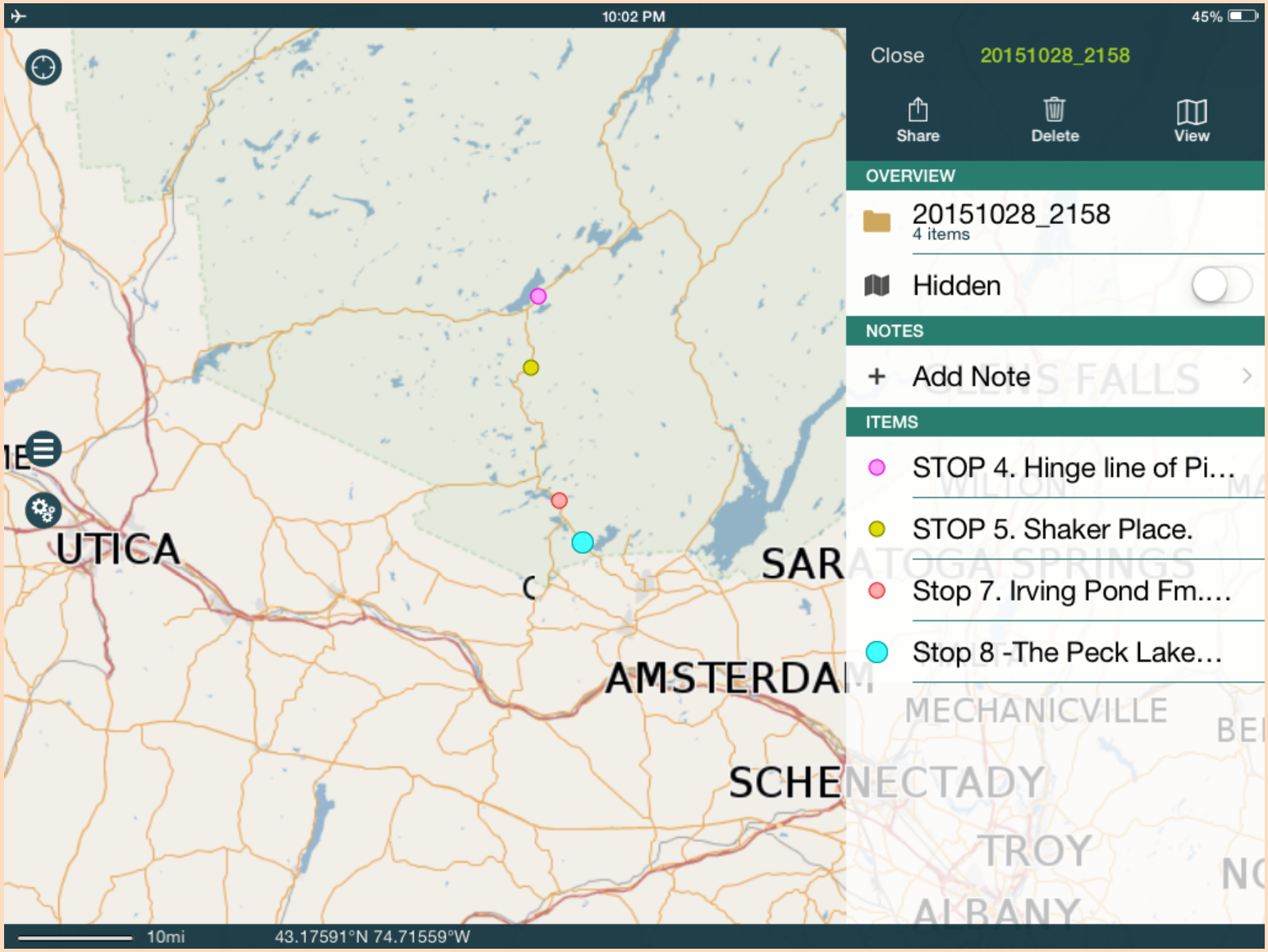
1994	B2	3.00	C.E.Brett, W.M.Goodman,	43.14 -77.48

FileMaker Go Database on an iPad



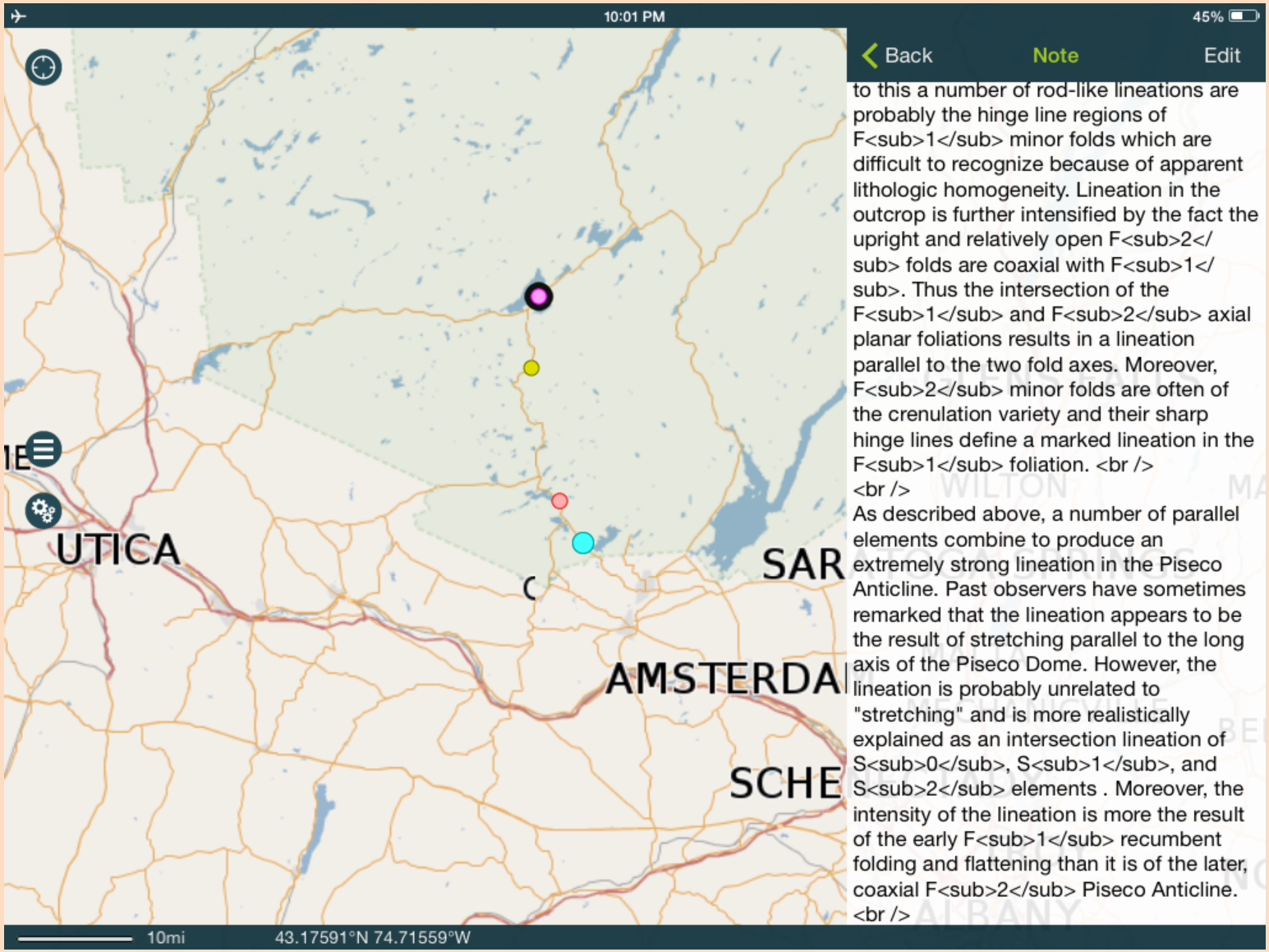
NYSGA
New York State Geological Association

As seen on PDF Maps on an iPad



NYSGA
New York State Geological Association

Search Results for “F<sub>” AND 1992 displayed on Pocket Earth app



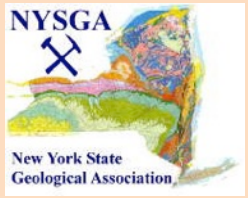
Results from clicking on one Placemark displayed on Pocket Earth app

Currently, all files from this project are located at:

http://ottohmuller.com/nysga2ge/Files.html

Soon, these will be moved to the NYSGA site:

http://nysga-online.net/



Location and Year	Comments	Revised	Mobile
Univ of Rochester 1956	... done - 61 KB	08/03/15	yes
Wellsville 1957	... done - 48 KB	08/03/15	yes
Peekskill 1958	... done - 82 KB	08/03/15	yes
Ithaca (Cornell) 1959	... done - 42 KB	08/03/15	yes
Clinton 1960	... done - 69 KB	08/03/15	yes
R.P.I. Troy 1961	... done - 34 KB	08/03/15	yes
Port Jervis 1962	... done - 76 KB	08/03/15	yes
SUNY Binghamton 1963	... done - 74 KB	08/03/15	yes
Syracuse University 1964	... done - 80 KB	08/03/15	yes
Union College 1965	... done - 67 KB	08/03/15	yes
SUNY Buffalo 1966	... done - 58 KB	08/03/15	yes
Hamilton College 1967	... done - 102 KB	08/03/15	yes
Queens College, CUNY 1968	... done - 155 KB	08/03/15	yes
SUNY Plattsburg 1969	... done - 54 KB	08/03/15	yes
SUNY Cortland 1970	... done - 94 KB	08/03/15	yes
SUNY Potsdam 1971	... done - 74 KB	08/03/15	yes
Colgate, Utica College 1972	... done - 139 KB	08/03/15	yes
SUNY Brockport 1973	... done - 82 KB	08/03/15	yes
SUNY Fredonia 1974	... done - 91 KB	08/03/15	yes
Hofstra 1975	... done - 129 KB	08/03/15	yes
Vassar 1976	... done - 214 KB	08/03/15	yes
Oneonta 1977	... done - 242 KB	08/03/15	yes
Syracuse 1978	... done - 227 KB	08/03/15	yes
R.P.I. Troy 1979	... done - 294 KB	10/19/15	yes
Newark NJ 1980	... done - 303 KB	08/03/15	yes
SUNY Binghamton 1981	... done - 192 KB	08/03/15	yes
SUNY Buffalo 1982	... done - 121 KB	08/03/15	yes
SUNY Potsdam 1983	... done - 88 KB	08/03/15	yes
Hamilton College 1984	... done - 136 KB	08/03/15	yes
Skidmore College 1985	... done - 198 KB	08/03/15	yes
Cornell 1986	... done - 161 KB	08/03/15	yes
SUNY New Paltz 1987	... done - 216 KB	08/03/15	yes
SUNY Plattsburgh 1988	... done - 189 KB	08/03/15	yes
Middletown NY 1989	... done - 227 KB	08/03/15	yes
SUNY Fredonia 1990	... done - 188 KB	08/03/15	yes
SUNY Oneonta 1991	... done - 305 KB	08/03/15	yes
Colgate 1992	... done - 215 KB	09/07/15	yes
Colgate 1992 ADK	... done - 114 KB	09/25/15	yes
St. Lawrence 1993	... done - 198 KB	10/19/15	yes
Univ of Rochester 1994	... done - 172 KB	08/03/15	yes
1956-1994	4.7 MB	10/25/15	yes
Data No Paths fmp12	25.5 MB (zipped)	10/29/15	
Data With Paths fmp12	37.7 MB (zipped)	10/29/15	
Stand Alone Database fmp12	109.5 MB (zipped)	10/29/15	

Relevant URLs:

NYSGA Guidebooks (free PDF's):

http://www.nysga-online.net/guidebooks/

NYSGA2GE Fusion Tables:

https://www.google.com/fusiontables/DataSource?docid=1bG25L1djySdBuRRYo1W1pgod8NmnEdUC6rvnR2tL

—

This talk, kmz files, additional information:

http://ottohmuller.com/nysga2ge/Files.html