ILLINOIS STATE WATER SURVEY DAMSITES

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13 (99987)

South Illinois

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Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Boone

Quadrangle Belvidere Site No. 1

LOCATION

South Kinnikinnick Creek
SE¼ sec. 31, T 46 N, R 3 E

GENERAL GEOLOGY

South Kinnikinnick Creek is a minor stream in this area and drains an area of till-covered bedrock. The rolling uplands have relief of 30 to 40 feet. The surficial material is glacial drift, primarily till. The depth to bedrock is generally 25 feet or less according to exposures in the valley walls.

DAMSITE

The stream flows in a 3- to 4-foot notch in the floodplain. The floodplain is approximately 100 to 150 feet wide and is 30 to 40 feet below the uplands. The abutments consist of the following materials:

Light brown to brown, sandy, clay till	12 to 15 feet
White, thickly-bedded, fine grained limestone, becomes thinly-bedded near the top	15 to 20 feet

The lower portion of the abutments is vertical with some overhanging ledges. The upper portion is moderately to steeply sloping.

RESERVOIR

The floodplain is covered with dark brownish-gray, silty, fine, alluvial sand. The valley walls are composed of limestone overlain by till as in the abutments. The valley walls are moderately sloping.

BORROW

Till which can be used for borrow material can be obtained from the nearby uplands. The valley alluvium is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Special attention must be given to the problem of solution channels in the limestone. If solution channels are present, special treatment would be necessary to prevent serious leakage.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Boone

Quadrangle Belvidere Site No. 2

LOCATION

Mosquito Creek
NW¼ sec. 8, T 44 N, R 3 E

GENERAL GEOLOGY

Mosquito Creek is a minor tributary of Kishwaukee River and drains a portion of the White Rock moraine. The depth to bedrock was not determined, but is probably in excess of 50 feet. The uplands are rolling to hilly with relief of 40 to 60 feet. The surficial material is glacial drift.

DAMSITE

The stream flows in a 4- to 5-foot notch in the floodplain. The floodplain is approximately 50 to 75 feet wide and is 20 to 30 feet below the uplands.

The right abutment is mostly covered; however, there is a small exposure of brown, sandy clay till about half way up the abutment. The left abutment is also covered, but is probably composed of the same material as the right abutment. Both abutments are gently to moderately sloping.

RESERVOIR

The floodplain is covered with dark brown, silty, alluvial sand and sandy silt. The valley walls are composed of brown, sandy till, as in the abutments. The till overlies outwash sands and gravels in several places and there are several gravel pits in the area. The valley walls are gently to moderately sloping.

BORROW

Sufficient quantities of glacial till which can be used for borrow material can be obtained from the nearby uplands. The valley alluvium is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and extent of the sand and gravel bodies in the valley walls and the nature and sequence of the subsurface materials in the abutments.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 16, 1964 County Bureau

Quadrangle Amboy Site No. 1

LOCATION

Tributary of Masters Fork
NE¼ sec. 8, T 18 N, R 10 E

GENERAL GEOLOGY

This stream is a minor stream in this area and drains a portion of the Bloomington moraine. The uplands are gently rolling to rolling with relief of 20 to 40 feet. The surficial material is loess and glacial drift, primarily till. The depth to bedrock was not determined, but is probably in excess of 400 feet according to logs of wells in the area and to the Bedrock Surface Map of Illinois.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain. The floodplain is approximately 250 to 300 feet wide and is 20 to 30 feet below the uplands.

The abutments are composed of about 5 feet of mottled, brown and gray, sandy, silty clay till overlain by 2 feet of brown, gravelly, silty, fine to coarse sand. The sand is overlain by 4 feet of tan to light brown, clayey silt (loess). Both abutments have gentle slopes.

RESERVOIR

The valley floor is covered with dark brown, silty, alluvial sand. The geology of the valley walls is similar to that of the abutments. The valley floor merges with the uplands with only a slight change in slope. The valley walls have gentle slopes.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is probably feasible subject to an adequate program of test borings and materials testing. The till underlying the reservoir and damsite areas is probably impervious, but contains local gravel lenses which, if they underlie the reservoir area, could cause serious leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 16, 1964 County Bureau

Quadrangle Amboy Site No. 2

LOCATION

Bureau Creek
NE¼ sec. 32, T 18 N, R 10 E

GENERAL GEOLOGY

Bureau Creek is a major stream in this area and drains portions of the Bloomington and Cropsey moraines. The uplands are gently rolling to rolling with relief of 20 to 40 feet. The surficial materials are loess and glacial drift, primarily till. The depth to bedrock was not determined, but is probably in excess of 300 feet according to the Bedrock Surface Map of Illinois.

DAMSITE

The stream meanders in a broad notch 6 to 8 feet below the floodplain. The floodplain is approximately a quarter of a mile wide and lies 30 to 40 feet below the uplands. The following section was observed in the abutments:

Tan to light brown, silty sand	5 feet
Stratified, tan to light brown, gravelly, silty sand which grades to sandy gravel near the base	6 feet
Grayish brown, silty, sandy, clay till	8 feet

RESERVOIR

The floodplain is covered with dark gray, silty, alluvial sand. There is a distinct change in slope where the valley floor merges with the valley walls. The valley walls are moderately sloping and are similar in composition to the abutments.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is considered probably not feasible because of the presence of loose, porous sand and gravel in the abutments and valley walls. Outwash probably underlies much of the damsite area, as is evidenced by the fact that the landowner has taken sand and gravel from pits near the damsite. The extent

of this sand and gravel must be ascertained in order to determine the geological feasibility or infeasibility of this site.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 16, 1964 County Bureau

Quadrangle Buda Site No. 3

LOCATION

West Bureau Creek
SE¼ sec. 16, T 16 N, R 8 E

GENERAL GEOLOGY

West Bureau Creek is a major tributary of Bureau Creek, and its headwaters drain a portion of the Bloomington moraine. The uplands are flat to gently rolling with relief of 10 to 20 feet. The surficial materials are till and sediments of a pro-glacial lake. The depth to bedrock was not determined but is probably in excess of 100 feet according to logs of wells in the area.

DAMSITE

The stream flows in an 8- to 10-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 60 to 70 feet below the uplands.

The abutments exhibit the following section:

Orange-brown, silty, fine to medium sand	6 feet
Pinkish-brown, sandy, clayey, silt containing scattered pebbles	5 feet
Tan, silty, fine sand	1 foot
Gray to pinkish-brown sandy, silty, clay till	20 feet

Both abutments have steep slopes.

RESERVOIR

The floodplain is covered with dark brown to black, silty, fine to medium, alluvial sand. The valley walls slope steeply into the uplands and their geology is similar to that of the abutments.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to an adequate program of test borings and materials testing. The till underlying the reservoir and damsite areas is probably impervious, but contains local gravel lenses which, if they underlie the reservoir area, could cause serious leakage.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 16, 1964 County Bureau

Quadrangle Buda Site No. 4

LOCATION

Bureau Creek
NW¼ sec. 7, T 16 N, R 9 E

GENERAL GEOLOGY

Bureau Creek is a major stream in this area and drains portions of the Bloomington and Cropsey morains. The uplands are flat to gently rolling with relief of 10 to 20 feet. The surficial materials are loess and glacial drift, primarily till. The depth to bedrock was not determined but is probably in excess of 300 feet according to the Bedrock Surface Map of Illinois.

The deep bedrock valley of the Ancient Mississippi River bisects Bureau County and is filled with sand and gravel, named the Sankoty sand, to an elevation of between 500 and 510 feet. The Sankoty sand and gravel is overlain by till containing local lenses of gravel and sand. The till is probably impervious, but the gravel and sand lenses may act as leakage channels if located directly beneath a reservoir.

DAMSITE

The stream flows in a broad notch 4 to 6 feet below the floodplain. The floodplain is approximately a quarter of a mile wide and lies 70 to 80 feet below the uplands.

The following section is exposed in the left abutment:

Stratified, interbedded light brown to tan silty fine to medium sand and sandy silt.	3 feet
Stratified brown, sandy fine to coarse gravel, probably outwash	6 feet
Reddish brown, sandy, clayey, silt till	+8 feet

The composition of the right abutment is probably similar to that of the left. However, the uppermost material on the right abutment is brown, gravelly, silty sand which is being used as fill for embankments along Interstate Highway 80. The highway crosses the stream approximately at the damsite.

RESERVOIR

The floodplain is covered with brown, silty, alluvial sand. The valley walls are steeply sloping and are similar in composition to the left abutment.

BORROW

Sufficient quantities of clayey silt and till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is considered probably not feasible owing to the presence of the newly constructed Interstate Highway and to the presence of outwash in the sandy till in the abutments.

M T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 17, 1964 County Bureau

Quadrangle Hennepin Site No. 5

LOCATION

East Bureau Creek
W½ sec. 31, T 16 N, R 10 E

GENERAL GEOLOGY

East Bureau Creek is a major tributary of Bureau Creek and drains portions of the Cropsey and Bloomington moraines. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The surficial material is loess and glacial drift, primarily till. The depth to bedrock was not determined but according to the Bedrock Surface Map of Illinois it is probably between 150 and 200 feet.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately half a mile wide and is 70 to 80 feet below the uplands.

The right abutment is composed of 10 feet of grayish-brown, sandy, clay till overlain by 8 feet of brown, sandy, stony, clay till. The contact between the two tills is not exposed. The upper till is overlain by 2 to 4 feet of loess. The left abutment is covered, but is probably similar in composition to the right abutment. Princeton Township has taken gravel from a pit in the right abutment, which recently has been filled in. A description of the gravel deposit indicates that it was probably outwash. Both abutments have moderate slopes.

RESERVOIR

The floodplain is covered with brown, sandy, alluvial silt. The Sankoty sand probably underlies the valley bottom in the reservoir area. The lower portion of the valley walls consists of about 30 feet of stratified sand and gravel with most of the coarser sediments near the base. Much of the gravel is well cemented. These glacio-fluvial sediments are overlain by about 4 feet of buff to tan, rudely laminated, sandy, stony, clayey, silt till. The till is overlain by 2 to 4 feet of tan to buff clayey silt. The valley walls have moderate slopes.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is considered probably not feasible subject to an adequate program of test boring and materials testing. Because the Sankoty sand immediately underlies the reservoir and damsite area, leakage from the reservoir probably would be a serious problem.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 17, 1964 County Bureau

Quadrangle Lacon Site No. 6

LOCATION

Senachwine Creek
SW¼ sec. 34, T 15 N, R 9 E

GENERAL GEOLOGY

Senachwine Creek is a minor stream in this area and drains a portion of the Normal moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial material is loess and glacial drift, primarily till. The depth to bedrock was not determined, but according to the Bedrock Surface Map of Illinois, it is probably between 250 and 300 feet.

The deep bedrock valley of the Ancient Mississippi River bisects Bureau County and is filled with sand and gravel, named the Sankoty sand, to an elevation of between 500 and 510 feet. The Sankoty sand and gravel is overlain by till containing local lenses of gravel and sand. The till is probably impervious, but the gravel and sand lenses may act as leakage channels if located directly beneath a reservoir.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain. The floodplain is approximately 300 to 400 feet wide and lies 40 to 50 feet below the uplands. Both abutments are heavily covered with vegetation. In a roadcut in the right abutment there is exposed a brown, sandy, silty clay containing yellow sandstone pebbles, probably till. The clay is overlain by about 10 feet of brown, silty clay. Both abutments have moderate slopes.

RESERVOIR

The floodplain is covered with dark grayish-brown, silty, alluvial sand. The geology of the valley walls is probably similar to that of the abutments. The valley walls have moderate slopes.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to an adequate program of test borings and materials testing. The till underlying the reservoir and damsite areas is probably impervious, but contains local gravel lenses which, if they underlie the reservoir area, could cause serious leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 17, 1964 County Bureau

Quadrangle Hennepin Site No. 7

LOCATION

Plow Hollow
NE¼ sec. 19, T 15 N, R 9 E

GENERAL GEOLOGY

Plow Hollow Creek is a minor tributary of Bureau Creek and drains a portion of the Normal moraine. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The surficial material is glacial drift, primarily till. The depth to bedrock was not determined, but is in excess of 100 feet according to logs of wells in the area.

The deep bedrock valley of the Ancient Mississippi River bisects Bureau County and is filled with sand and gravel, named the Sankoty sand, to an elevation of between 500 and 510 feet. The Sankoty sand and gravel is overlain by till containing local lenses of gravel and sand. The till is probably impervious, but the gravel and sand lenses may act as leakage channels if located directly beneath a reservoir.

DAMSITE

The stream flows in a 2- to 3-foot notch in the floodplain. The floodplain is approximately 300 to 400 feet wide and is 70 to 80 feet below the surrounding uplands. The abutments consist of reddish-brown, sandy, clayey, silt till. The till becomes gray and more clayey with depth. Both abutments are moderately sloping.

RESERVOIR

The floodplain is covered with brown, silty, clayey, fine to medium sand. The stream bed is sandy gravel. The geology of the valley walls is similar to that of the abutments. The valley walls are moderately sloping.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to an adequate program of test borings and materials testing. The till underlying the reservoir and damsite areas is probably impervious, but contains local gravel lenses which, if they underlie the reservoir area, could cause serious leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 28, 1964 County Carroll

Quadrangle Savanna Site No. 1

LOCATION

Camp Creek
SW¼ sec. 30, T 25 N, R 4 E

GENERAL GEOLOGY

Camp Creek is a major stream in northwestern Carroll County and drains an area of loess-covered early Paleozoic sediments. The uplands are hilly with relief of 80 to 100 feet. The depth to bedrock is 10 feet or less in most places according to exposures along the valley walls.

DAMSITE

The abutments are composed primarily of gray to buff, thin-bedded, sandy dolomite containing some chert layers and many crevices. The dolomite is mantled by light brown, sandy loess. Both abutments have steep slopes. A small solution pit is present on top of the left abutment, and it is reported by a local resident that a deep crevice underlies the pit.

The stream flows in an 8- to 10-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 60 to 70 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of light brown, silty sand. The reservoir walls are composed primarily of gray to buff, cherty Silurian dolomite capped by loess. Several springs issue from the valley sides. The valley walls have moderate to steep slopes.

BORROW

No suitable borrow material which could be used in the construction of an earth dam was observed in the area. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. The solution features and numerous crevices in the dolomite would probably permit a great deal of leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 27, 1964 County Carroll

Quadrangle Mt. Carroll Site No. 2

LOCATION

East Plum River
NE¼ sec. 13, T 25 N, R 4 E

GENERAL GEOLOGY

East Plum River, a major stream in northwestern Carroll County, drains an area of loess- and drift-covered dolomite. The hilly uplands have relief of 50 to 70 feet. In most places the depth to bedrock is probably 20 feet or less, according to outcrops along the valley sides.

DAMSITE

The stream flows in a 10-to 12-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 40 to 50 feet below the uplands.

Light brown, sandy loess is the only material exposed in the abutments. The left abutment has a gentle slope; the right has a moderate slope. Both abutments are covered with vegetation.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The valley sides have gentle to moderate slopes and are composed of tan to buff, vuggy dolomite mantled with loess.

BORROW

No borrow material suitable for the construction of an earth dam was observed in the area. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The small number of exposures in the area makes such a program necessary in order to determine the nature and sequence of the subsurface material.

A successful stock dam has been constructed about a quarter of a mile downstream from the damsite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 27, 1964 County Carroll

Quadrangle Mt. Carroll Site No. 3

LOCATION

East Fork of Plum River
SW¼ sec. 1, T 25 N, R 5 E

GENERAL GEOLOGY

The East Fork of Plum River is a minor stream in north-central Carroll County and drains an area of loess-covered Ordovician dolomite. The uplands are hilly with relief of 40 to 60 feet. The depth to bedrock is probably less than 20 feet in most places, according to exposures along the valley walls.

DAMSITE

The left abutment is moderately sloping and is composed of tan to buff, vuggy, sandy dolomite mantled with light brown, sandy loess. The right abutment is gently sloping and is covered with vegetation. It is probably composed of material similar to that of the left abutment.

The stream flows in a 6-foot notch in the floodplain. The floodplain is approximately 700 to 800 feet wide and lies 40 to 50 feet below the uplands.

RESERVOIR

The following section, exposed in the stream channel, is typical of the floodplain alluvium:

Brown to dark brown, sandy silt	- 2 feet
Brown to greenish-gray, clayey, silty sand	- 2 feet
Clayey, sandy, medium to coarse gravel	- 2 feet

The valley sides have gentle to moderate slopes and are composed of dolomite capped by loess.

BORROW

There probably is not sufficient suitable borrow material in the area for an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The lack of sufficient exposures in the abutments makes such a program necessary in order to determine the nature and sequence of the subsurface materials.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 24, 1964 County Carroll

Quadrangle Mt. Carroll Site No. 4

LOCATION

Carroll Creek
NE¼ sec. 8, T 24 N, R 5 E

GENERAL GEOLOGY

Carroll Creek, a major stream in central Carroll County, drains an area of loess- and drift-covered Ordovician dolomite. The depth to bedrock is probably less than 10 feet in most places according to exposures along the valley sides. The rolling uplands have relief of 30 to 40 feet.

DAMSITE

The stream flows in a 3- to 4-foot notch in the floodplain. The floodplain is approximately 100 feet wide and is 30 to 40 feet below the uplands.

The abutments are composed principally of tan to buff, vuggy dolomite belonging to the Galena formation. The dolomite is overlain by tan to light brown, sandy loess of variable thickness. The abutments have moderate to steep slopes.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy, clayey silt.

The valley walls are composed of dolomite capped by loess, except for an exposure in the valley side one and one-half miles east of the damsite where the following section is located:

Tan to light brown, sandy loess - 7 feet
Brown, sandy, clayey silt till - 4 feet
Sand and gravel, base not exposed - 2 feet

The valley walls have moderate slopes.

BORROW

No suitable borrow material was observed in the immediate vicinity of the damsite. However, it is possible that there may be sufficient till present in the valley sides for construction of an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary in order to determine the nature and extent of the sand and gravel in the valley sides and whether or not solution channels are present in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 17, 1964 County Carroll

Quadrangle Morrison Site No. 5

LOCATION

Little Rock Creek
NE¼ sec. 29, T 23 N, R 5 E

GENERAL GEOLOGY

Little Rock Creek is a minor stream in southwestern Carroll County and drains an area of loess- and till-covered Ordovician dolomite. The uplands are gently rolling to rolling with relief of 20 to 40 feet. The depth to bedrock in most places is probably 10 feet or less, according to exposures along the valley sides.

DAMSITE

The stream flows in a 5-foot notch in the floodplain. The floodplain is approximately 200 to 250 feet wide and lies 20 to 30 feet below the uplands. Both abutments slope gently to the uplands and are covered with loessial soil. The abutments are probably composed of dolomite capped by till and loess, as are the valley walls.

RESERVOIR

The floodplain alluvium consists of dark brown, silty sand. The composition of the valley walls probably is similar to the following section exposed in a quarry about a quarter of a mile northwest of the damsite.

Brown, sandy loess -	3 feet
Brown, sandy, clayey, silt till -	4 feet
Tan to buff, thin-bedded dolomite containing chert layers -	12 feet

The valley sides have gentle to moderate slopes.

BORROW

Some till suitable for borrow may be obtained from the uplands and reservoir sides. However, it is possible that there is not a sufficient quantity of till to construct an earth fill dam. The floodplain alluvium would probably not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary because of a lack of surface exposures in the abutments. Special attention should be given to the possible presence of solution channels in the dolomite which could cause leakage.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Cass

Quadrangle Chandlerville Site No. 1

LOCATION

Opposum Hollow
SE¼ SE¼ sec. 29, T 19 N, R 8 W

GENERAL GEOLOGY

Opposum Hollow is a tributary of Sangamon River and drains the south bluff of Sangamon River valley. The uplands are nearly flat and the stream pattern is dendritic. The depth to bedrock according to the bedrock surface map of Illinois is approximately 150 feet. The reservoir is located on the south side of an east-west trending major bedrock valley. Strippable coal underlies the lower part of the valley.

DAMSITE

At the time of the examination the streambed was dry. The bed is a 6- to 8-foot notch composed of silt and sand. The slopes are moderate and are covered with vegetation. A thick layer of loess caps the underlying materials.

RESERVOIR

The reservoir is a long, narrow valley with a small floodplain. Vertical exposures of buff-colored loess stand 15 to 20 feet high.

BORROW

Suitable material for use in the construction of an earth dam may be difficult to locate in the vicinity of the damsite. An adequate supply of weathered loess materials are available if these materials can be utilized.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Cass

Quadrangle Chandlerville Site No. 2

LOCATION

Middle Creek
NE¼ SE¼ sec. 31, T 19 N, R 8 W

Note that this site is located in the NE¼ SE¼ sec. 31 rather than in the NW¼ NW¼ sec. 32 for the reasons that Middle Creek does not flow through this area of section 32 and that the dam location as shown on the Water Survey map set indicated this to be the correct site.

GENERAL GEOLOGY

Middle Creek is a main tributary of Fancher Creek and drains a part of the Illinoian drift plain. The drift plain in this area may be covered by as much as 20 feet of loess. Glacial drift, primarily till, about 100 to 150 feet thick rests on the bedrock surface. Strippable coal deposits underlie the reservoir.

DAMSITE

The abutments are moderately steep and composed of buff loess. The floodplain at the damsite location is approximately 750 feet wide. The streambed at the time of the examination was dry, and a notch 8 to 10 feet deep meanders in the narrow silt floodplain.

RESERVOIR

The reservoir is formed by a dendritic, moderately steepsided stream valley. At the time of the examination only small pools of water were observed within the stream valley.

BORROW

Suitable material for the construction of an earth dam may be difficult to obtain in the vicinity of the damsite. If the weathered loess can be utilized in the construction of a rolled earth dam, an adequate supply is available nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The possible problem of rapid siltation of this reservoir should be considered.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Cass

Quadrangle Chandlerville Site No. 3

LOCATION

Miller Creek
Center NW¼ sec. 36, T 19 N, R 9 W

GENERAL GEOLOGY

Miller Creek is a tributary of Middle Creek and drains a part of the south bluff of Sangamon River valley. The upper 25 feet of the bluff consists of loess. The loess covers the upland materials and drapes into the valley areas. Approximately 50 to 100 feet of overburden overlies a coal bed in the vicinity of the reservoir. The upland areas are very flat to gently rolling and have relief of about 10 to 20 feet.

DAMSITE

The shallow notch in the floodplain silt is dry. The narrow floodplain is bounded by moderate to steep-sided abutments. Loess which is draped into the valley areas covers the underlying materials.

RESERVOIR

Miller Creek is divided into two equal branches about half a mile upstream from the proposed damsite. The stream valley has steep sides and a narrow floodplain. The materials underlying the loess of the uplands are hidden.

BORROW

The uplands may be underlain by material which is more suitable for the construction of an earth dam than the surficial loess covering material. If an investigation shows that weathered loess materials may be suitable, an adequate supply is available nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Cass

Quadrangle Chandlerville Site No. 4

LOCATION

Cox Creek
SW¼ SW¼ sec. 10, T 18 N, R 9 W

GENERAL GEOLOGY

Cox Creek is a major tributary of Panther Creek and drains an area of the loess-covered Illinoian drift plain southeast of Chandlerville, Surficial soils are developed in the thick loess which mantles the underlying glacial materials. The gently rolling uplands have relief of about 10 to 20 feet. The reservoir and proposed damsite are located on the south side of a major bedrock valley. A Pennsylvanian coal bed located beneath the damsite is considered to be strippable even though it is covered by about 100 to 150 feet of overburden.

DAMSITE

The stream flows in a notch about 10 feet deep composed of silt and loess in a flat floodplain. The floodplain is bounded by moderately steep abutments 80 to 100 feet high. A layer of loess approximately 20 feet thick overlies a gravelly, silty material. Vegetation covers most of the slopes.

RESERVOIR

The reservoir is formed by a flat, alluvial silt floodplain with moderately to steeply sloping sides. At one exposure along the right side of the valley, 15 feet of buff loess is underlain by 10 feet of silty material, which may be till. The contact between the two horizons was gravelly.

BORROW

The weathered loess and possibly the underlying silty material which occurs in the nearby uplands may be suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 5

LOCATION

Little Jobs Creek
NE¼ NE¼ sec. 30, T 18 N, R 9 W

GENERAL GEOLOGY

Little Jobs Creek is a tributary of Jobs Creek, and together these streams drain an area northeast of Virginia. The topography of the uplands is gently rolling and has relief of about 10 to 20 feet. Logs of previous borings indicate about 110 feet of glacial material rests on the bedrock surface. Bedrock in the vicinity of the site is largely covered but is shown on the bedrock surface map to be a high between the valleys of the Arenzville drainage system and the Havana lowland.

DAMSITE

The creek was dry at the time of examination. The channel is about 8 feet deep, and the banks are composed of alluvial silt and loess. The floodplain is flat to gently sloping and the abutments are steep. The vicinity of the proposed damsite is largely covered by loess and vegetation.

RESERVOIR

The valley has steep sides and a flat bottom. A dendritic pattern is well developed throughout the reservoir area. The loess which mantles the underlying drift materials is about 6 to 8 feet thick in this vicinity. Silty, hard, gravelly till is exposed in a few places. Some of the gravelly till is sufficiently coarse to have been worked from local deposits for its gravel content.

BORROW

Suitable material for the construction of an earth dam may be available in the weathered, clayey loess deposits or in the more clayey parts of the underlying gravelly till located in the nearby upland areas.

OPINION

The site is considered probably feasible subject to verification byy an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 6

LOCATION

Jobs Creek
SW¼ NW¼ sec. 25, T 18 N, R 10 W

GENERAL GEOLOGY

Jobs Creek is a tributary of Sangamon River and drains the area of very gently rolling Illinoian drift plain northeast of Virginia. Surficial soils are developed in the thick loess which blankets the area. The thickness of loess may be as great as 20 feet. The proposed damsite is located on the bedrock divide between the Arenzville drainage system to the south and the Havana lowland to the north. The deposits of glacial materials overlying the bedrock is about 100 to 150 feet thick. Strippable coal underlies some parts of the proposed reservoir area.

DAMSITE

At the time of the examination the creek bed was dry and consisted of alluvial silt. The channel is 8 feet deep in a broad floodplain. The steep abutments are loess covered and the underlying materials are largely hid by vegetation.

RESERVOIR

The sides of the reservoir are steep and most of the stream valley has a broad, nearly flat floodplain. A road cut about half a mile east of the site exposes 6 to 8 feet of loess resting on 10 feet of silty, hard, gravelly till. The base is not exposed. Some gravel has been removed from a small local pit nearby.

BORROW

Sufficiently clayey material may be found in the gravelly till underlying the loess for use in the construction of a rolled earth dam. The clayey, weathered portions of the loess may also be suitable as construction material for a dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation may be helpful in the determination of feasibility of this site.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Cass

Quadrangle Chandlerville Site No. 7

LOCATION

Indian Run
SE¼ NE¼ sec. 17, T 18 N, R 10 W

GENERAL GEOLOGY

Indian Run is an intermittent stream that drains a part of the south bluff of Illinois River valley. The uplands are gently rolling and have a relief of about 10 to 20 feet. Loess deposits may be as thick as 20 feet overlying the Illinoian drift materials. The proposed site is located on the south slope of the Havana bedrock lowland. Strippable coal underlies Indian Run valley according to the map of strippable coal reserves of Illinois.

DAMSITE

The abutments are steep, consist largely of loess, and are covered by vegetation. The lower parts of the slopes may be underlain by till, however, the draping effect of the loess hides the underlying materials. The stream was dry at the time of examination and the channel is a 10-foot notch composed of alluvial silt and loess.

RESERVOIR

The valley is flat-bottomed; the main stream and tributaries form a dendritic pattern. The sides of the valley are steep and in some exposures nearly vertical. Loess covers the upland area and may be underlain by till.

BORROW

Material suitable for the construction of an earth dam may be available nearby in the underlying till and weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Cass

Quadrangle Beardstown Site No. 8

LOCATION

Tributary of Hager Slough
NE¼ NE¼ sec. 15, T 18 N, R 11 W

GENERAL GEOLOGY

The stream is a tributary of Hager Slough and drains a part of the Illinois River bluff east of Beardstown. It has a dendritic pattern. The stream overlies a small bedrock surface drainage channel. Previous investigations indicate that Pennsylvanian rocks may be found at shallow depths along the stream channel from the damsite to a point approximately half a mile upstream. Jacksonville ground moraine rests on the uneven bedrock surface and in turn is capped by as much as 20 feet of loess. Strippable coal underlies the reservoir area.

DAMSITE

The stream flows in a notch 8 feet deep composed of alluvial silt and loess. Loess is draped into the valley covering the underlying glacial materials. The abutments are steep and largely vegetation covered.

RESERVOIR

The valley is steep sided and loess is exposed as shear nearly vertical cliffs as much as 20 to 30 feet high. The present stream valley is underlain by an older bedrock surface valley and impermeable materials underlie the upland areas at shallow depths.

BORROW

Material suitable for the construction of an earth dam is available in the nearby underlying till and the weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Cass

Quadrangle Arenzville Site No. 9

LOCATION

Clear Creek
SE¼ NW¼ sec. 3, T 17 N, R 11 W

GENERAL GEOLOGY

Clear Creek is a tributary of Indian Creek and drains a part of the loess bluff of the Illinois River valley. The uplands are gently undulating and have relief of about 10 to 20 feet. The stream cuts into the thick loess cap of the bluff in a dendritic pattern. The loess is as much as 20 feet thick. The present stream valley overlies the right slope of the Arenzville bedrock drainage system, and the stream bottom lies at approximately the same elevation as the bedrock surface. Logs of previous borings indicate that about 40 feet of yellow clay overlies 60 to 85 feet of mud, sand, and gravel which, in turn, rests on the uneven bedrock surface. Strippable coal underlies the proposed reservoir area.

DAMSITE

The stream was dry at the time of examination and the 6- to 8-foot notch is composed of alluvial silt and loess. A part of the right abutment was not vegetation covered, and the moderate slope consists of a buff loess. About a mile downstream from the damsite the stream was flowing.

RESERVOIR

The valley has relief of 80 to 100 feet, and the slopes are moderate to steep. The bottom of the valley consists of a narrow, alluvial floodplain with gently sloping sides. The sides of the valley are probably underlain by till, however, the draping effect of the loess hides the underlying materials.

BORROW

The weathered loess and possibly the underlying till are suitable materials for the construction of an earth dam and are available in sufficient quantity.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Cass

Quadrangle Arenzville Site No. 10

LOCATION

Tributary of Clear Creek
NW¼ SE¼ sec. 9, T 17 N, R 11 W

GENERAL GEOLOGY

The intermittent stream is a tributary of Clear Creek and drains a part of the left bluff of the Illinois River valley. The uplands are gently undulating and have a relief of about 10 to 20 feet. The bedrock surface map indicates that the present stream valley overlies the right slope of the bedrock drainage system called the Arenzville bedrock valley. Following is the log of a boring made in the upland area:

Material	Depth in feet
Clay, yellow	40
Gravel	75
Shale, blue	95
Gravel and sand	125

The 20 feet of "blue shale" is probably clayey till. Strippable coal underlies the reservoir area.

DAMSITE

The moderately steep abutments are covered with loess and vegetation which hides the underlying materials. The stream flows in a 10-foot notch consisting of alluvial silt and loess.

RESERVOIR

The reservoir divides into two nearly equal valleys about half a mile upstream from the proposed damsite. The sides of the valleys have moderately steep to steep slopes. Beds of loess stand at some locations along the reservoir sides in nearly vertical cliffs 15 to 20 feet high. The underlying materials are hidden by the draping effect of the loess into the valley area.

BORROW

Material suitable for the construction of an earth dam is available in the nearby clayey loess. Till underlying the loess may prove better suited for use as construction material.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 11

LOCATION

Clear Creek
SE¼ SE¼ sec. 5, T 17 N, R 10 W

GENERAL GEOLOGY

The site is located in the headwaters of Clear Creek, and parts of the stream located within the proposed reservoir area are intermittent. The watershed area includes the City of Virginia and the surrounding vicinity. Surficial soils are developed in the thick loess deposits which blanket the gently undulating topography. The sewage plant at Virginia drains its effluent into the headwaters of this stream. A local resident reported that during construction of the sewage plant a hard, blue clay was encountered at the depth of about 35 feet. The depth of glacial material is approximately 100 to 125 feet, and the present stream valley is located above the right slope of the Arenzville bedrock valley. Coal lies at a depth of about 150 feet and may be strippable.

DAMSITE

At the time of examination the stream bed was dry and consisted of a 6-foot notch composed of alluvial silt and loess. The narrow valley is bounded by steep abutments of loess about 30 feet high. The draping effect of the loess hides the underlying materials.

RESERVOIR

The sides of the valley have moderately steep to steep slopes and are covered with loess and vegetation. Till or other clayey material probably underlies the valley sides.

BORROW

The weathered loess or underlying clayey glacial materials found in the nearby upland are suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation to determine the rate of siltation of the proposed reservoir would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 12

LOCATION

Panther Creek
SW¼ SE¼ sec. 2, T 17 N, R 9 W

GENERAL GEOLOGY

The stream lies in the upper headwaters of Panther Creek and drains the area northwest of Ashland. The loess covered topography is gently undulating and has relief of about 10 to 20 feet. The loess thickness may be as much as 10 to 20 feet. The log of a previous boring made about a mile upstream from the proposed damsite is as follows:

Material	Depth in feet
Clay, yellow	20
Clay, blue	24
Drift	39
Clay and gravel	75
Shale	93
Sand gravel	101
Shale	112
Gravel and sandy shale	129

DAMSITE

The abutments have a steep slope and are largely vegetation covered. The loess which mantles the area is exposed along the slopes and is draped into the valley area. The floodplain is narrow and consists of loess and alluvial silt. The stream was not flowing at the time of the examination. The depth of the channel in the floodplain is about 6 feet.

RESERVOIR

The lower part of the valley is narrow and has steep slopes while the upper parts of the valley in areas of intermittent tributaries have gentle slopes. Loess covers the underlying glacial materials, primarily till.

BORROW

A sufficient quantity of materials suitable for use in the construction of an earth dam is available in the clayey loess and underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Early siltation of the reservoir area may be a factor to be considered in determining the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 13

LOCATION

Tributary of Little Indian Creek
SW¼ SW¼ sec. 32, T 17 N, R 8 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Indian Creek and drains the gently undulating loess covered, Illinoian glacial topography in the vicinity of Ashland. The log of a boring made near the right abutment is generalized in the following section:

Material	Depth in feet
Soil and silt	8.5
Sand, yellow to brown	33
Till, silty, gravelly, gray to brownish-gray	54
Bedrock?	56

Total depth of hole

Strippable coal reserves underlie the proposed reservoir area.

DAMSITE

At the time of the examination the stream was dry. The channel is about 5 feet deep and is composed of loess and alluvial silt. The abutments are about 30 feet high and have steep slopes. Till is draped into the valley and hides the underlying materials. The slopes are largely vegetation covered.

RESERVOIR

The lower part of the valley has steep to moderately steeply-sloping sides, while in the upper part the valley sides have gentle slopes. Loess exposed in small cuts along the sides of the valley is more clayey in the lower part. The underlying till is covered by loess and vegetation.

BORROW

The nearby weathered loess and underlying till are suitable materials for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Virginia Site No. 14

LOCATION

Conover Branch
NE¼ SW¼ sec. 34, T 17 N, R 9 W

GENERAL GEOLOGY

The proposed reservoir is located in the headwaters of Conover Branch where the channels are intermittent. The uplands have relief of about 10 to 20 feet. Surficial soils are developed in loess deposits that blanket the gently rolling topography. The loess may be as much as 15 feet thick. About 100 feet of Illinoian glacial material, primarily till, rests on the bedrock surface beneath the proposed damsite.

DAMSITE

The abutments have moderate to gentle slopes and are covered with loess and vegetation. The stream channel was dry at the time of examination and consisted of a 6-foot notch composed of alluvial silt and loess.

RESERVOIR

The valley is moderate to gently sloping and has no floodplain. Loess and vegetation blanket the underlying materials. Exposures of loess indicate that the deposit becomes more clayey at depth. The presence of scattered pebbles may indicate that till lies at a shallow depth.

BORROW

The clayey loess and underlying till are suitable for the construction of an earth dam and are available in sufficient quantities in the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of the proposed reservoir would be helpful in determining the feasibility of this site.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 19, 1964 County Cass

Quadrangle Arenzville Site No. 15

LOCATION

Praire Creek
NW¼ NW¼ sec. 25, T 17 N, R 11 W

GENERAL GEOLOGY

The proposed reservoir lies in the headwaters of Prairie Creek, which drains the gently undulating topography between Arenzville and Virginia. Relief of the uplands in this area is about 10 to 20 feet. As much as 20 feet of loess rests on the Illinoian Jacksonville drift plain. The present valley overlies the Arenzville bedrock drainage system. Part of the upland areas are underlain by strippable coal.

DAMSITE

The stream flows in a notch 6 to 8 feet deep composed of alluvial silt and loess. The floodplain is nearly flat and is bounded by loess covered abutments. The draping effects of the loess hides the underlying materials.

RESERVOIR

The valley has moderately steeply-sloping sides composed of loess. The channel and tributaries are cut in a dendritic pattern.

BORROW

The weathered loess located in the nearby uplands may be utilized in the construction of an earth dam if proper design and control are exercised.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 15, 1964 County Champaign

Quadrangle Gibson City Site No. 1

LOCATION

Tributary of Sangamon River
NE¼ SE¼ sec. 14, T 21 N, R 7 E

GENERAL GEOLOGY

The stream is a short intermittent tributary of Sangamon River and drains a part of the area behind the Champaign end moraine. Surficial soils are developed in loess which mantles the very gently rolling till plain.

Logs of previous borings and previous field studies indicate that the predominant underlying glacial material is till.

DAMSITE

The abutments have gentle to moderate slopes and are covered by vegetation. The stream flows in a shallow notch in silt and sand alluvium.

RESERVOIR

The floodplain alluvium is clayey, dark gray silt, containing sand and pebbles, as observed in the stream bottom. The gently sloping sides are till containing occasional sand and gravel lenses. It is not probable that serious leakage would occur as 30 to 60 feet of till is present below the stream bottom and underlying the reservoir sides.

BORROW

Suitable material for the construction of an earth dam is available in the nearby clay till. The silt and sand alluvium in the floodplain area is not suitable for use as borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 15, 1964 County Champaign

Quadrangle Mahomet Site No. 2

LOCATION

Tributary of Sangamon River
SW¼ SE¼ sec. 10, T 20 N, R 7 E

GENERAL GEOLOGY

The stream is a short intermittent tributary of Sangamon River draining a part of the backslope of the Champaign end moraine. The gently rolling topography is mantled by surficial loess deposits.

Previous borings in the vicinity indicate that the underlying glacial material is predominantly till interbedded with a few lenses of sand and gravel.

DAMSITE

The abutments are vegetation covered and have moderate slopes. The stream flows in a shallow notch in silt and sand alluvium.

RESERVOIR

The sides of the small reservoir have moderate to gentle slopes and are composed of a dark gray, silty, sandy till as observed in many small erosional cuts. Lenses of sand and gravel form small terrace deposits within the floodplain area. Previous borings indicate that till is the predominant glacial material underlying the bottom of the creek to a depth of at least 100 feet.

BORROW

The nearby silty till is probably suitable for the construction of an earth dam. Local deposits of sand and gravel and also the silty, sandy alluvial material are probably not suitable for use as borrow.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 15, 1964 County Champaign

Quadrangle Potomac Site No. 3

LOCATION

Buck Creek
Center sec. 4, T 21 N, R 14 W

GENERAL GEOLOGY

Buck Creek is a tributary to Vermilion River and drains a part of the nearly level till plain which lies between the Cropsey end moraine and the Bloomington end moraine. Glacial material, predominantly till, is approximately 50 to 100 feet thick below the stream bottom. Surficial soils are developed in loess deposits that blanket the area.

DAMSITE

The stream flows in a shallow notch about 5 feet deep. The narrow, flat-bottom floodplain is composed of silt and sand alluvium. The abutments have moderately steep sides and consist primarily of a dark gray, silty till. A layer of sandy material crops out along the right abutment. The extent of this material was not determined.

RESERVOIR

The long, narrow reservoir is bounded by sides which are moderately steep and probably underlain by dark, silty till.

BORROW

The silty till found locally would probably provide an adequate quantity of borrow suitable for the construction of an earth dam.

If the reservoir is filled to the height presently planned, parts of the town of Penfield, and the St. Lawrence Cemetery would be inundated.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 14, 1964 County Champaign

Quadrangle Urbana Site No. 4

LOCATION

Saline Branch Drainage Ditch
Center sec. 2, T 19 N, R 9 E

GENERAL GEOLOGY

Saline Branch Drainage Ditch is a tributary of Salt Fork and drains a part of the Urbana end moraine. The gently rolling topography has a relief of 30 to 40 feet and is mantled by surficial loess deposits.

Logs of previous borings indicate that the thickness of glacial material is greater than 100 feet below the stream bottom and is composed of till containing occasional interbedded layers of sand and gravel.

DAMSITE

The stream flows in a 12- to 15-foot notch, the left bank of which is composed of the following sequence:

Silt, yellowish-buff -	1 foot
Till, silty, pebbly, yellow-brown -	6-8 feet
Gravel and coarse sand -	1 foot
Water seepage horizon	
Till, clayey, dark brown - 5 feet	5 feet+

The floodplain is bounded by gently sloping abutments which are probably underlain by till.

RESERVOIR

The reservoir is flat-bottomed and has gently sloping sides. Sand and gravel deposits presently are being worked about a mile upstream from the damsite. The extent of these deposits appears to be limited to the floodplain area, but their extent was not determined.

BORROW

Sufficient quantity of till which can be used for borrow material can be obtained from the uplands nearby. It is probably also possible to make use of some of the floodplain materials in the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 28, 1964 County Champaign

Quadrangle Fithian Site No. 5

LOCATION

Tributary of Salt Fork
NW¼ SE¼ sec. 31, T 19 N, R 14 W

GENERAL GEOLOGY

The stream is a tributary of Salt Fork about two miles northwest of Homer, Illinois, and drains a part of the ground moraine north of the Urbana end moraine. The depth to bedrock generally exceeds 100 feet, and logs of previous borings indicate the unconsolidated materials to be primarily till.

DAMSITE

The abutments consist of a clayey, gravelly till as observed in nearly continuous exposures on both sides of the stream. The stream flows in a 4- to 6-foot notch composed of dark colored silt and sand and the channel bottom is sand and gravel. The length of the proposed dam would be approximately 800 to 1000 feet.

RESERVOIR

The sides of the valley have moderately steep slopes and are composed of glacial materials, primarily till. The narrow floodplain is 20 to 30 feet below the level of the uplands and may be underlain by alluvial deposits.

BORROW

Till which can be used as borrow material can be obtained from the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 15, 1964 County Champaign

Quadrangle Urbana Site No. 7

LOCATION

Tributary of Salt Fork
NE¼ SE¼ sec. 1, T 18 N, R 10 E

GENERAL GEOLOGY

The stream is a short tributary of Salt Fork and drains a part of the till plain behind the Chanpaign end moraine. Surficial soils are developed in loess deposits that mantle the gently rolling topography. The thickness of the glacial material is about 50 feet as indicated by logs of previous borings.

DAMSITE

The moderately steeply sloping abutments are 20 to 30 feet high and are covered with vegetation. The stream flows in a 5-foot notch in a narrow floodplain of silt and sand alluvium.

RESERVOIR

The valley floor is covered with dark brown, silty alluvium. The valley sides have gentle to moderate slopes and are composed of yellow-buff, clayey till.

BORROW

Suitable borrow material for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Christian

Quadrangle Mechanicsburg Site No. 1

LOCATION

Tributary of Sangamon River
NE¼ NW¼ sec. 1, T 15 N, R 2 W

GENERAL GEOLOGY

This stream is a tributary of Sangamon River, and drains an area covered with loess and glacial till. The gently rolling uplands have relief of approximately 20 feet. Logs of wells in the area indicate that the loess ranges from 5 to 15 feet thick and is underlain by 195 to 219 feet of sandy, yellow-brown till.

DAMSITE

No water was present in the stream channel when the damsite was inspected. When water is available it flows in a 4-foot notch in the silt and sand alluvium of the floodplain. The moderately sloping abutments are covered with vegetation. Soil has developed in loess which caps the abutments.

RESERVOIR

The floodplain is approximately 200 feet wide and is bounded by gently to moderately sloping valley walls. The only material cropping out in the area is the loess at the top of the valley walls.

BORROW

Loess and the underlying till are present in quantities sufficient for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Christian

Quadrangle Taylorville Site No. 3

LOCATION

Tributary of South Fork Sangamon River
Center SE¼ sec. 9, T 15 N, R 3 W

GENERAL GEOLOGY

This stream is a tributary of South Fork Sangamon River and drains an area covered by loess and glacial till. The gently rolling uplands have relief of 10 to 20 feet. Logs of wells in the area indicate that the loess is underlain by 45 to 50 feet of glacial till.

DAMSITE

The stream flows in a 2-foot notch in silt. The moderately sloping abutments are covered with vegetation. Soil has developed in the loess which is present at the top of the abutments.

RESERVOIR

The moderately to gently sloping valley walls continue to the stream channel. No floodplain is present. The valley walls are covered but are probably underlain by till.

BORROW

Weathered loess and the underlying till are present in quantities sufficient for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Christian

Quadrangle Taylorville Site No. 5

LOCATION

Tributary of South Fork Sangamon River
NE¼ SW¼ sec. 15, T 14 N, R 3 W

GENERAL GEOLOGY

This stream is a tributary of South Fork of the Sangamon River and drains an area covered by approximately 40 to 50 feet of loess and till. The gently rolling uplands have relief of 10 to 20 feet. The project is in an area of known coal reserves which are subject to mining in the future.

DAMSITE

The stream flowsin a 2- to 4-foot notch in silt. The moderately sloping abutments are covered in most places, but the few exposures indicate that loess present at the top of the abutments is 6 to 8 feet thick.

RESERVOIR

The moderately gentle slopes of the valley sides merge at the stream channel; no floodplain is present. The only material exposed in the valley walls is the loess.

BORROW

Weathered loess and the underlying till are present in quantities sufficient for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing. Oil and coal reserves are present in the area and should be considered if the construction of a dam is contemplated.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Christian

Quadrangle Taylorville Site No. 6

LOCATION

Tributary of South Fork Sangamon River
SE¼ SW¼ sec. 35, T 14 N, R 3 W

GENERAL GEOLOGY

This tributary of South Fork Sangamon River drains an area covered with loess and glacial till. The uplands are very gently rolling with relief of 10 to 20 feet. Logs of wells in the area indicate that the till is approximately 53 feet thick. The project is in an area of known coal reserves which are subject to mining in the future.

DAMSITE

The moderately sloping abutments are heavily covered with vegetation in most places. The few exposures indicate that 6 to 8 feet of loess occurs on top of the abutments. An oil storage tank is located on top of the left abutment. While most of the reservoir area overlies ground that is not mined out (1964), the damsite is located over a mined-out area.

Silts and gravels along the South Fork Sangamon River were observed downstream from the location of the proposed damsite. If these deposits persist up the tributary, the damsite may have to be moved upstream to avoid leakage through the gravel lenses.

RESERVOIR

The broad, flat floodplain is bounded by moderately sloping valley walls composed of 6 to 8 feet of loess underlain by at least 6 feet of brown, gravelly, silty till.

BORROW

Weathered loess and the underlying till are present in quantities sufficient for the construction of an earth dam. The silts and gravels along the Sangamon River valley are not suitable for use as borrow.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Christian

Quadrangle Taylorville Site No. 7

LOCATION

Tributary of South Fork Sangamon River
NW¼ NW¼ sec. 23, T 13 N, R 3 W

GENERAL GEOLOGY

The stream is a tributary of South Fork Sangamon River and drains an area covered with loess and glacial till. Well logs from a nearby area indicate that approximately 20 feet of surficial loess are underlain by 90 feet of glacial till. Coal has been mined from beneath the damsite and reservoir area.

DAMSITE

The stream flows in a very shallow notch in silty alluvium. The abutments have moderately steep slopes and are composed of gravelly, silty, clay till.

RESERVOIR

The valley walls are moderately steep and are composed of material similar to that found in the abutments. Upstream from the damsite there are oil wells in the uplands.

BORROW

Till is present in quantities sufficient for the construction of an earth dam. The silty alluvium on the valley floor is probably not suitable for borrow material.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Oil production in the uplands bordering the reservoir and the presence of a mined-out area beneath the damsite and reservoir should be carefully considered in any plan for development of the project.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Christian

Quadrangle Nokomis Site No. 10

LOCATION

Tributary of Prairie Fork
NE¼ NW¼ sec. 29, T 12 N, R 3 W

GENERAL GEOLOGY

The stream is a tributary of Prairie Fork and drains a part of the nearly flat loess-covered Illinoian drift plain. Logs of previous borings indicate the bedrock surface is overlain by approximately 100 feet of glacial materials, primarily till. Surficial soils are developed in thick loess deposits that mantle the area.

DAMSITE

The abutments have gentle slopes which merge gradually with the valley bottom. As the local farming practice is to till the land very close to the stream banks, only the losss is exposed. The length of the proposed dam is approximately 1000 feet.

RESERVOIR

The valley is gently sloping and branches into two nearly equal parts a short distance upstream from the damsite. In the area of the reservoir bedrock is overlain by till, which in turn, is covered by loess.

BORROW

Weathered loess may be suitable for borrow; however, owing to its having better engineering properties, the underlying till would be more suitable for embankment material.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Christian

Quadrangle Nokomis Site No. 11

LOCATION

Brush Creek
SE¼ SE¼ sec. 18, T 12 N, R 2 W

GENERAL GEOLOGY

Brush Creek is an intermittent tributary of South Fork Sangamon River and drains a part of the glacial plain southwest of Taylorville, Illinois. The gently undulating topography has a relief of 10 to 20 feet. The thickness of glacial material is about 50 to 100 feet. At one location nearby 88 feet of glacial drift, primarily till, is recorded in a well log. Soils are developed in surficial loess deposits that mantle the terrain.

DAMSITE

The stream flows in a notch 6 feet deep composed of alluvial silt. The abutments have a moderate slope. In a road cut along the left abutment about 6 feet of loess overlies a clayey, sandy, buff-brown till. The width of the proposed dam is approximately 1000 feet.

RESERVOIR

The valley sides are moderately to gently sloping and are probably underlain by till. The valley has no definite floodplain.

BORROW

Weathered loess and sandy till located nearby would be suitable material for the construction of an earth dam.

OPINION

The site is considered probably feasible not subject to an adequate program of test boring and materials testing.

Further investigation by G W section resistivity shows probable gravel aquafer underlies and is connected with Kaskaskia River.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Christian

Quadrangle Nokomis Site No. 12

LOCATION

Bear Creek
NW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 9, T 11 N, R 3 W

GENERAL GEOLOGY

Bear Creek is a tributary of South Fork Sangamon River and drains a part of the Illinoian glacial plain southeast of Morrisonville. The glacial drift, primarily till, ranges in thickness from 50 to 100 feet and is mantled by 5 to 10 feet of loess. The topography is gently undulating, and the streams are slow and sluggish.

DAMSITE

The geology of the left abutment is partly exposed by the excavation of borrow for a small stock dam located in a small tributary ravine a short distance upstream from the left abutment. The exposed material consists of 4 to 6 feet of buff loess overlying a clayey, sandy till. The proposed dam would be about 1000 feet long abutting against moderately sloping valley sides.

RESERVOIR

The valley bottom is relatively flat and the stream flows in a 6- to 8-foot notch composed of black silt. The proposed reservoir divides into two nearly equal branches about half a mile upstream from the damsite. Seven feet of loess was observed in a road cut located about two miles south of the damsite.

BORROW

Material suitable for use as borrow for the construction of an earth dam is available in the underlying clayey loess and till.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing.
Farther investigation by GW Section Resistivity Survey shows probably gravel aquifer underlying and connected with stream bed. PBD

Alan Goodfield

Illinois State Geological Survey
Urbana, Illinois

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6-8-65 County Clay Watershed Skillet Fork

Quad Name and No. Xenia 83 Site No. LW-22-VIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	492	511
Elevation Emergency Spillway	505	515 BR 500
Elevation Top of Dam	511	520

LOCATION

Conner Branch of Skillet Fork
NW¼ NE¼ sec. 31, T 3 N, R 5 E

GENERAL GEOLOGY

Conner Branch is a tributary of Skillet Fork and drains an area northwest of Xenia. The uplands surrounding the valley are rather flat except that a range of low hills borders the east side of the drainage basin of Conner Branch. The surficial materials consist of glacial drift, primarily till, and are only 10 to 15 feet thick as indicated by the Bedrock Surface Map of Illinois and by logs of previous borings.

An oil field is located about a mile east of the headwaters of the proposed reservoir. There has been sporadic drilling activity in the watershed area, but no production has been reported.

DAMSITE

At the proposed damsite the stream is about 10 feet wide and flows in a notch 4 to 5 feet deep. The floodplain is about 800 feet wide. The floor of the floodplain is approximately 35 feet below the upland.

The abutments are composed of till overlain by loess 2 to 4 feet thick. The right abutment has a moderate slope, and the left abutment has a steep slope. Pennsylvanian sandstone crops out in a road cut about half a mile southwest of the damsite and probably underlies most of the proposed reservoir area.

RESERVOIR

The valley floor is covered with clayey, alluvial sand. The valley walls have moderate to moderately steep slopes, and the geology of the reservoir area appears to be similar to that of the abutments.

BORROW

Sufficient quantitites of sandy, clayey till, which is probably suitable for use as embankment material, can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The till appears to be impervious. However, the permeability and extent of the sandstone bedrock and the nature of the bedrock-till contact should be determined.

Bedrock may be encountered a few feet above the level of the proposed emergency spillway as indicated by the Bedrock Surface Map of Illinois.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/17/65 County Clay Watershed Cottonwood Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-XIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	460	474
Elevation Emergency Spillway	477	483
Elevation Top of Dam	486	490

LOCATION

Cottonwood Creek
NW¼ SE¼ sec. 25, T 5 N, R 7 E

GENERAL GEOLOGY

Cottonwood Creek is an intermittent tributary of Big Muddy Creek and drains a part of the Illinoian till plain. The topography in this area consists of rolling uplands that merge gradually with the upper slopes of the valleys. The relief of the area is about 50 feet, and the upland areas consist primarily of till and loess resting on Pennsylvanian bedrock. The bedrock surface is estimated from the Bedrock Surface Map of Illinois to be at an elevation of about 460 feet.

DAMSITE

The stream flows in a notch 30 feet wide and 8 feet deep in the floodplain, which is about 450 feet wide. The alluvium consists primarily of sand and small amounts of larger rock fragments. Both the right and left abutments have moderately steep to steep slopes and are underlain by till mantled by 2 to 4 feet of loessial silt.

The site is located a short distance upstream from a telephone cable which crosses the valley on a line trending about N 82° E.

It is not likely that bedrock will be encountered at the level of the emergency spillway.

RESERVOIR

The topographic map of the Sailor Springs quadrangle shows oil wells located in the vicinity of the reservoir. Also fragments of limestone found in the vicinity suggest that limestone probably underlies some parts of the area. It is anticipated that no appreciable difficulty will arise from the presence of the underlying limestone formation. About 35 feet of pinkish clay till mantled by some loess rests on the bedrock surface.

John R. Bergstrom

Site No. LW-42-XIII
Clay County

BORROW

Clay till suitable for borrow purposes and in adequate quantity occurs in the adjacent valley walls and on the upland.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey

John R. Bergstrom

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 19, 1965 County Clay Watershed Little Muddy Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-XIV

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	464	
Elevation Emergency Spillway	476	
Elevation Top of Dam	480	

LOCATION

Little Muddy Creek
NW¼ SW¼ Sec. 3, T 4 N, R 7 E

GENERAL GEOLOGY

Little Muddy Creek is an intermittent stream and drains a part of the Illinoian till plain near Bible Grove. The topographic relief is about 40 feet, and the Bedrock Surface Map of Illinois indicates that the stream drainage is located over the west slope of a buried bedrock valley. The deepest part of the buried valley lies within a mile to the west, and the thickness of the glacial material is indicated to be about 100 feet. The Pennsylvanian age bedrock adjacent to the buried valley is of varied lithology and is largely covered by 20 to 30 feet of till mantled by some loess.

DAMSITE

The stream flows in a channel 40 feet wide and 8 feet deep in the floodplain, which is approximately 550 feet wide. The floodplain is underlain by alluvium composed largely of sand and silt, with some minor lenses of gravel. The right abutment has a steep slope near the bottom, but this changes to a gentle slope 15 feet above the floodplain. The left abutment has a moderately steep slope. Both abutments consist of clay till. As the bedrock surface is indicated to be at about elevation 325 feet on the Bedrock Surface Map of Illinois and the stream bed is at an elevation of less than 450 feet, there is probably as much as 75 feet of unconsolidated material, primarily alluvium, in the valley. Porous alluvium can permit severe leakage problems under, and possibly, around the dam.

RESERVOIR

The geology of the reservoir is probably similar to that found at the abutments. The valley sides have moderate to gentle slopes.

BORROW

Adequate quantities of borrow material of clay till are available in the vicinity.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring. The porous material in the bedrock valley may prove to be an avenue of leakage from the reservoir.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/11/65 County Clay Watershed Little Panther Creek

Quad Name and No. Sailor Springs - 24 Site No. LW-44-II

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	474	493
Elevation Emergency Spillway	487	497
Elevation Top of Dam	492	500

LOCATION

Little Panther Creek
SW¼ NE¼ sec. 35, T 5 N, R 6 E

GENERAL GEOLOGY

Little Panther Creek is an intermittent stream and drains a part of the Illinoian till plain. The relief of the area is about 35 feet, and the thickness of surficial deposits over bedrock, as estimated from a comparison of topographic map elevations of the upland with bedrock elevations derived from the Bedrock Surface Map of Illinois, is about 50 feet. Till and loess blanket the ~~the~~ bedrock, which consists of sequences of thin-bedded shales, sandstones, limestones, coals, and underclays of Pennsylvanian age.

DAMSITE

The stream flows in a notch about 10 to 20 feet wide and 5 feet deep in the floodplain. The floodplain is approximately 375 feet wide and consists of alluvial sand, silt, and clay. The right and left abutments have steep slopes and are underlain by clay till mantled by loessial silt 2 to 4 feet thick. The till contains minor amounts of gravel and some larger rock fragments.

Lying downstream and within a few hundred feet of the damsite is a buried Illinois Bell Telephone Company System communications cable. The trend of the cable line is East-West. The stream flow is primarily from north to south. As indicated by the Bedrock Surface Map of Illinois, bedrock lies below the level of the proposed emergency spillway.

RESERVOIR

The topographic map of the Sailor Springs quadrangle and observation at the site indicate that there is a topographic saddle between 480 feet and 500 feet in elevation located a few hundred feet west of the right abutment of the proposed dam. A saddle dam will be necessary in order to retain the reservoir within the confines of Little Panther Creek drainage during periods of high water.

The valley walls of the reservoir generally are steep and underlain by clay till.

Little Panther Creek
LW-44-II

BORROW

Till in the vicinity may be used for borrow material.

OPINION

If the reservoir is to be confined to the drainage of Little Panther Creek and the tributary, the damsite is considered probably feasible subject to an adequate program of test boring and materials testing. Adequate provision must be made to protect the undegground cable downstream from the damsite and to prevent undesirable interference with the operation of the oil field west of the proposed reservoir.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/11/65 County Clay Watershed Panther Creek

Quad Name and No. Sailor Springs - 214 Site No. LW-44-VI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	499	
Elevation Emergency Spillway	506	
Elevation Top of Dam	510	

LOCATION

Panther Creek
NE¼ SE¼ sec. 14, T 5 N, R 6 E

GENERAL GEOLOGY

Panther Creek is an intermittent stream and drains a part of the Illinoian till plain. As interpreted from the Bedrock Surface Map of Illinois, the elevation of the bedrock surface underlying the reservoir area is between 350 and 400 feet, whereas the elevation of the till plain surface of the uplands lies generally between elevations 500 and 520 feet. Hence, a thickness of surficial material ranging from 100 to about 175 feet is indicated. This thickness of surficial material is attributable to the fact that the site is located over the west flank of a north-south trending buried valley, which is largely filled with glacial outwash materials. The area is mantled by some till and perhaps some loess.

The area is one in which there is considerable oil producing activity.

DAMSITE

The stream lies in a notch about 20 feet wide and 6 feet deep in the floodplain. The location of the dam is a few hundred feet upstream from the confluence of Panther Creek and an unnamed tributary. The point of land that separates the two valleys is high enough that construction of the proposed dam at the location indicated would form two separate reservoirs. On the left side of the valley a few hundred feet downstream from the site is a cemetery which interferes with locating the dam farther downstream. The point of land might be lowered in order to form a single reservoir.

The left abutment is steep and the right moderately steep. Both abutments are underlain by till mantled generally by 2 to 4 feet of loessial silt.

The level of the emergency spillway is considerably above the general bedrock surface of the area, as indicated by the Bedrock Surface Map of Illinois, and bedrock is not likely to be encountered.

RESERVOIR

Outcrops in the area indicate that the valley walls are underlain by clay till that contains minor amounts of gravel, pebbles, and larger rock fragments. The slopes are generally moderately steep. Leakage may occur through the underlying porous alluvium which fills the buried bedrock valley.

BORROW

There is ample till in the vicinity suitable for borrow material.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/10/65 County Clay Watershed Crooked Creek

Quad Name and No. Edgewood - 70 Site No. LW-45-II

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	500	
Elevation Emergency Spillway	514	
Elevation Top of Dam	520	

LOCATION

Crooked Creek
NE¼ NE¼ sec. 4, T 4 N, R 5 E

GENERAL GEOLOGY

Crooked Creek drains an area lying along a part of the boundary between the Springfield till plain and the Mount Vernon Hill Country. The relief of the area is about 40 feet. The Bedrock Surface Map of Illinois indicates the bedrock surface to lie at an elevation between 500 and 560 feet. The area is underlain by Pennsylvanian bedrock of thin shale, sandstone, limestone, coal, and underclay which is covered by 30 to 40 feet of till, primarily of Illinoian age, and mantled by 2 to 4 feet of loess. As much of the valley floors of Crooked Creek and its tributaries lie below 500 feet, the valley walls probably consist of only a thin mantle of till over bedrock. Till was observed at all levels above the floodplain in a number of exposures along the valley sides.

Located down drainage and within 3 miles to the south and east of the damsite are outcrops of the Omega limestone member of the Mattoon Formation. Unpublished geological reports on file at the Illinois State Geological Survey indicate that the Omega limestone is probably present as a bedrock surface outcrop in places underneath the till and alluvial cover of the reservoir area.

DAMSITE

The stream flows in a notch in the floodplain about 75 feet wide and 8 feet deep. The floodplain is about 700 feet wide, and its alluvial sediments consist primarily of silt, sand, and some gravel. No bedrock is exposed in the stream bed or in the abutments; however, the water in the stream at the time of investigation largely obscured the stream bed. The abutments have gentle slopes and appear to be mantled by till.

Bedrock is likely to be encountered above the elevation of the proposed emergency spillway, as indicated by the Bedrock Surface Map of Illinois.

RESERVOIR

The Omega limestone probably underlies parts of the reservoir area. The Omega limestone was examined at a quarry a few miles south and east of the town of Iola. The limestone is about 14 feet thick and is overlain by shaly sandstone. At the top of the limestone is a thin almost impervious layer of calcareous shale. Although no solution channels of the limestone were noted at the quarry, it may be that solution channels may be present elsewhere and that it would be necessary to apply special measures to prevent leakage from the reservoir.

RESERVOIR (continued)

The valley walls are gently sloping and are underlain by bedrock which is thinly mantled by till and some loess.

BORROW

The till of the valley walls and adjacent uplands should provide an adequate quantity of suitable borrow material.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/10/65 County Clay Watershed Dismal Creek

Quad Name and No. Edgewood - 70 Site No. LW-46-VI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	501	512
Elevation Emergency Spillway	524	528
Elevation Top of Dam	534	537

LOCATION

Dismal Creek
NW¼ SE¼ sec. 17, T 5 N, R 5 E

GENERAL GEOLOGY

Dismal Creek drains a part of the Illinoian till plain mantled by some outwash and loess. The thickness of the drift over the Pennsylvanian bedrock is estimated from the Bedrock Surface Map of Illinois to be 20 to 50 feet. The surficial relief in the area is about 75 feet. Producing oil wells are located near the centerline of the proposed dam.

DAMSITE

The stream flows in a notch about 50 feet wide and 8 feet deep. The width of the floodplain is somewhat more than 1500 feet. It is possible that the thickness of the sandy and silty alluvium in the floodplain exceeds 30 feet, although this is not considered likely. The abutments have gentle slopes except for some steepening just above the floodplain level. Till crops out in the upper parts of the abutments. Some exposures of till extend down to the level of the floodplain.

As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The area surrounding the reservoir is a flat upland sharply incised by the well-established parts of the drainage but is characterized by a rolling aspect at and near the headwaters of the streams. Well log data indicates the presence of Pennsylvanian age rock of differing lithology at various localities of the area. It is not likely that any of the rock types would cause special problems in the vicinity of the proposed reservoir.

BORROW

Ample borrow material of suitable characteristics appears to be available in the vicinity.

OPINION

The damsite is considered to be probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/11/65 County Clay Watershed Tributary of Dismal Creek

Quad Name and No. Edgewood - 7θ Site No. LW-46-VII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	477	484
Elevation Emergency Spillway	491	493
Elevation Top of Dam	497	499

LOCATION

Tributary of Dismal Creek
NW¼ SE¼ sec. 26, T 5 N, R 5 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Dismal Creek and drains a part of the nearly flat Illinoian till plain near Iola. The glacial material, largely till, is about 20 to 30 feet thick and is mantled by a few feet of loess. The Pennsylvanian bedrock consists of thin shale, sandstone, limestone, coal, and clay strata.

DAMSITE

The stream channel is about 20 feet wide and 7 feet deep in a floodplain approximately 700 feet wide. The alluvial deposits of the floodplain appear to be composed primarily of silt, sand, and some gravel. Bedrock is not exposed in the stream bed, the banks, or the moderately sloping abutments. Some exposures of till were observed at locations along the abutments from the uplands down to the elevation of the floodplain.

As indicated by the Bedrock Surface Map of Illinois, bedrock is likely to be encountered above the elevation of the proposed emergency spillway.

RESERVOIR

The geology of the reservoir area is probably similar to that found at the damsite. The valley has gentle slopes in which till is exposed, but not bedrock.

BORROW

A sufficient quantity of till suitable for use as borrow material is located near the damsite.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 1965 County Cook

Quadrangle Sag Bridge Site No. 5

LOCATION

Tributary of Calumet Sag Channel
NE¼ NW¼ sec. 24, T 37 N, R 11 E

GENERAL GEOLOGY

The intermittent creek drains a small part of the Valparaiso moraine. Many of the local depressions in the rolling topography of the moraine are occupied by lakes, swamps, and marshes. The Calumet Sag Channel, a glacial drainageway, occupies a valley cut into the moraine. Logs of previous borings in the upland areas suggest that bedrock is overlain by 77 to 100 feet of glacial deposits. The map of the Surficial Geology of the Sag Bridge Quadrangle indicates that Niagaran dolomitic rock is exposed in the creek downstream from the damsite. Relief in the area ranges from 70 to 135 feet.

DAMSITE

The right abutment has moderate slopes rising about 25 feet, while the left abutment has moderately steep slopes rising 30 feet. Both abutments are underlain by stony, sandy, clayey till containing boulders up to 4 feet in diameter. The creek flows in a notch 3 to 6 feet wide and 2 to 3 feet deep. The floodplain is 100 to 150 feet wide. Numerous large boulders are present in the creekbed. The presence of large blocks of Niagaran dolomite in the till and creekbed suggests that bedrock is close to the surface. As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

Valley sides, having moderate to strong slopes and underlain by stony, sandy, clayey till, surround the reservoir area. The upper, or southern, end of the reservoir is occupied by a marsh. In this latter area the valley bottom is flat and approximately 500 feet wide. It is possible that peaty areas may be located within the marsh.

BORROW

Sufficient quantities of till, which is probably suitable as an impervious borrow material, are available in the upland adjacent to the damsite.

OPINION

This site is probably feasible subject to verification by an adequate program of test boring and materials testing. The shallow bedrock surface may be irregular, and solution channels may be present in the dolomite.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 1965 County Cook

Quadrangle Harvey Site No. 6

LOCATION

Unnamed tributary of Calumet Union Drainage Canal
NE¼ SE¼ sec. 35, T 36 N, R 13 E

GENERAL GEOLOGY

The intermittent creek drains a part of the Tinley moraine and the area of ground moraine lying behind the somewhat higher moraine. The project is one mile southwest of the outermost shoreline of former Lake Chicago. Logs of previous borings in the area show that 71 to 75 feet of unconsolidated glacial material overlie the limestone or dolomitic bedrock. Relief in the area ranges from 20 to 55 feet.

DAMSITE

The right abutment has steep slopes rising about 20 feet, while the left abutment has moderate slopes rising the same height. Bothaabutments are underlain by silty and clayey till which contains very small amounts of sand and a few small pebbles and cobbles. The creek flows in a notch 1 to 5 feet deep and 4 to 6 feet wide. The floodplain is approximately 100 feet wide and is underlain by black, silty clay alluvium. The Bedrock Surface Map of Illinois indicates that it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

The valley sides of the reservoir area have gentle to moderate slopes underlain by till very similar to that exposed at the damsite. The floodplain has a width ranging from 100 to 700 feet, and is underlain by black, silty, clay alluvium.

BORROW

Sufficient quantities of silty, clayey till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

SPECIAL PROBLEM

The elevation of the proposed spillway, 670 feet, is approximately 5 feet higher than a saddle 800 feet south of the right abutment. A reservoir at 670 feet, would flood a subdivision southeast of the dam. Either a small dike must be built in the saddle or the level of the proposed reservoir must be lowered at least 5 feet.

OPINION

Dependent on solution of the above problem, the site is considered feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 8, 1964 County DeKalb

Quadrangle Earlville Site No. 1

LOCATION

Indian Creek
N½ sec. 26, T 38 N, R 3 E

GENERAL GEOLOGY

Indian Creek is a major stream in this area and drains a portion of the Cropsey-Bloomington moraine. There are rolling uplands on either side of the creek with relief of 60 to 80 feet. The surficial material is glacial drift, primarily till. Depth to bedrock is not known, but is believed to be greater than 200 feet, as indicated by logs of wells in the area.

DAMSITE

The stream flows in a broad notch 4 to 6 feet below the level of the floodplain which is approximately a quarter of a mile wide. The abutments are composed of brown, sandy, stoney clay till. The till overlies stratified sand and gravel which is probably glacial outwash. The thickness of the glacio-fluvial sediments is at least 10 feet where exposed and their extent is not known.

RESERVOIR

The valley floor is covered with silty, sandy alluvium which varies in color from light to dark brown. The floodplain changes slope only slightly where it merges with the reservoir sides which slope gently to the uplands. The valley sides are composed of brown, sandy, stoney clay till.

BORROW

A sufficient quantity of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably not feasible due to the occurrence of sand and gravel beneath the till. However, it is possible that the glacio-fluvial material is only a local deposit or that the overlying till is thick enough to prevent leakage. This would have to be determined by an adequate program of test boring.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County DeWitt

Quadrangle McLean Site No. 1

LOCATION

Long Point Creek
SW¼ NW¼ sec. 24, T 21 N, R 1 E

GENERAL GEOLOGY

Long Point Creek is a major tributary of Kickapoo Creek which drains a part of the Shelbyville moraine and some of the area behind it. The topography is gently rolling and the soil is developed in surficial loess deposits. The depth to bedrock is greater than 150 feet, and the overlying glacial deposits are primarily till as indicated by logs of previous borings.

DAMSITE

The stream flows in a 4- to 6-foot notch in a nearly flat, broad floodplain. The width of the valley at the location of the proposed dam is about 1,000 feet. Both abutments slope steeply and are composed of compact, medium brown, silty, sandy, clayey till.

RESERVOIR

The floor of the reservoir is a broad, nearly flat floodplain bounded by moderately steep sides. The floor is composed of silt, sand, and other alluvial materials, and the sides are made up of a hard, compact, medium- to gray-brown till.

BORROW

Material for construction of an earth dam can be located in the nearby till uplands. The alluvium probably would not be suitable for borrow.

OPINION

The site is probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County DeWitt

Quadrangle Kenney Site No. 2

LOCATION

Rock Creek
NW¼ SE¼ sec. 27, T 21 N, R 1 E

GENERAL GEOLOGY

Rock Creek is a tributary of Kickapoo Creek and drains a part of the Shelbyville moraine. Surficial soils are developed in loess deposits which mantle the gently rolling topography. Logs of previous borings indicate that the bedrock surface is covered by a series of interbedded tills, sands, and gravels. According to nearby well logs a 1- to 2-foot horizon of sand and gravel occurs at approximately the 700-foot elevation. It has not been determined how far this deposit extends laterally. The damsite is located over the pre-glacial Mahomet bedrock valley system. Leakage is not likely to occur into this system owing to the adequate thickness of impermeable material overlying the sand and gravel filling the valley.

DAMSITE

The stream flows in a 4-foot notch within a 400- to 500-foot wide floodplain. The bottom of the creek is composed of sand and some gravel while the banks are loess and silty alluvium. Both abutments have moderatly steep slopes and consist of medium gray-brown, clayey, silty, pebbly, till as observed in a nearby roadcut.

RESERVOIR

The reservoir has a narrow flat floodplain and the sides have moderately steep slopes. A grayish-brown clayey till is exposed in road cuts on both sides of the reservoir. No evidence was seen to indicate that the previously noted sand and gravel horizon is exposed in any part of the proposed reservoir.

BORROW

Suitable material for the construction of an earth dam is available from the nearby clay till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County DeWitt

Quadrangle Maroa Site No. 3

LOCATION

North Fork Salt Creek
Center SE¼ sec. 15, T 20 N, R 3 E

GENERAL GEOLOGY

North Fork Creek is a major tributary of Salt Creek draining the very gently rolling area of outwash of the LeRoy moraine and the till deposits of the Shelbyville moraine. Logs of previous borings indicate the surficial glacial deposits are predominantly till ranging in thickness from 150 to 200 feet.

DAMSITE

The stream flows in a 4- to 6-foot notch in a broad flat floodplain. The abutments have moderately steep slopes and range in height from 50 to 60 feet. Road cuts expose sections of compact, medium brown, clayey, silty till on both abutments.

RESERVOIR

The sides of the reservoir have moderately steep slopes and the floodplain is broad and flat. Sand and gravel have been removed from a small deposit located on the left side of the reservoir. This deposit appears to be of local extent, but this would have to be determined.

BORROW

An adequate supply of material of suitable character for the construction of an earth dam is available in the nearby clay till.

OPINION

The site is considered to be probably feasible subject to verification by an adequate program of test borings and materials testing. The possibility of leakage through permeable sand and gravel deposits may constitute a problem and should be thoroughly investigated.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County DeWitt

Quadrangle Maroa Site No. 4

LOCATION

Tributary of Salt Creek
Center SW¼ sec. 25, T 20 N, R 3 E

GENERAL GEOLOGY

The stream is a small tributary of Salt Creek and drains the till plain behind the Shelbyville moraine. Surficial soils are developed in widespread loess deposits that mantle the gently rolling topography and in outwash materials from the LeRoy, Champaign, and Cerro Gordo moraines. Relief in the upland areas varies from 10 to 20 feet. Logs of previous borings indicate the surficial glacial deposits are predominantly till ranging in thickness from 150 to 200 feet.

DAMSITE

The stream flows in a 4-foot notch cutting alluvial sands and silt. The flat-bottomed valley is approximately 750 feet wide and is bounded by moderately steep abutments composed of light yellow-brown, silty, clayey till. A thin veneer of sand was noted on one part of the right abutment. The origin of this sand was not determined, but it is probably an outwash deposit.

RESERVOIR

The sides of the reservoir range in height from 20 to 40 feet and have moderately steep slopes. The valley is flat-bottomed and apparently filled with silt and sand. The geology of the sides is similar to that of the abutments.

BORROW

Borrow materials for the construction of an earth dam probably can be obtained from the more clayey upland till deposits. Outwash materials such as the sands and silts that fill the valley probably are not suitable for construction materials.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County DeWitt

Quadrangle Kenney Site No. 5

LOCATION

Tributary Salt Creek
NW¼ SW¼ sec. 28, T 20 N,R 1 E

GENERAL GEOLOGY

The stream is a tributary of Salt Creek and drains part of the front slope of the Shelbyville moraine. The topography is gently rolling and the surficial soil is developed in loess which mantles the glacial deposits. A thickness of 100 to 125 feet of clayey till is indicated by logs of previous borings. The damsite is situated over the main channel of a large bedrock valley, but there is a sufficient thickness of impermeable material beneath the damsite to preclude leakage as a serious problem.

DAMSITE

The stream flows in a 3- to 4- foot notch, and the abutments gently slope to the uplands. The banks of the stream are composed of black silt or loess and appear to overlie a medium gray colluvium. The abutments are covered except for small cuts which reveal boown, silty, clayey till.

RESERVOIR

The reservoir produced is small and has gently sloping sides. Till apparently underlies the surface surrounding and within the proposed reservoir.

BORROW

Material suitable for the construction of an earth dam is available in the nearby clay till.

OPINION

The site is considered to be feasible subject to verification by an adequate program of test borings and materials testing. Successful stock ponds and a small reservoir nearby indicate that the local materials are sufficiently impermeable to retain a small reservoir.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County DeWitt

Quadrangle Kenney Site No. 6

LOCATION

Tenmile Creek
SW¼ SE¼ sec. 2, T 19 N, R 1 E

GENERAL GEOLOGY

Tenmile Creek is a tributary of Salt Creek and drains part of the front slope of the Shelbyville moraine. Surficial soil is developed in loess which blankets the gently rolling topography. Logs of previous borings indicate that glacial materials in the vicinity of the damsite are predominantly composed of clayey till and range in thickness from 200 to 250 feet. The damsite is located over the pre-glacial Mahomet bedrock valley system. Leakage is not likely to occur into this system owing to the adequate thickness of impermeable material overlying the sand and gravel filling the valley.

DAMSITE

The stream flows in a 3- to 4-foot notch composed of valley alluvium and loess. The floodplain at the proposed site is approximately 1,000 feet wide and the abutments are moderately steep. These abutments are approximately 40 to 60 feet high and are composed of gray-brown compact till. A well approximately 500 feet upstream from the damsite encountered clay or clayey till to a depth of 104 feet below the bottom of the stream.

RESERVOIR

The reservoir has a flat bottom bounded by moderately steep sides 40 to 60 feet high. The stream is cutting in alluvial silt and loess, and local sand and gravel deposits appear as terraces along the sides. It was not determined how far these deposits extended laterally.

BORROW

Suitable material for the construction of an earth dam is available in the clay till nearby. The alluvium probably is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The extent of local sand and gravel deposits would have to be determined.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County DeWitt

Quadrangle Maroa Site No. 7

LOCATION

Coon Creek
SW¼ SE¼ sec. 5, T 19 N, R 2 E

GENERAL GEOLOGY

Coon Creek drains a part of the Shelbyville moraine which is locally gently rolling and has a relief of from 20 to 30 feet. Surficial soils are developed in loess deposits which mantle the moraine. The bedrock valley of pre-glacial River Mahomet underlies the present stream valley. A sufficient thickness of impermeable material separates the present stream from the underlying sands and gravels which fill the bedrock valley system to preclude leakage as a serious problem.

DAMSITE

The left abutment has a moderately steep slope while the right abutment is gently sloping. The abutments range in height from a40 to 50 feet and consist of yellow-brown, clayey, silty, till observed in small cuts located along the slopes. The floodplain is approximately 1,000 feet across and is composed of silt and valley alluvium. The lower part of the creek bank consists of dark gray, clayey colluvium.

RESERVOIR

Yellow-brown till was observed in many small cuts in the sides of the reservoir. The sides of the reservoir are moderately steep and the valley is flat-bottomed. The stream meanders and is flowihg in valley silts and alluvium.

BORROW

The nearby clayey till found along the sides of the reservoir is suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The Clinton Sewage Disposal Plant is located on Coon Creek upstream from the proposed reservoir, and the effluent from this plant would have to be controlled.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

for Ill. State Water Survey

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County DuPage

Quadrangle Normantown Site No. 5

LOCATION

Spring Brook
NE¼ SW¼ sec. 36, T 38 N, R 9 E

GENERAL GEOLOGY

Spring Brook drains a small area of gently rolling topography located in front of the West Chicago moraine of the Wisconsinan Valparaiso morainal system. Logs of previous borings in the area indicate that a relatively thin cover of drift, 24 to 70 feet thick, overlies the limestone bedrock. Surficial relief in the area ranges from 25 to 50 feet. The site was previously examined on January 13, 1965, by W. Calhoun Smith and Paul B. DuMontelle, who considered the site probably feasible.

DAMSITE

Spring Brook, a stream 6 to 8 feet in width, flows in a notch 2 to 3 feet deep in a flood plain which is approximately 300 feet wide. The valley sides have strong slopes. Surficial material in the fields suggest that stony till underlies the abutment areas. The Bedrock Surface Map of Illinois indicates that it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

The following is a log of a previous boring made about a quarter of a mile north of the left abutment:

Materials	Depth in feet
Black dirt	0 - 5
Black dirt and sand	5 - 10
Sand and gravel	10 - 18
Sandstone	18 - 24
Limestone	24 - 26

One exposure in the flood plain revealed black, sandy, silty, and clayey alluvium with a few boulders. The valley slopes in the reservoir area have moderate to moderately steep slopes.

BORROW

Sufficient quantities of till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The close proximity to the front of the West Chicago moraine suggests that some outwash deposits, possibly including permeable sand and gravel, may be present within the reservoir area and at the damsite. The shallow bedrock surface may be irregular and solution channels may be present.

Illinois State Geological Survey
Urbana, Illinois

A. G. Goodfield
for Ill. State Water Survey

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Du Page

Quadrangle West Chicago Site No. 1

LOCATION

West Branch Du Page River
SE¼ SE¼ sec. 10, T 40 N, R 9 E

GENERAL GEOLOGY

West Branch DuPage River drains a part of the West Chicago moraine. The front of this moraine lies about 2 miles west of the damsite. The gently rolling topography has numerous small depressions. The relief ranges from 30 to 80 feet. Logs of previous borings in the area indicate that 90 to 150 feet of unconsolidated material, mostly of glacial origin, overlie the limestone bedrock.

DAMSITE

The stream is 10 to 12 feet wide and flows in a notch 4 to 6 feet deep in the floodplain which is about 650 feet wide. Gravel is exposed in numerous shallow cuts in the floodplain along an east-west county road half a mile south of the site. The left abutment has a very gentle slope, and the right abutment has a moderate slope. Surface material in fields and in nearby cuts suggest that stony, sandy, and clayey till underlies the abutment areas. As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The valley sides have very gentle to gentle slopes. Till, similar to that observed in the vicinity of the damsite, appears to underlie the valley sides. The character of the floodplain material is not known.

BORROW

Sufficient quantities of till, which is probably suitable as an impervious borrow material, are available in the adjacent uplands.

OPINION

The construction of a dam at this location is probably feasible subject to verification by an adequate program of test boring and materials testing. This site was examined in January, 1965, for a similar project, and it was concluded that the project would not be feasible for development by itself because of the rapid rate of siltation expected and because of the large proportion of shallow water. The project may be considered for multiple use, and if suitable gravel deposits are located within the proposed reservoir area it might be possible to develop the project as a unit in a groundwater recharge system.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Ill. Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Lombard Site No. 1

LOCATION

East Branch DuPage River
S½ SW¼ sec. 36, T. 40 N., R. 10 E.

GENERAL GEOLOGY

East Branch DuPage River drains a part of the Wisconsinan Valparaiso morainal system. The upland topography is gently rolling and has relief of about 30 to 40 feet. A thin layer of surficial silt is underlain by layers and lenses of till, gravel, sand, and clay deposited in a generally complicated sequence. The depth to bedrock in the vicinity of the proposed site is about 40 to 50 feet. Silurian limestones make up the bedrock of this area.

DAMSITE

The damsite is indicated to be located at the lower part of a proposed excavation area. Both abutments have gentle slopes and are underlain by porous gravel layers and lenses as well as nonporous clays and tills.

RESERVOIR

The proposed reservoir is an excavated area paralleling both sides of East Branch DuPage River. The materials that would be taken from such an excavation would include till, gravel, sand, silt, and some clay. Several gravel pits are located within the proposed reservoir.

BORROW

Material suitable for the construction of a rolled earth dam is probably available by utilizing a mixture of nearby materials.

OPINION

The site is considered probably not feasible unless a separate channel is established and maintained for East Branch DuPage River. The siltation rate for the proposed reservoir would be too rapid unless the East Branch DuPage River is maintained in a separate channel. The reservoir should be excavated to a depth of at least 25 to 35 feet deep at the maximum depth, and no more than 25 to 50 percent of the reservoir area should be less than 5 feet deep. If the water surface in the reservoir is to be maintained at ground-water level, no major dam construction would be necessary; the reservoir would be created by excavation. A dike or levee might be required to prevent overflow of the river into the reservoir.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Lombard Site No. 2

LOCATION

Spring Brook
NE¼ SE¼ sec. 7, T. 40 N., R. 11 E.

GENERAL GEOLOGY

Spring Brook drains a part of the backslope of the Wisconsinan Valparaiso morainal system. The upland topography is gently rolling and has relief of 30 to 40 feet. Deposits of till, gravel, sand, and silt underlie the uplands and are deposited in a complex manner. These materials are about 50 to 100 feet thick. A reservoir, Lake Kadijah, is located about a mile upstream from the proposed site. A sewage disposal plant is located within the limits of the proposed reservoir.

DAMSITE

The abutments are very gently sloping and consist of some sand and gravel with interdeposited silts and tills. The stream channel consists of soil and alluvial materials.

RESERVOIR

The reservoir is in a very broad, gently sloping valley. The presence of gravel pits upstream and intermittent lakes within the valley area indicate that it is probably underlain by porous materials. A surficial soil and silt covers the area.

BORROW

Material suitable for the construction of an earth dam can probably be obtained nearby.

OPINION

The site is considered probably not feasible because of the large area of shallow water produced by the very gentle valley slope. The present lake located upstream from the damsite is probably acting as a sediment basin for much of the sediment being produced in the upper watershed of Spring Brook. This reduces the siltation rate to be expected for the proposed reservoir and thereby enhances the feasibility somewhat.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle
for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Elmhurst Site No. 3

LOCATION

Tributary of Willow Creek
Along common boundary of secs. 1 & 2, T 40 N, R 11 E

GENERAL GEOLOGY

The intermittent stream is a tributary of Willow Creek and drains a part of the glacial drift between the Wisconsinan Valparaiso morainal system and the Wisconsinan Tinley moraine. The upland topography is very gently rolling and has relief of about 10 to 20 feet. The depth to bedrock is about 100 feet. Logs of previous borings located in the vicinity of the reservoir indicate 12 to 14 feet of glacial drift, primarily clays. Outwash materials may be present in this area.

DAMSITE

The proposed damsite is nearly a mile long and the valley is about 5 to 10 feet deep. The materials underlying the valley are probably clayey silts.

RESERVOIR

The reservoir is located in a very broad, gently sloping, shallow basin which consists of two nearly equal parts along two intermittent tributaries.

BORROW

Clayey materials that would probably be suitable for the construction of an earth dam are available nearby.

OPINION

The site is considered not feasible because the percentage of shallow water would be excessively high.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Romeoville Site No. 4

LOCATION

East Branch DuPage River
SW¼ SW¼ sec. 35, T. 38 N., R. 10 E.

GENERAL GEOLOGY

East Branch DuPage River drains a part of the gently rolling Wisconsinan Valparaiso morainal system. The upland topography has relief of 30 to 40 feet. The bedrock surface map indicates that there may be less than 50 feet of drift overlying the Silurian limestone bedrock. The reservoir is indicated to be created by excavation methods.

DAMSITE

The abutments are gently sloping and are composed of some porous gravels which may extend to some distance beneath the uplands. Local gravel pits downstream from the site indicate that alluvial gravels may also be present underlying the proposed damsite.

RESERVOIR

The proposed reservoir lies within the floodplain area of East DuPage River and would be developed largely by excavation. The floodplain is probably underlain by porous alluvial materials. A sewage disposal plant is located about a mile upstream from the proposed damsite.

BORROW

Material suitable for the construction of an earth dam is available in the nearby till uplands.

OPINION

The site is considered probably not feasible unless a separate channel is provided for East Branch DuPage River. Siltation rates, spillway costs, and other problems caused by provisions required to pass large volumes of water reduce the practicability of a site such as this without development of a separate channel for the stream. If the site is excavated, a maximum depth of at least 30 to 35 feet should be attained, and no more than 25 to 50 percent of the lake area should be less than 5 feet deep.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Wheaton Site No. 5

LOCATION

Prentiss Creek
SE¼ SW¼ sec. 14, T. 38 N., R. 10 E.

GENERAL GEOLOGY

Prentiss Creek is an intermittent stream that drains a part of the Wisconsinan Valparaiso morainal system. The topography is gently rolling and has relief of 30 to 40 feet. The thickness of the glacial drift may be as much as 150 feet.

DAMSITE

The stream flows in a shallow notch composed of alluvial silt and surficial soil. Both abutments have gentle slopes and are covered with surficial soil and vegetation. Clayey drift material, probably till, extends to depths of about 5 feet in this vicinity and may be underlain by more porous materials.

RESERVOIR

The reservoir is a valley with gently sloping sides. Gravels are known to underlie some parts of the proposed reservoir. Extensive landscaping and subdivision development have occurred on the surrounding uplands and in parts of the proposed reservoir. A power distribution line crosses the proposed reservoir. The materials underlying the valley are probably a variety of glacial materials.

BORROW

The nearby clayey till is suitable for construction of an earth dam, but an adequate quantity would have to be proven.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Problems arising from the effect of water in constant contact with the subdivision fill materials should be investigated before construction of the project. It may be necessary to provide some type of bank protection to prevent damage by wave action.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Naperville Site No. 6

LOCATION

Spring Brook
NW¼ NW¼ sec. 25, T. 39 N., R. 9 E.

GENERAL GEOLOGY

Spring Brook is a tributary of West Branch DuPage River and drains a part of the Wisconsinan Valparaiso morainal system. The upland topography has a relief of about 30 to 40 feet. The thickness of glacial materials overlying the bedrock in this area is 50 to 100 feet. Logs of a previous boring indicate the underlying materials to consist of the following:

Material	Depth in Feet
Dark brown top soil	1
Clay, silty, brown	13
Gravel, brown, silty, clayey	15
Gravel, brown, little silt and clay	20
Sand, medium to coarse, brown	26
Clay, silty, gray, some sand pebbles	30
End of boring	

DAMSITE

The abutments have moderate to gentle slopes and are covered with vegetation and surficial soil materials. The underlying materials probably consist of clayey, silty sand and gravel, and may include permeable layers and lenses. The stream flows in a channel composed of surficial soil and valley alluvium.

RESERVOIR

The reservoir area is a shallow, narrow valley with moderately to gently sloping sides. The maximum depth of water at the dam would be about 10 to 15 feet. The geology of the underlying materials is assumed to be similar to that found near the damsite. A sewage disposal plant is located about a mile and a quarter upstream from the proposed site.

BORROW

Material suitable for the construction of an earth dam can probably be located in the nearby upland areas.

OPINION

The site is considered not feasible because the siltation rate for the reservoir would be rapid. The maximum depth of water at the damsite (10 feet plus) also indicates that the reservoir would have too high a percentage of shallow water.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Naperville Site No. 7

LOCATION

West Branch DuPage River
SE¼ NE¼ sec. 15, T. 39 N., R. 9 E.

GENERAL GEOLOGY

West Branch DuPage River in this vicinity drains a part of the front slope of the Wisconsinan Valparaiso morainal system. The upland topography has relief of about 30 to 40 feet. The depth to bedrock in the upland areas is probably greather than 100 feet. The site is considered primarily an excavation project. Previous reports concerned with proposed sites along West Branch DuPage River indicate that the river valley is underlain primarily by valley train deposits composed mainly of sand and gravel. A shallow boring located near the upper end of the proposed excavation indicates that the upper 6 feet of material consists of brown clay and that this, in turn, is underlain by slightly clayey sand or gravel to a depth of about 15 feet.

DAMSITE

The proposed damsite is probably underlain by a complexly deposited system of brown silt, sand, and gravel. The abutments have gentle slopes and may consist in part of till.

RESERVOIR

The reservoir would be an excavated area in the valley train materials, predominantly layers and lenses of silt, sand, and gravel. The sides of the valley are very gentle, as the area lies within the floodplain of West Branch DuPage River.

BORROW

Suitable material for the construction of an earth dam probably is available in the nearby upland areas.

OPINION

The site is considered not feasible unless a separate channel is provided for West Branch DuPage River. The size of the proposed reservoir indicates that without the establishment of a separate channel the siltation rate for this project would be so rapid as to reduce the life of the reservoir materially. The excavation should be carried to a depth of 30 to 35 feet, and no more than 25 to 50 percent of the total area of the lake should be less than 5 feet deep. A sewage plant is located within the project watershed.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

for NE. Illinois Metropolitan Planning Commission

Date examined January 13, 1965 County DuPage

Quadrangle West Chicago Site No. 8

LOCATION

West Branch DuPage River
NW¼ SW¼ sec. 11, T. 40 N., R. 9 E.

GENERAL GEOLOGY

West branch DuPage River drains a part of the gently rolling front slope of the Wisconsinan Valparaiso morainal system. Relief is about 30 to 40 feet. The glacial materials overlying the bedrock surface are greater than 100 feet thick. Previous reports on the West Branch DuPage River indicate that the west valley wall is till, and, presumably, till comprises the east wall of the valley, also. Outwash sand and gravel materials underlie the valley floodplain.

DAMSITE

Both abutments have gentle slopes and are presumed to be in part underlain by till. Glacial outwash materials underlie the central part of the valley.

RESERVOIR

The valley is a broad shallow basin with very gently to gently sloping sides. The sides are probably underlain by till, but outwash materials underlie the valley bottom. A part of this project includes an excavation project in Mallard Lake Forest Preserve.

BORROW

Material suitable for the construction of an earth dam is available in the nearby uplands.

OPINION

The site is considered probably not feasible for development by itself. A rapid rate of siltation and the proportion of shallow water in the proposed reservoir indicate a short useful project life. The results of an adequate program of test boring and materials testing should be studied thoroughly before reaching a decision as to whether or not this site is feasible.

The excavation at Mallard Lake Forest Preserve may bekconsidered for development without the proposed dam at Site 8. Consideration of this scheme should include provision for a separate channel for the intermittent tributary that enters the excavation area from the southeast. The water level would be maintained by ground water, and the maintenance of a separate channel for the stream would reduce the volume of silt introduced into the reservoir.

Construction of Site 8 might be warranted if its purpose were to act as a sedimentation basin for the reservoir of Site 9, thereby enhancing the feasibility of Site 9.

Illinois State Geological Survey
Urbana, Illinois

W. C. Smith
P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

for NE. Illinois Metropolitan Planning Commission

Date examined January 13, 1965 County DuPage

Quadrangle West Chicago Site No. 9

LOCATION

West Branch DuPage River
Center SW¼ sec. 26, T. 40 N., R. 9 E.

GENERAL GEOLOGY

West Branch DuPage River drains a part of the front slope of the Wisconsinan Valparaiso morainal system. The topography is gently rolling and has relief of 30 to 40 feet. The thickness of glacial materials below the upland areas is about 100 to 150 feet thick. This site was rejected after previous investigations because of poor soil conditions and too large a percentage of shallow water with development proposed to elevation 740 feet.

DAMSITE

The abutments have gentle slopes and are covered with vegetation and surficial soils. The materials underlying the abutments probably consist primarily of till. The central part of the floodplain is underlain by valley train deposits consisting of lenses and layers of silts, sands, and gravels.

RESERVOIR

The height of the water level has been proposed at 740 feet and at 750 feet. The limit of the 740-foot boundary lies within the West Branch DuPage River floodplain, while the limits of the 750-foot boundary lies at the edge of the broad floodplain of West Branch DuPage River. The valley walls slope gently to the uplands and probably are underlain by till. Gravel pits have been worked within the area of the proposed reservoir, indicating that porous material, probably valley train deposits, occur throughout the central part of the valley.

BORROW

Material suitable for the construction of an earth dam is available from till in the nearby uplands.

OPINION

The construction of the project is dependent upon the successful installation of an adequate cutoff at the proposed site. Whether this can be accomplished may be determined by a suitable program of test boring and materials testing. Silting up of this reservoir would be greatly reduced, however, if the project proposed for Site 8 were developed along with the project for Site 9. The upper reservoir would act as a silt catchment basin and would extend the life of the downstream project. An investigation of the problems apt to be created by the presence of sewage disposal plants in this basin should be investigated early in the consideration of this site.

W. C. Smith
P. B. DuMontelle

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Urbana, Illinois

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Normantown Site No. 10

LOCATION

Spring Brook
Center SW¼ sec. 36, T 38 N, R 9 E

GENERAL GEOLOGY

Spring Brook is a tributary of DuPage River and drains a part of the area in front of the Wisconsinan Valparaiso morainal system. The relief of the upland topography is about 20 to 30 feet, and the thickness of glacial drift beneath the upland areas is about 50 feet. The bedrock underlying this area is Silurian limestone. Logs of previous borings in the vicinity of the damsite indicate that about 15 to 20 feet of silty clay or clayey silt overlie a zone of silty gravel or silty sand lenses to a depth of about 30 feet.

DAMSITE

The abutments have gentle slopes and are covered with surficial soil and silt. The stream flows in a shallow notch in silt or alluvium, and its bottom may be at or near the bedrock surface. Sand or gravel lenses and layers may underlie a part or all of the damsite and abutment areas.

RESERVOIR

The valley is a narrow S-shaped basin with moderately gentle side slopes. The underlying materials are probably composed of fine to coarse outwash materials and, as indicated by the previous borings, these in turn may be underlain by sand and gravel lenses. The bedrock surface is at or near stream level and is probably an irregular surface. Since the bedrock is limestone or dolomite, solution channels may be present.

BORROW

Material suitable for borrow is probably available.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The nature and sequence of the materials forming the abutments and underlying the proposed damsite and reservoir area must be investigated in order to define and evaluate the deficiencies and problems that would have to be overcome in order to develop a dam and reservoir at this site.

W. C. Smith
P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

for NE. Illinois Metropolitan Planning Commission

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined January 13, 1965 County DuPage

Quadrangle Wheaton Site No. 11

LOCATION

Junction of East Branch DuPage River and Lacey Creek
E½ NW¼ sec. 26, T 39 N, R 10 E

GENERAL GEOLOGY

The proposed reservoir is located at the junction of East Branch DuPage River and Lacey Creek. This site is an excavation project located in the front part of the Wisconsinan Valparaiso morainal system. The uplands rise from 50 to 75 feet above the floodplain of East Branch DuPage River. The thickness of glacial materials in the upland areas may be as much as 150 feet. Previous reports indicate that the valley is underlain by valley train materials which probably include water-laid silt, sand, and gravel. A power distribution line crosses the proposed reservoir.

DAMSITE

The proposed project does not include a dam.

RESERVOIR

The proposed reservoir would be an excavated area lying in part in the floodplain area and in part along the valley sides of East Branch DuPage River and Lacey Creek. Materials that would be excavated include for the most part layers of water deposited materials and loess.

BORROW

Material suitable for use as borrow is probably available in the nearby upland areas.

OPINION

The site is considered feasible only if separate channels are established for both East Branch DuPage River and for Lacey Creek. The size of the proposed reservoir is too small to run the risk of siltation from either or both of these two streams. A maximum depth of 20 to 25 feet should be maintained at the reservoir, and no more than 25 to 50 percent of the reservoir area should be less than 5 feet deep. The feeaibility of the site may be enhanced if the reservoir were reduced in size or so situated as not to include the normal channel of Lacey Creek. It would also be desirable to avoid the power distribution line.

Bergstrom-DuMontelle

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-27-65 County Edwards Watershed Tributary of Butter Creek

Quad Name and No. Albion - 42 Site No. LW-27-I

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	394	422
Elevation Emergency Spillway	409	425
Elevation Top of Dam	418	433

LOCATION

Tributary of Butter Creek
SW¼ SW¼ sec. 9, T 2 S., R. 10 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Butter Creek and drains an area near Albion in western Edwards County. The topography is characterized by rolling uplands separated by the broad shallow valleys of major stream courses. The relief of the area is nearly 100 feet. As interpreted from the Bedrock Surface Map of Illinois, the surface of the bedrock lies at about an elevation of 400 to 450 feet in the vicinity of the proposed project. The bedrock consists primarily of shales and sandstones of Pennsylvanian age and is generally covered by 30 to 40 feet of pinkish clay till mantled by 3 to 5 feet of loessial silt.

DAMSITE

The stream flows in a notch 10 feet deep and 25 feet wide in the floodplain. Exposures along the bed and banks of the stream indicate that the alluvium is primarily composed of sand with a little silt and gravel.. Both abutments have gentle slopes and are underlain by clay till mantled by loess. Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The slopes of the reservoir sides are gentle to nearly level. Exposures reveal light tan, sandy, deeply weathered loess.

BORROW

An ample quantity of clay till suitable for use in the construction of an earth dam is available in the vicinity.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/11/65 County Effingham Watershed Little Bishop Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-50-II

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	527	
Elevation Emergency Spillway	545	
Elevation Top of Dam	551	

LOCATION

Little Bishop Creek
NW¼ SE¼ sec. 6, T 6 N, R 7 E

GENERAL GEOLOGY

Little Bishop Creek, a tributary of Bishop Creek, drains an area of till, loess and possibly some outwash. Bedrock, consisting generally of thin strata of shale, sandstone, limestone, coal, and underclay, underlies the mantle of glacial materials. The relief in the area is almost 40 feet. The Bedrock Surface Map of Illinois indicates that the general thickness of the glacial material, which is largely till in the area, is about 20 feet.

DAMSITE

The floodplain is approximately 400 feet wide and is incised by a stream channel 25 feet wide and 9 feet deep. The floodplain alluvium is primarily composed of sand and silt. The abutments have moderately steep to strong slopes. The bedrock surface underlying the upland areas is probably covered by pebbly, pinkish clay till, and a thin mantle of loess.

RESERVOIR

The slopes of the proposed reservoir are gentle and covered with vegetation. The sides are probably underlain by till about 20 feet thick as indicated by the Bedrock Surface Map of Illinois, by well logs, and by observation of the few exposures in the area.

BORROW

Adequate quantities of till suitable for borrow are located in the vicinity of the site.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/11/65 County Effingham Watershed Bishop Creek

Quad Name and No. Teutopolis - 82 Site No. LW-50-III

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		546
Elevation Top of Dam		553

LOCATION

Bishop Creek and Dieterich Creek
NE¼ NE¼ NW¼ sec. 29, T 7 N, R 7 E

GENERAL GEOLOGY

Dieterich Creek and Bishop Creek drain a part of the gently rolling Illinoian till plain. Surficial soils are developed in loess which blankets the uplands. The valleys have relief of about 50 feet. The Bedrock Surface Map of Illinois indicates that approximately 40 feet of glacial drift, primarily till, rest on the Pennsylvanian bedrock surface.

DAMSITE

Bishop Creek flows in a channel 8 feet deep and 25 to 70 feet wide in a floodplain that is approximately 675 feet wide. Sand with very minor amounts of silt and gravel are exposed along the stream. Some pieces of rock up to 6 inches long were observed in the stream bed, but no bedrock is in evidence. The left abutment has a steep slope and consists of till overlain by a few feet of loess. The right abutment, largely covered, probably consists of the same materials.

RESERVOIR

The floodplain is covered with allight brown,sandy alluvium. The lower portions of the generally steep valley walls appear to be of till containing a very minor amount of gravel.

BORROW

Till which can be used for borrow material can be obtained from the nearby uplands. The floodplain deposits are not suttable for the construction of an earth dam.

OPINION

The site is probably feasible subject to verification by an adequate program of test boring and materials testing. Bedrock is not likely to be encountered above the level of the proposed emergency spillway as indicated by the Bedrock Surface Map of Illinois.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 14, 1965 County Effingham Watershed Salt Creek

Quad Name and No. Effingham - 83 Site No. LW - 51 - IV

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		542
Elevation Top of Dam		550

LOCATION

Tributary of Salt Creek
SW¼ NE¼ sec. 16, T 7 N, R 6 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Salt Creek which drains an area of Pennsylvanian bedrock overlain by about 30 feet of unconsolidated material, primarily till. The till is irregularly covered by loess generally less than 3 feet thick.

DAMSITE

Fragments of thin-bedded sandstones, siltstones and argillaceous rocks appear in the stream bed. The valley is cut at its lowest elevation by a notch 4½ feet deep and 6 feet wide. Both abutments have strong slopes and are underlain by colluvium derived largely from till, loessal silt, alluvial silt, and bedrock fragments. The Bedrock Surface Map of Illinois indicates that bedrock is likely to be encountered during the excavation of the proposed emergency spillway.

RESERVOIR

The valley walls have steep slopes which are developed mainly in till mantled by irregular patches of loess of varying thickness. The valley has very little flood plain area.

BORROW

Suitable borrow material in sufficient quantity is available nearby for construction of an earth dam.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test borings and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/12/65 County Effingham Watershed Green Creek

Quad Name and No. Effingham - 83 Site No. LW-52-XXI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	585	595
Elevation Top of Dam	592	600

LOCATION

Green Creek
NW¼ NE¼ sec. 28, T 9 N, R 6 E

GENERAL GEOLOGY

Henry Creek and Green Creek, upstream from their confluence, drain an area of Illinoian and possibly older glacial tills which lie on bedrock of Pennsylvanian age. The till is partly covered by an uneventhickness of loess. The thickness of regolith lying on the upland, as interpreted from logs of previous borings and from the Bedrock Surface Map of Illinois, generally ranges from 40 to 70 feet.

DAMSITE

The flood plain is about 330 feet wide, and Green Creek flows in a channel about 12 feet deep and 50 to 70 feet wide. Sand and silt, some clay, and a little gravel, are exposed in the stream bed. No bedrock is visible in the stream channel or abutments. Both abutments are moderately to gently sloping and are underlain by till which contains a few scattered pebbles. The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered during the excavation of an emergency spillway at elevation 585 feet.

RESERVOIR

Deposits of the floodplain are composed largely of sand and silt containing minor amounts of gravel in thin lenses. The valley walls consist of till with minor amounts of gravel and are irregularly mantled by an uneven thickness of loess. The valley sides generally have moderate to gentle slopes.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/13/65 County Effingham Watershed Second Creek

Quad Name and No. Effingham - 83 Site No. LW-52-XV

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	531	543
Elevation Top of Dam	537	547

LOCATION

Second Creek
NW¼ NW¼ sec. 22, T 7 N, R 5 E

GENERAL GEOLOGY

Second Creek is a tributary of Little Wabash River and drains an area of Illinoian till plain which mantles the Pennsylvanian bedrock. Till and loess together range from 25 to 45 feet in thickness as indicated by the Bedrock Surface Map of Illinois and by logs of local wells.

DAMSITE

The flood plain is more than 600 feet wide and the stream flows in a channel 20 to 25 feet wide and 6 feet deep. Till is exposed along the moderate to steep slopes of both abutments. The till is less clayey and contains a greater percentage of large-sized rock fragments than is commonly found in the area.

The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

The stream valley has a mature configuration. The valley slopes are moderate to steep and the transition to the gently rolling upland is abrupt. The flood plain is composed primarily of silt, and also contains sand, gravel, and some large rock fragments.

Recent road-cut exposures in the area indicate that 12 to 15 feet of clayey till is mantled by a few feet of loess, and together, these deposits rest on 25 to 30 feet of a lighter-colored, less clayey till.

BORROW

Abundant material suitable for building an earth dam is available nearby.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/12/65 County Effingham Watershed Lily Creek

Quad Name and No. Effingham - 83 Site No. LW-52-XIV

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	574	577
Elevation Top of Dam	587	589

LOCATION

Lily Creek
SE cor. sec. 32, T 8 N, R 5 E

GENERAL GEOLOGY

Lily Creek is a tributary of Little Wabash River and drains the nearly flat to gently rolling Illinoian till plain. The uplands are mantled by glacial material, loess and till, which ranges in thickness from 25 to 40 feet and in turn rests on Pennsylvanian bedrock composed largely of shales and some sandstone.

DAMSITE

The stream flows in a notch 6 feet deep and about 35 feet wide in the flood plain. The flood plain is approximately 550 feet wide and lies about 70 feet below the upland.

Both abutments have moderate slopes and are mostly covered with soil and vegetation. A pinkish-orange, pebbly till is exposed on the left abutment about 30 feet above the flood plain. Half a mile downstream from the damsite along the right valley wall 2 to 6 feet of loess mantles 20 to 25 feet of colluvium. Rock fragments as much as 2 feet in length are scattered through the colluvium. The Bedrock Surface Map of Illinois indicates that the bedrock surface may be encountered above the level of the proposed emergency spillway.

RESERVOIR

The flood plain alluvium consists of silt and sand with some clay and gravel. The valley walls have moderate slopes and, as indicated by nearby exposures, are probably underlain by till.

BORROW

Some selection of borrow material may be required to avoid inclusion of large rocks, but suitable material in ample quantity appears to be present.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/12/65 County Effingham Watershed East Branch Green Creek

Quad Name and No. Teutopolis - 82 Site No. LW-52-XXII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	610	613
Elevation Top of Dam	618	620

LOCATION

East Branch Green Creek
NW¼ sec. 26, T 9 N, R 6 E

GENERAL GEOLOGY

East Branch Green Creek drains a part of the nearly flat Illinoian till plain near the Town of Sigel. The gently rolling upland has relief of 30 to 40 feet. A Pennsylvanian sedimentary rock sequence underlies the glacial deposits.

DAMSITE

The stream flows in a notch 6 to 7 feet deep and 50 to 70 feet wide. The flood plain is about 300 feet wide. Freshly exposed in the left abutment to a height of 35 feet above the streambed is sandy, silty colluvium containing some gravel and coarser material with a minor quantity of clay. Loess with a maximum thickness of 5 feet lies at the top. The right abutment has a moderate slope and the Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered above the level of the proposed emergency spillway. The right abutment is largely covered, but probably has the same geology as the left abutment.

RESERVOIR

The flood-plain deposits are composed of sand and silt, light in color, with a minor quantity of clay. Although stratified deposits in the valley walls were not observed, the proximity of the area to the Shelbyville moraine lends support to the assumption that some outwash material may be present in the vicinity of the site. The valley sides have moderate to gentle slopes and are probably underlain by till.

BORROW

Although the borrow material has an exceptionally small amount of clay, there is probably available an adequate quantity of material suitable for an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/14/65 County Effingham Watershed Brush Creek

Quad Name and No. Effingham - 83 Site No. LW-51-VIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		544
Elevation Top of Dam		554

LOCATION

Brush Creek
NW¼ NW¼ sec. 11, T 7 N, R 6 E

GENERAL GEOLOGY

Brush Creek, a tributary of Salt Creek, drains an area of loess-mantled Illinoian till plain. The Bedrock Surface Map of Illinois indicates the depth from the surface to the clays, shales, and sandstones of Pennsylvanian age to be generally 30 to 50 feet.

DAMSITE

The stream flows in a 5- to 6-foot notch in the flood plain. The flood plain is about 400 feet wide and is underlain by alluvium that is composed primarily of silt and sand with some clay and some rock fragments as much as 10 inches long. The Bedrock Surface Map of Illinois indicates that the proposed dam is located over the west slope of a buried bedrock valley. The thickness of the alluvium in the buried bedrock valley may be as much as 100 feet. Bedrock is not likely to be encountered during excavation of the proposed emergency spillway.

RESERVOIR

The flood plain deposits appear to be composed primarily of silt, clay, and rock fragments. The valley walls have steep slopes and consist of till overlain by loess of varying thickness.

BORROW

Borrow material suitable for construction of an earth dam is available from the nearby uplands.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/11/65 County Effingham Watershed Salt Creek

Quad Name and No. Effingham - 83 Site No. LW-51-IX

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		572
Elevation Top of Dam		582

LOCATION

Salt Creek
NW¼ sec. 22, T 8 N, R 6 E

GENERAL GEOLOGY

Salt Creek is a tributary of Little Wabash River and drains the moderately dissected Illinoian till plain. The terrain has relief of about 50 feet and is underlain by glacial deposits which rest on sandstone and shale of Pennsylvanian age. Well log data from nearby locations and the Bedrock Surface Map of Illinois indicate about 45 feet of glacial material, primarily till, underlies the uplands.

DAMSITE

The stream flows in a notch about 50 feet wide and 10 feet deep in the flood plain which is about 1000 feet wide. Sand with some thin lenses of gravel occurs in the stream bed. Both abutments have moderate to gentle slopes and probably are underlain by clayey till which contains a scattering of pebbles. A few feet of loess mantles the till. The thickness of alluvial fill in the valley was not determined.

The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

Exposures indicate that the flood plain is underlain by gray alluvial silt containing scattered lenses of pebbles in minor amounts. The silt weathers light brown at the surface. The valley walls consist of till and loess and generally have gentle to moderately steep slopes.

BORROW

Sufficient quantity of clayey till suitable for construction of an earth dam is available from the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/14/65 County Effingham Watershed Shoal Creek

Quad Name and No. Effingham - 83 Site No. LW-52-X

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	578	603
Elevation Top of Dam	588	609

LOCATION

Shoal Creek
NW¼ SE¼ sec. 36, T 9 N, R 5 E

GENERAL GEOLOGY

Shoal Creek is a small tributary of Little Wabash River and drains an area underlain by Pennsylvanian bedrock. The bedrock is generally covered by glacial drift which is as much as 45 feet thick and consists primarily of till mantled by loess.

DAMSITE

The stream flows in a notch 8 feet deep and 30 feet wide in the flood plain. The flood plain alluvium consists of sand, silt, some clay and a minor amount of other rock material. Sandstones of irregular thickness and overlain by till are exposed in ledges near the base of the moderate to steep slopes of the abutments. According to the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

The flood plain is narrow and the valley walls are steep. Exposures of sandstone bedrock are numerous. The thickness of till and loess is about 30 feet. No excessively thick deposits of alluvium are believed to occur.

BORROW

Till is available from the nearby valley slopes and upland areas and is suitable as borrow material for an earth dam.

OPINION

This damsite is probably feasible subject to verification by an adequate program of test boring and materials testing, particularly in regard to availability of material for construction of an earth dam. The bedding planes and joints of the sandstone bedrock may need grouting or other sealing to prevent excessive leakage.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/11/65 County Effingham Watershed Big Creek & Coon Creek

Quad Name and No. Effingham - 83 Site No. LW-52-XVI

	Flood Prevention Single-Purpose	Maximum Mu Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway	558	564
Elevation Top of Dam	563	568

LOCATION

Big Creek
NW¼ NW¼ sec. 30, T 7 N, R 5 E

GENERAL GEOLOGY

Big Creek and Coon Creek drain a part of Illinoian till plain which is underlain by glacial deposits resting on Pennsylvanian shales and sandstones. The Bedrock Surface Map of Illinois and well logs indicate that rock crops out in the valleys of the area. Glacial deposits, primarily till, mantle much of the upland to a depth of about 30 feet.

DAMSITE

Big Creek flows along the base of the right abutment. Massive sandstone 15 feet thick and overlain by till and loess is exposed on the right abutment. Large pieces of bedrock as much as 2 feet in length occur with the sand and silt of the stream bed. The stream channel is 50 feet wide and about 6 feet deep. The flood plain is at least 600 feet wide. The damsite is located less than a quarter of a mile downstream from the confluence of Big Creek and Coon Creek. As indicated by the Bedrock Surface Map of Illinois, bedrock may be encountered a few feet above the level of the proposed emergency spillway.

RESERVOIR

The maximum relief of the area is about 80 feet. The flood plain of Big Creek varies considerably in width and is partly underlain by silt and sand. Rock fragments probably are more numerous in the southern part of the valley than in the northern part. The south valley walls are generally moderate to steep but the north valley walls have moderate to gentle slopes. As much as 30 feet of till mantles rocks of Pennsylvanian age which contain a sequence of irregularly bedded, massive sandstones which crop out persistently in Big Creek valley.

BORROW

Suitable material for construction of an earth dam is available above the level of the flood plain.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 20, 1964 County Ford

Quadrangle Buckley Site No. 2

LOCATION

North Fork Vermilion River
SW¼ SE¼ sec. 29, T 26 N, R 9 E

GENERAL GEOLOGY

The damsite is situated on the Chatsworth moraine on one of the principal headwater branches of North Fork Vermilion River which drains the backslope of this moraine. The topography is hummocky and gently rolling, and on the moraine the stream flows in a well defined channel. Logs of previous borings indicate 50 to 100 feet of clay and clay till overlying beds of sand and gravel.

DAMSITE

The stream at the proposed damsite flows in a 6- to 10-foot notch in a very narrow floodplain. The stream bed is clay with a few pebbles. The abutments slope gently to the uplands, and no fresh cuts are exposed. It will be necessary to determine the sequence and character of the materials that underlie the damsite. The thickness of till over the sand and gravel deposits must also be ascertained.

RESERVOIR

In the reservoir area the stream flows in a distinct meandering notch, and the reservoir sides slope gently to the uplands. The creek banks afford the only observable outcrops and these consist of 6 to 8 feet of light buff and brown clay till.

BORROW

Material for construction of an earth dam can be located nearby in the clay till uplands. Some exploration may be required to locate the most suitable areas for borrow.

OPINION

The damsite is considered feasible subject to verification by an adequate program of test boring. Special consideration should be given to determining the thickness of till between the valley bottom and the underlying sand and gravel.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 20, 1964 County Ford

Quadrangle Buckley Site No. 3

LOCATION

Tributary of Spring Creek
SW¼ SE¼ sec. 11, T 25 N, R 9 E

GENERAL GEOLOGY

The stream is a short dendritic tributary draining an end moraine. The topography is gently rolling and thick glacial deposits mantle the bedrock surface. Logs of previous borings indicate clayey till deposits with some lenses of sand and gravel present.

DAMSITE

The stream flows in a 6- to 10-foot notch in a narrow floodplain. The abutments are moderately steep and consist of light gray to buff clay till. Topsoil is about 2 feet thick. The sequence and character of materials beneath the damsite must be ascertained.

RESERVOIR

The sides of the reservoir slope gently to the uplands. The stream flows in a meandering notch 6 to 10 feet deep in a narrow floodplain, and near the damsite it swings close to the right abutment exposing 15 to 20 feet of light gray to buff clay till.

BORROW

An adequate quantity of material suitable for construction of the dam is available in the clay till deposits nearby.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 20, 1964 County Ford

Quadrangle Buckley Site No. 4

LOCATION

Tributary of Spring Creek
NW¼ NE¼ sec. 13, T 24 N, R 9 E

GENERAL GEOLOGY

The stream is a tributary of Spring Creek draining the back slope of the Chatsworth moraine. The topography is gently rolling and hummocky. A medium gray, pebbly soil is widespread in the area, but local sandy zones occur near the stream at the damsite.

Logs of previous borings in the area indicate a thick mantle of glacial material composed of clays and clay tills with a soil zone present about 100 feet below the level of the uplands. Sand and gravel lenses may be present locally.

DAMSITE

The stream flows in a 4- to 6-foot notch in a very narrow floodplain. Material in the stream bed consists of silty, sandy, medium to dark gray clay. Both abutments slope very gently to the uplands. The area is soil covered and no good exposures were observed. The sequence and character of deposits underlying the damsite will have to be ascertained.

RESERVOIR

The reservoir has gently sloping sides with little floodplain. Upstream, in a cut produced by the meandering stream there is a 7- to 10-foot bank of light buff-gray clay till, and a short distance away at the same horizon there is a similar bank of dark gray to black clay with pebbles. This situation should be studied further if this damsite is proposed for development.

BORROW

The clayey tills found locally would provide an adequate quantity of suitable borrow for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 7, 1965 County Grundy

Quadrangle Morris 7.5' Site No. 1

LOCATION

Bills Run
NW¼, NE¼ sec. 24, T 33 N, R 6 E

GENERAL GEOLOGY

Bills Run drains a part of the lakeplain of glacial Lake Wauponsee. Six miles west of the project area is the backslope of the Marseilles moraine. The lakeplain, in which Bills Run is entrenched, is underlain by Marseilles ground moraine, or till, and scattered, thin, usually less than 5 feet thick, deposits of sandy and silty lake sediments. Information from previous borings suggests that 70 to 120 feet of unconsolidated material overlies the sandstone and limestone bedrock. Relief in the area ranges from 75 to 100 feet.

DAMSITE

Bills Run, which was dry at the time of observation, flows in a notch 6 to 12 feet deep and 25 to 30 feet wide in a floodplain which is about 350 feet wide. The floodplain is underlain by interbedded sand, silty sand, and gravel. There are numerous sand and gravel bars in the creek bed. The left abutment has very steep slopes and is underlain by sandy, clayey to sandy gravelly till. The right abutment has steep slopes and is probably underlain by the same material. Both abutments are heavily wooded. Approximately 700 feet downstream from the right abutment is a pit in which 40 to 50 feet of loose medium-grained, sand, overlain by one foot of gravelly sandy till, is exposed. As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The reservoir area is bounded by valley sides having moderately steep to very steep slopes which are probably underlain by sandy clayey till.

BORROW

Sufficient quantities of sandy clayey till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

OPINION

The site is probably feasible subject to verification by an adequate program of test boring and materials testing. Two conditions were noted which especially should be checked by borings during any further investigation. The extent of permeable gravels beneath the floodplain at the damsite should be determined. Also, it is possible that the sand which is exposed in the pit downstream from the right abutment, may extend upstream and underlie the right abutment. This should be carefully checked.

Illinois State Geological Survey
Urbana, Illinois

A. G. Goodfield

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date Examined July 6, 1965 County Grundy

Quadrangle Marseilles Site No. 2

LOCATION

Long Point Creek
SE cor. sec. 7, T. 33 N., R. 6 E.
It should be noted that in its lower reaches Long Point Creek is called Carson Creek.

GENERAL GEOLOGY

The project site is located along the western border of the lakeplain of glacial Lake Wauponsee and near the eastern margin of the Marseilles moraine. The lakeplain has very flat topography while the morainal area is characterized by gently rolling topography. In the project area, relief ranges from 60 to 100 feet. Subsurface information suggests that 50 to 65 feet of overburden may overlie the Pennsylvanian shale bedrock. The lakeplain is underlain by Marseilles ground moraine and by scattered thin silty lake deposits.

DAMSITE

The creek is 3 to 6 feet wide at the damsite and flows in a notch 3 to 5 feet deep and 20 to 25 feet wide. The floodplain is about 300 feet wide. Sandy, silty alluvium, 2 to 3 feet thick, overlies an undetermined thickness of coarse sandy and gravelly material. Both abutments have steep slopes rising 30 to 40 feet above the floodplain. The valley sides are underlain by stony, sandy, clayey till in which pockets of sandy, gravelly material and boulders 2 to 3 feet in diameter are present. As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

Till, very similar to that exposed at the damsite, appears to underlie the valley sides of the reservoir. The till may be overlain by scattered silty lake deposits less than 5 feet thick. Till, exposed in stream banks in the northern end of the proposed reservoir, is subject to slumping. A small spring was observed at the base of the valley side east, across Long Point Creek, from the former site of Long Point School. Some small deposits of sandy alluvium and gravel are present along the valley bottom in the reservoir area.

BORROW

Sufficient quantities of sandy clayey till, probably a suitable impervious borrow material, are available in the adjacent uplands.

OPINION

This site is considered feasible subject to verification by an adequate program of test boring and materials testing. The extent of deposits of possibly quite permeable gravels below the surface at the damsite should be determined by test boring.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 26, 1964 County Henry

Quadrangle Orion Site No. 1

LOCATION

Tributary of Green River
NE¼ section 23, T 17 N, R 1 E

GENERAL GEOLOGY

The stream is a tributary of Green River and drains an area of loess-covered Pennsylvanian sediments. The rolling uplands have a relief of 30 to 40 feet. The depth to bedrock is less than 25 feet according to exposures along the valley walls.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 100 to 150 feet wide and is 30 to 40 feet below the uplands. The following materials are exposed in the right abutment:

	Thickness in feet
Tan to light brown, sandy, clayey silt (loess)	4
Mottled gray and brown, soft, weathered shale	5
Coal	1
Dark gray, soft, thinly laminated shale	3
Coal	1
Mottled gray and brown, soft, weathered shale	5
Dark gray, thinly bedded, sandy shale	7
Mottled gray and brown, soft, weathered shale	2
Dark gray, soft, thinly laminated shale with small ironstone concretions	3

The left abutment is covered, but probably is composed of the same materials as the right abutment. Both abutments have steep slopes.

RESERVOIR

The floodplain is covered with dark brown, sandy, alluvial silt with some brown, silty sand at the base of the stream channel. The valley walls are composed of loess-capped shale, as is the abutment described above. The valley walls have moderate to steep slopes.

BORROW

Materials suitable for use in a rolled earth embankment are not available in the immediate area of the damsite. For this reason some type of dam other than a rolled earth embankment should be considered.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 26, 1964 County Henry

Quadrangle Geneseo Site No. 3

LOCATION

Geneseo Creek
SE¼ sec. 29, T 17 N, R 3 E

GENERAL GEOLOGY

Geneseo Creek is a tributary of Green River and drains an area of loess-covered Pennsylvanian sediments. The depth to bedrock is probably less than 50 feet according to logs of borings made previously in the area.

DAMSITE

The stream flows in an 8- to 10-foot notch in the floodplain. The floodplain is approximately 200 to 300 feet wide and is 50 to 70 feet below the uplands. The only material visible in the abutments is a soil developed in loess. Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark brown, sandy, alluvial silt. The upper portions of the gently to moderately sloping valley walls are composed of tan to light brown, sandy, clayey silt (loess). Interstate Highway 80 crosses a portion of the reservoir.

BORROW

A lack of surface exposures makes it impossible to know whether or not sufficient and suitable borrow material is available in the immediate vicinity of the damsite. This information will have to be developed.

OPINION

The site is considered geologically feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary, as the few surficial exposures give no indication of the nature and sequence of the subsurface materials. The presence of Interstate Highway 80 in the area of the reservoir may make construction of the proposed damsite economically infeasible.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 23, 1964 County Henry

Quadrangle Geneseo Site No. 5

LOCATION

Spring Creek
NW¼ sec. 26, T 16 N, R 3 E

GENERAL GEOLOGY

Spring Creek is a major tributary of Green River and drains an area of loess-covered bedrock hills. The depth to bedrock is probably not in excess of 50 feet according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in a 10- to 12-foot notch in the floodplain. The floodplain is approximately 200 to 300 feet wide and is 60 to 70 feet below the uplands.

The abutments are covered with tan to light brown clayey silt (loess) and are gently sloping. Greenish-gray, clayey silt is exposed near the base of the stream channel.

RESERVOIR

The floodplain is partially covered with brown, silty, fine alluvial sand. The remainder of the floodplain and the valley walls are covered with tan to light brown clayey silt similar to that which covers the abutments.

BORROW

A suitable borrow area probably will have to be developed outside of the immediate vicinity of the damsite if an earth embankment is contemplated.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and sequence of the subsurface materials.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 23, 1964 County Henry

Quadrangle Annawan Site No. 6

LOCATION

Walker Creek
SE¼ sec. 2, T 15 N, R 4 E

GENERAL GEOLOGY

Walker Creek is a tributary of Mud Creek and drains an area of loess-covered bedrock hills. The uplands are rolling to hilly. The depth to bedrock is probably less than 50 feet according to logs of borings made previously in nearby areas. Sandstone underlies part of the reservoir area.

DAMSITE

The stream flows in a 12- to 15-foot notch in the floodplain. The floodplain is approximately 500 to 600 feet wide and is 60 to 70 feet below the uplands. The abutments are composed of:

	Thickness in Feet
Tan to light brown, clayey silt (loess)	8 to 10
Brown, sandy silt	2
Dark brown to brown, silty clay	6
Covered	5 to 6

The abutments have gentle to moderate slopes.

RESERVOIR

The floodplain is covered with brown, sandy, alluvial silt. The valley walls are gently to moderately sloping and are composed of tan loess overlying brown, silty clay as in the abutments.

BORROW

Adequate quantities of material suitable for use in an earth embankment may not be available close to the damsite. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary to determine the nature and sequence of subsurface materials and to prove out an adequate supply of suitable borrow.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 23, 1964 County Henry

Quadrangle Annawan Site No. 7

LOCATION

Tributary of Mud Creek
NW¼ sec. 22, T 15 N, R 5 E

GENERAL GEOLOGY

The stream is a minor tributary of Mud Creek and drains an area of loess and drift mantled bedrock of Pennsylvanian age. The uplands are rolling to hilly, and the depth to bedrock is probably less than 30 feet according to logs of borings made previously in the area.

DAMSITE

The stream flows in a 10- to 12-foot notch in the narrow floodplain. The right abutment is composed of light-brown to buff, silty, clay till which contains many brown sandstone fragments. The left abutment is covered, but itsscomposition is probably similar to that of the right abutment. Brown, silty, clay is exposed near the base of the stream channel. The abutments have moderate to gentle slopes.

RESERVOIR

The floodplain is covered with brownish-gray, sandy, alluvial silt. The moderately sloping valley walls consist of light-brown, sandy, clay till.

BORROW

Sufficient quantities of till which can be used for borrow material probably can be obtained from the nearby uplands. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. It will be necessary to determine the extent and degree of permeability of any Pennsylvanian sandstone which may be present beneath the till.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 23, 1964 County Henry

Quadrangle Annawan Site No. 8

LOCATION

Mud Creek
SE¼ sec. 11, T 15 N, R 5 E

GENERAL GEOLOGY

Mud Creek is a major tributary of Green River and drains an area of loess and drift mantled bedrock of Pennsylvanian age. The uplands are rolling to hilly and are underlain by Shelbyville drift. The depth to bedrock is less than 25 feet according to exposures along the stream and logs of borings made previously in the area.

DAMSITE

The stream flows in a 12- to 15-foot notch in the floodplain, which is 500 to 600 feet wide. The abutments are composed of:

Tan to light brown, silty, sandy clay till	8 to 10 feet
Orange-brown, soft, thinly bedded sandstone; base not exposed	6 feet

A small stock pond is located 100 feet west of the right abutment. Both abutments have moderate slopes.

RESERVOIR

The floodplain is covered with brown, sandy, alluvial silt. The valley walls have moderate slopes and are composed of sandstone covered by till.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The extent and permeability of beds of Pennsylvanian sandstone should be determined.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 25, 1964 County Henry

Quadrangle Woodhull Site No. 9

LOCATION

Mud Creek
SW corner sec. 2, T 14 N, R 1 E

GENERAL GEOLOGY

Mud Creek is a major stream in southwestern Henry County and drains an area of loess-covered till. The uplands are gently rolling, and the depth to bedrock is probably less than 100 feet according to exposures and to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in a 10- to 12-foot notch in the floodplain, which is approximately 200 to 300 feet wide. The left abutment consists primarily of mottled gray and brown, sandy, clay till capped by tan to light brown, sandy, clayey silt (loess). Only the loess is exposed in the right abutment, but the composition is probably similar to that of the left abutment. Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark brown, silty, alluvial sand. The moderately sloping valley walls are composed of till, capped by loess. There is an abandoned coal mine near the upper end of the reservoir.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the valley walls.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. It will be necessary to determine the nature and extent of any mined-out areas in the vicinity of the reservoir.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Galva Site No. 10

LOCATION

Dugout Creek
NW¼ sec. 18, T 14 N, R 3 E

GENERAL GEOLOGY

Dugout Creek is a tributary of South Edwards River and is a minor stream in this area. The stream drains an area of loess-covered till, and the uplands are flat to gently rolling. The depth to bedrock is probably less than 50 feet, according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in an 8- to 10-foot notch in the floodplain, which is approximately 500 to 600 feet wide. The left abutment is composed of mottled brown and gray, sandy, clay till which contains lenses of reddish-brown very clayey sand and is capped by loess. The right abutment is covered with vegetation, but is probably similar in composition to the left abutment. Both abutments are gently to moderately sloping. A successful stock pond is located a quarter of a mile southeast of the right abutment.

RESERVOIR

The floodplain is covered with dark brown, sandy, alluvial silt. Four to six feet of tan to light brown, sandy, clayey silt overlies the till in the valley walls. The valley walls have moderate slopes.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the valley walls.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and extent of the sand lenses in the abutments.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Galva Site No. 11

LOCATION

Tributary of South Edwards River
NW¼ sec. 20, T 14 N, R 3 E

GENERAL GEOLOGY

The stream is a minor tributary of South Edwards River and drains an area of loess and till-covered Pennsylvanian sediments. The surficial material is loess and till. The depth to bedrock is probably less than 50 feet, according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain, which is approximately 200 to 300 feet wide. The left abutment is composed of mottled gray and brown, sandy, clay till and is capped with tan to light brown, sandy, clayey silt (loess) of variable thickness. The right abutment is covered, but is probably similar in composition to the left abutment. Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark brown, sandy, clayey, alluvial silt. The valley walls have gentle to moderate slopes and, like the abutments, consist of loess-covered till.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Galva Site No. 12

LOCATION

Tributary of South Edwards River
E½ sec. 22, T 14 N, R 3 E

GENERAL GEOLOGY

The stream is a minor tributary of South Edwards River and drains an area of loess- and till-covered Pennsylvanian sediments. The rolling uplands have relief of 30 to 40 feet. The depth to bedrock is probably less than 50 feet, according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain, which is approximately 500 to 600 feet wide. Loess covers the abutments and probably overlies till, as it does in the valley walls. Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark brown, sandy, clayey, alluvial silt. The upper portions of the valley walls are composed of tan to light brown, sandy, clayey silt (loess) of variable thickness. The loess overlies tan to light brown, sandy, clayey, silt till, the base of which is not exposed.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the valley walls.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring to determine the nature and sequence of the subsurface deposits.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Galva Site No. 13

LOCATION

Goose Creek
SW¼ sec. 17, T 14 N, R 4 E

GENERAL GEOLOGY

Goose Creek is a major tributary to South Edwards River. The stream drains an area of loess-covered Pennsylvanian sediments. The uplands are gently rolling, and the depth to bedrock is probably 50 feet or less, according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in an 8- to 10-foot notch in the floodplain, which is 200 to 300 feet wide. The abutments are composed primarily of reddish-brown, sandy, clay till. The till is overlain by tan to light brown, clayey, sandy silt (loess). The loess varies in thickness, but is at least 1 foot thick in most places. Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark grayish-brown, silty, fine, alluvial sand. The valley walls are covered with loess which probably overlies till, as it does in the abutments. The valley walls have gentle to moderate slopes.

BORROW

Till found in the area may provide suitable borrow material, but probably not in quantities sufficient for the construction of an earth fill dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Galva Site No. 14

LOCATION

Mud Run
SW¼ sec. 33, T 14 N, R 4 E

GENERAL GEOLOGY

Mud Run is a minor stream in southeastern Henry County and drains an area of loess-covered Pennsylvanian sediments. The rolling uplands have relief of 30 to 40 feet. The depth to bedrock was not determined, but is probably less than 50 feet, according to logs of borings made previously in the area.

DAMSITE

The stream flows in a 5- to 7-foot notch in the floodplain, which is approximately 300 to 400 feet wide. The abutments are composed of the following materials:

Tan to light brown, sandy, clayey silt (loess)	6 to 8 feet
Rusty brown, very sandy, clay till; base not exposed	3 to 4 feet

Both abutments have gentle slopes.

BORROW

Till found in the area may provide suitable borrow material, but probably not in quantities sufficient for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Henry

Quadrangle Kewanee Site No. 15

LOCATION

Indian Creek
S½ sec. 21, T 14 N, R 5 E

GENERAL GEOLOGY

Indian Creek is a major tributary of Spoon River and drains an area of loess-covered Pennsylvanian sediments. The uplands are gently rolling to rolling. The surficial materials are loess, soft sandstone, and shale. The depth to bedrock is less than 25 feet in most places, according to exposures in roadcuts and stream valleys.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain, which is 200 to 250 feet wide. The abutments are composed of the following materials:

	Thickness in feet
Tan to light brown, sandy, clayey silt (loess)	6 to 7
Grayish-brown, sandy, clay till	3
Tan to light-brown, fine to medium, soft, thinly bedded sandstone; base not exposed	8 to 10

Both abutments have gentle slopes.

RESERVOIR

The floodplain is covered with dark brown, silty, clayey, alluvial sand. The valley walls are composed of loess and sandstone containing some soft, thinly laminated, sandy shale. The valley walls have gentle to moderate slopes.

BORROW

There is some till in the area which can be used for borrow material. However, sufficient quantities may not be available in the immediate vicinity of the damsite, necessitating the development of a borrow area elsewhere.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary to determine the nature and sequence of the subsurface materials and the permeability of the sandstone.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1964 County Iroquois

Quadrangle Watseka Site No. 2

LOCATION

Tributary of Iroquois River
Center NW¼ sec. 19, T 27 N, R 10 W

GENERAL GEOLOGY

The stream is a tributary of Iroquois River and drains a part of the very gently rolling Iroquois moraine. Surficial soils are developed in loess. Logs of previous borings indicate 85 feet of silty, clayey till underlain by sand and gravel.

DAMSITE

The stream flows in a sand-bottomed notch with banks consisting of alluvium. The abutments are covered but alluvial sand crops out along Iroquois River near both abutments. The alluvium may extend 300 to 400 feet up the creek from its junction with Iroquois River.

RESERVOIR

The valley has a narrow floodplain which is bounded by moderately steep sides. Logs of previous borings indicate thatmuch of the reservoir area is underlain by yellow-brown, silty,clayey till.

BORROW

Material for construction of an earth dam is available in the nearby till deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The site may be relocated upstream toavoid the permeable Iroquois River alluvium.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1964 County Iroquois

Quadrangle Watseka Site No. 3

LOCATION

Tributary of Iroquois River
NE¼ SW¼ sec. 22, T 27 N, R 11 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Iroquois River and drains a part of the gently rolling Iroquois moraine. Surficial soils developed in loess are underlain by 15 to 140 feet of clayey till containing sand and gravel lenses, according to logs of previous borings made in the area.

DAMSITE

At the time this damsite was inspected no water was flowing in the stream channel, but several small pools of water were present. The stream channel is a 2- to 3-foot notch in sand and silty alluvium. The gently sloping right abutment is composed primarily of sand; the left abutment has steep slopes and is composed of brown, silty, clayey till.

RESERVOIR

The reservoir has moderately steep banks and a narrow, flat floodplain. Logs of previous borings and erosional cuts indicate that the reservoir sides are composed of brown, silty, clayey till.

The intermittent nature of the streams may be an indication that a permeable sediment underlies the reservoir area.

BORROW

Till suitable for the construction of an earth dam can be obtained in the vicinity of the damsite.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing. It may be necessary to move the site upstream to avoid leakage problems caused by permeable sands deposited by the Iroquois River.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1964 County Iroquois

Quadrangle Watseka Site No. 4

LOCATION

Tributary of Iroquois River
NE¼ SW¼ sec. 31, T 27 N, R 11 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Iroquois River and drains a part of the Iroquois moraine. Most of the surficial soils are developed in the loess which covers the underlying till. Logs of previous borings indicate that gravel or permeable sand lenses were interdeposited with clayey till at depths ranging from 15 to 140 feet.

DAMSITE

The stream flows in a 6- to 8-foot notch in a narrow floodplain. The creek bottom is composed of gray silts, and the banks consist of alluvial sandy silts. The right abutment is gently sloping; the left abutment is moderately steep. A small erosional cut in the left abutment has exposed a yellow-brown, silty, sandy, gravelly till.

RESERVOIR

The reservoir is long and the floodplain narrow. A cut downstream from Route 24 shows a dark gray, silty clay underlying a yellow-brown, silty, sandy, gravelly till. Intermittent streams and lakes in the vicinity are indications of probable underlying permeable materials.

BORROW

Materials suitable for the construction of an earth dam are probably available in the nearby till and in the more clayey alluvium.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Leakage may occur through an underlying permeable horizon making it difficult to maintain water levels in dry periods.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 21, 1964 County Iroquois

Quadrangle Milford Site No. 5

LOCATION

Tributary of Sugar Creek
NW¼ SW¼ sec. 15, T 26 N, R 12 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Sugar Creek and drains the nearly flat plain of glacial Lake Watseka. Many of the small hills in the area are sand dunes. Logs of previous borings indicate that the bedrock is overlain by thick lake deposits of sand and clay.

DAMSITE

The stream bed is composed of silt and clay. The moderately sloping abutments are composed of 4 to 6 feet of yellow-brown sand slightly clayey at its base overlain by 3 to 4 feet of buff-white, silty sand.

RESERVOIR

The stream is comfined to a very narrow floodplain. The valley walls are moderately steep and are composed of light gray clay overlain by 5 to 10 feet of yellow-brown sand.

On the left side of the reservoir the presence of several springs and seeps at the base of the sand indicates that the sand is permeable. If the sand extends over a large area, the level of the reservoir would necessarily be restricted.

BORROW

Clays suitable for the construction of an earth dam are probably available in the nearby uplands.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. The permeable sand located in the reservoir area probably would cause a serious leakage problem.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 21, 1964 County Iroquois

Quadrangle Milford Site No. 6

LOCATION

Jefferson Creek
SW¼ SW¼ sec. 29, T 26 N, R 12 W

GENERAL GEOLOGY

Jefferson Creek is a tributary of Sugar Creek which drains the nearly flat plain of glacial Lake Watseka. Logs of previous borings indicate that the bedrock is mantled with thick clay deposits containing occasional sand lenses.

DAMSITE

The stream flows in a small notch in a floodplain 20 to 30 feet wide. The moderately sloping abutments are covered but are probably composed of materials similar to the clay exposed farther upstream. Water flowing in the stream was cloudy, and the bottom materials consist of clays and silts.

RESERVOIR

At one location in the gently sloping reservoir sides slumping has exposed 4 to 6 feet of brownish-buff clay. The stream in this area has a very narrow floodplain.

BORROW

Clayey material suitable for construction of an earth dam is available in the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The possibility of an early siltation of the reservoir should be considered.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 21, 1964 County Iroquois

Quadrangle Milford Site No. 7

LOCATION

Tributary of Sugar Creek
NE¼ NW¼ sec. 3, T 25 N, R 12 W

GENERAL GEOLOGY

The tributary of Sugar Creek is an intermittent stream which drains the nearly flat plain of glacial Lake Watseka. The gently rolling topography is the result of glacial deposits and locally occurring sand dunes. Logs of previous borings indicate that the bedrock is overlain by 40 to 50 feet of clay and clay till containing sand lenses.

DAMSITE

The abutments have moderately steep slopes and are composed of mottled medium gray and yellow-brown, silty clay which is locally covered by one to two feet of buff-white, fine, silty sand. Scattered pebbles, and erratic cobbles and boulders were foundiin the lower part of tht left abutment. The stream bed is medium gray silt and clay.

RESERVOIR

The moderately steeply sloping valley sides contain several exposures of clay and clay till. The stream in this area has a very narrow floodplain.

BORROW

Clay and clay till suitable for the construction of an earth dam is available in the vicinity of the damsite.

OPINION

The site is considered probably feasible subject to an adequate program of test boring and materials testing. A reservoir larger than the one now under consideration could be formed by constructing the dam farther downstream.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 21, 1964 County Iroquois

Quadrangle Cissna Park Site No. 8

LOCATION

Tributary of Spring Creek
NW¼ NE¼ sec. 31, T 26 N, R 14 W

GENERAL GEOLOGY

The stream is a tributary of Spring Creek and drains the nearly flat plain of glacial Lake Watseka. Logs of previous borings indicate that the bedrock surface is overlain by porous sands and gravels, and these, in turn, are overlain by 75 to 100 feet of lake clays and sands. Most of the surficial soils are developed in thin loess or silt which blankets the area.

DAMSITE

The stream flows in a small notch in a narrow floodplain composed of silty, clayey alluvium. The abutments have moderately steep slopes and are covered with vegetation. Logs of previous borings indicate that the abutments are probably clayey sand or clay.

RESERVOIR

The reservoir sides have gentle slopes. A small 4-foot cut on the right side of the reservoir exposes a mottled brown, gray and buff clay. Water in the stream was cloudy, and the bottom was silty and clayey.

BORROW

Materials suitable for the construction of an earth dam probably can be located nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Siltation may be excessive because of the clayey, silty quality of the deposits upstream from the proposed site.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 19, 1964 County Iroquois

Quadrangle Buckley Site No. 9

LOCATION

Spring Creek
NW¼ NW¼ sec. 17, T 24 N, R 10 E

GENERAL GEOLOGY

Spring Creek drains a portion of the back slope of the gently rolling Chatsworth moraine. Most of the surficial soils are developed in the loess which mantles the underlying drift and lake deposits. Logs of previous borings indicate that these glacial deposits are interfonguing silts and sands, and till which form a thick layer over the underlying bedrock.

DAMSITE

The stream flows in a 4- to 6-foot notch and has a floodplain about 500 feet wide. The abutments have moderately steep slopes and are covered with vegetation. The stream bottom is composed of pebbles, alluvial sand and silt.with

RESERVOIR

The sides of the reservoir are gently sloping and covered with vegetation. The stream meanders in a broad floodplain. A successful tributary stock pond and a larger reservoir west of Loda have been constructed on Spring Creek southwest of the proposed damsite. Logs of previous borings indicate that the ratio of lake deposits to glacial deposits may be greater at the proposed damsite than at the Loda damsite.

BORROW

Suitable material for construction of a dam is available in the nearby clayey deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Lake deposits interdeposited with glacial deposits may provide avenues of leakage or zones of weakness which would detract from the value of the proposed site.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/12/65 County Jasper Watershed Big Muddy Creek

Quad Name and No. Sailor Springs Site No. LW-42-III

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	506	524
Elevation Emergency Spillway	529	536
Elevation Top of Dam	532	538

LOCATION

Big Muddy Creek
NW¼ SE¼ sec. 21, T 6 N, R 8 E

GENERAL GEOLOGY

Big Muddy Creek drains a part of the Illinoian till plain. The relief in the area is approximately 75 feet. Well logs and a comparison of elevations shown on the Bedrock Surface Map of Illinois and on the topographic map of the Sailor Springs quadrangle indicate that about 50 feet of till mantled by 2 to 4 feet of loess lies on Pennsylvanian bedrock which consists of shale, sandstone, limestone, coal, and clay.

DAMSITE

The stream occupies a notch 40 feet wide and 11 feet deep in the floodplain, which is about 800 feet wide. The floodplain is underlain by alluvium comprised mostly of sand and a minor quantity of gravel and larger rock fragments. Both the right and left abutments are largely of clay till. The slope of the right abutment is moderately steep and that of the left abutment is very steep.

Bedrock probably exists in the valley walls under till at a level above elevation of the floodplain. According to the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The proposed reservoir area appears to be underlain by relatively impervious rock and unconsolidated material. Both Big Muddy Creek and Crabapple Creek, a large tributary which joins the stream about half a mile upstream from the damsite, have steep valley walls except near their headwaters. Big Muddy Creek exhibits a largerfloodplain area compared to the size of the stream. It is possible that the floodplain coincides with the top of bedrock for some distance upstream from the damsite.

BORROW

An adequate quantity of clay till is available in the vicinity for borrow purposes.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/12/65 County Jasper Watershed Laws Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-V

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	510	521
Elevation Emergency Spillway	531	535
Elevation Top of Dam	536	539

LOCATION

Laws Creek
NE¼ SW¼ sec. 18, T 6 N, R 9 E

GENERAL GEOLOGY

Laws Creek drains a part of the Illinoian till plain. The relief of the area is about 50 feet. The elevation of the bedrock surface as interpolated from the Bedrock Surface Map of Illinois is approximately 500 feet. The area is underlain by bedrock of shales, sandstones, limestone, clay, and coal. Above the bedrock is clay till mantled by some loessial silt.

DAMSITE

The stream flows in a notch 35 feet wide and 14 feet deep in the floodplain. The alluvial sediments of the stream bed, banks, and floodplain consist primarily of sand and some silt, pebbles and larger-sized rock fragments. The right abutment has a steep slope and left abutment has a moderately steep slope. Both abutments are underlain by clay till containing minor amounts of gravel and larger-sized rock fragments.

Bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The thickness of the till approaches 55 feet in the area. Much of the upland is rolling without a well-defined topographic break from uplands to the valley walls. The valley walls near the damsite have steep slopes.

BORROW

There is ample clay till in the vicinity for use as borrow material.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLGIC INVESTIGATION OF DAMSITES

Date examined 7/23/65 County Jasper Watershed Sandy Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-VI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	482	
Elevation Emergency Spillway	503	
Elevation Top of Dam	508	

LOCATION

Sandy Creek
NW¼ SE¼ sec. 3, T 5 N, R 8 E

GENERAL GEOLOGY

Sandy Creek is an intermittent tributary of Weather Creek and drains an area of the Illinoian till plain. The till plain lies about 50 feet above the deepest valley floors. The Bedrock Surface Map of Illinois indicates that the surface of the Pennsylvanian bedrock is at about elevation 500 feet; the till and loess lying on the bedrock are generally 40 to 50 feet thick. More than one limestone has been reported in the bedrock sequence, and limestone may crop out at the bedrock surface.

DAMSITE

The stream occupies a channel 30 feet wide and 5 feet deep in the floodplain. Sand with some gravel and larger-sized rock fragments comprise the sediments of the stream bed and the adjacent floodplain. The floodplain is approximately 550 feet wide.

The right and left abutments consist of gravelly, clayey till. The lower 35 feet of the left abutment has a very steep slope, and the right abutment has a moderately steep slope. The upland is rolling and is mantled with till.

The Bedrock Surface Map of Illinois indicates that bedrock may be encountered at the level of the emergency spillway, but that in general the bedrock surface may be expected to lie slightly below that level.

RESERVOIR

The valley has a nearly flat floodplain, and the sides have moderate to gentle slopes. The geology of the reservoir is similar to that found in the vicinity of the damsite. A low saddle in the narrow ridge about a mile and a half upstream from the damsite in the center of the NW¼, sec. 35, T. 6 N., R. 8 E., separates Sandy Creek from Laws Creek. It may be necessary to construct a saddle dike at this location.

BORROW

There is ample clay till in the vicinity to provide suitable borrow material.

OPINION

The damsite is considered probably feasible subject to an adequate program of test boring and materials testing. The narrow ridge between Sandy Creek and Laws Creek should be investigated further before serious consideration is given to the site.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/18/65 County Jasper Watershed Wolf Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-VII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	465	
Elevation Emergency Spillway	484	
Elevation Top of Dam	490	

LOCATION

Wolf Creek
SE¼ SW¼ sec. 23, T 5 N, R 8 E

GENERAL GEOLOGY

Wolf Creek is an intermittent stream and drains a part of the Illinoian till plain. The relief of the area is approximately 50 feet and the bedrock surface, as interpolated from the Bedrock Surface Map of Illinois, lies at an elevation of about 475 feet. The till, together with a thin mantle of loess, is approximately 25 feet thick. Bedrock is of varied lithology characteristic of the Pennsylvanian bedrock and generally includes thin beds of sandstone, shale, limestone, coal, and clay.

DAMSITE

The stream flows in a channel 20 feet wide and 6 feet deep in sandy alluvium. Some gravel and larger fragments of rocks are present in minor amounts on the floodplain.

The right abutment has a very steep slope and the left abutment has a steep slope. Both abutments display exposures of clay till, and their slopes tend to merge gradually with the rolling topography of the upland.

Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The slopes of the reservoir sides are generally not steep but tend to be moderately sloping. Abundant exposures of clay till indicate that the till probably covers the underlying bedrock. A thin mantle of loessial silt commonly lies on the till.

BORROW

The presence of abundant clay till in the area assures an adequate supply of suitable borrow material for the construction of an earth dam.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/18/65 County Jasper Watershed East and West Forks of Wet Weather Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-XI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	464	
Elevation Emergency Spillway	476	
Elevation Top of Dam	480	

LOCATION

Wet Weather Creek
SW¼ SE¼ sec. 25, T 5 N, R 8 E

GENERAL GEOLOGY

Both the East and West Forks of Wet Weather Creek drain a part of the Illinoian till plain. The relief of the area is nearly 50 feet. The Bedrock Surface Map of Illinois indicates that the bedrock surface lies at an elevation of approximately 475 feet. A combined thickness of till and 2 to 4 feet of loess mantles the bedrock to a depth of 20 to 30 feet. The bedrock is composed of a number of different types of thinly bedded sedimentary rocks including shale, sandstone, limestone, coal, and clay. At the time of examination the stream appeared to carry an unusually large amount of material in suspension, indicating tha that siltation of the proposed reservoir might be a problem. A telephone cable crosses both the valleys of West Fork and East Fork WestWeather Creek a few hundred feet upstream from the damsite.

DAMSITE

The stream flows in a notch 20 to 30 feet wide and 11 feet deep in the floodplain. The streambed and alluvial banks are largely composed of sand, silt, and some larger-sized rocks. The floodplain is estimated to be 1000 feet wide. The right abutment has a very steep slope in which pinkish clay till is exposed. Pinkish clay till overlain by 2 to 4 feet of loessial silt is exposed in a 26-foot vertical bank along the left abutment.

The Bedrock Surface Map of Illinois indicates a bedrock elevation of approximately 475 feet. As the proposed spillway level is 476 feet in elevation, it is possible that bedrock may be encountered during the construction of the spillway.

RESERVOIR

An abundance of exposures along the steeply sloping valley walls of the lower reaches of the reservoir reveal till overlain by some loess.

John R. Bergstrom

Site No. LW-42-XI
Jasper County

BORROW

There is ample clay till for borrow purposes in the vicinity of the damsite.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

John R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/17/65 Comaty Jasper Watershed Limestone Creek

Quad Name and No. Sailor Springs - 69 Site No. LW-42-XII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	475	
Elevation Emergency Spillway	495	
Elevation Top of Dam	502	

LOCATION

Limestone Creek
NE¼ SW¼ sec. 17, T 5 N, R 8 E

GENERAL GEOLOGY

Limestone Creek is an intermittent stream and drains a part of the Illinoian till plain. The bedrock surface, as interpreted from the Bedrock Surface Map of Illinois, lies at an elevation of about 475 feet. The bedrock is covered by approximately 25 feet of till, which, in turn, is mantled by 2 to 4 feet of loess. The watershed has a relief of approximately 50 feet. The Bogota limestone member of the Mattoon formation underlies a part of the area.

The slopes of the valley walls are generally moderate and merge gradually with the rolling uplands.

DAMSITE

Limestone Creek occupies a notch 30 feet wide and 10 feet deep in the floodplain. The alluvium of the floodplain as seen in the bed and banks of the stream is largely composed of sand and silt containing some large rock fragments several feet in length. The floodplain is estimated to be approximately 800 feet wide at the site, but a short distance downstream it is only about 350 feet wide. Although no bedrock was seen at the site, it is likely that limestone and shaly sandstone occur beneath a thin mantle of overburden near the base of the abutments. The abutments have steep slopes.

According to the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The presence of the Bogota limestone under parts of the reservoir is probable. This limestone crops out at several places downstream from the damsite and also to the east in the valley of Big Muddy Creek. The floor of Limestone Creek is largely covered with alluvium. The limestone, if present, is probably very thin and should not cause any appreciable reservoir leakage problem.

The slopes of the reservoir have moderate to gentle slopes and consist primarily of about 30 feet of pinkish till.

John R. Bergstrom

Site No. LW-42-XII
Jasper County

BORROW

The clay till of the area will provide an ample supply of suitable borrow material.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 28, 1964 County Jo Daviess

Quadrangle Galena Site No. 2

LOCATION

Smallpox Creek
N½ sec. 35, T 28 N, R 1 E

GENERAL GEOLOGY

Smallpox Creek is one of the principal streams in western Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments. Surficial bedrock units are the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite. The Niagaran dolomite crops out only at the tops of the higher mounds and ridges in the area. The Maquoketa shale forms gentle slopes between the Niagaran and the Galena dolomites. The Galena dolomite crops out in the lower portions of the valley sides.

The hilly uplands have considerable relief, and the depth to bedrock is probably less than 10 feet in most places according to exposures in the valley sides.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floddplain. The floodplain is approximately 500 to 600 feet wide and lies 50 to 60 feet below the uplands.

Tan to gray, thick-bedded dolomite of the Galena formation comprises most of the steeply sloping left abutment. Some solution features and jointing are present in the dolomite. The moderately sloping right abutment is covered with vegetation, but is probably similar in composition to the left abutment.

RESERVOIR

The floodplain alluvium consists of brown to dark-brown, silty sand. Galena dolomite crops out along most of the length of the reservoir sides, and in most places is capped by loess. The valley walls have moderate to steep slopes.

BORROW

As suitable borrow material for an earth dam was not observed in the area, it may be necessary to consider some other type of dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Jo Daviess

Quadrangle Galena Site No. 3

LOCATION

Tributary of East Fork Galena River
SE¼ sec. 32, T 29 N, R 2 E

GENERAL GEOLOGY

This stream is a minor drainage course in northwestern Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments. Surficial bedrock units are the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite. The Niagaran dolomite crops out only at the tops of the higher mounds and ridges in the area. Gentle slopes are formed on the Maquoketa shale below the Niagaran dolomite and above the Galena dolomite. The Galena crops out in the lower portions of the valley sides.

The hilly uplands have considerable relief, and the depth to bedrock in most places is probably less than 10 feet according to exposures in the valley walls.

DAMSITE

The abutments slope moderately to the uplands and in most places are covered with vegetation. Some tan to buff, vuggy, sandy, thick-bedded, crystalline dolomite of the Galena formation is exposed and probably forms most of the abutments.

The stream meanders in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 100 to 150 feet wide and is 40 to 50 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The reservoir sides are composed largely of Galena dolomite and have moderate to steep slopes.

BORROW

As suitable borrow material for an earth dam was not observed in the area, it may be necessary to consider some other type of dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Jo Daviess

Quadrangle Elizabeth Site No. 5

LOCATION

Hells Branch
SE¼ sec. 21, T 28 N, R 3 E

GENERAL GEOLOGY

Hells Branch is a siginficant drainage course in north-central Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments. The surficial bedrock units are the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite. The Niagaran dolomite crops out only at the tops of the higher mounds and ridgesin the area. Gentle slopes are formed on the Maquoketa shale below the Niagaran dolomite and above the Galena dolomite. The Galena dolomite crops out in the lower portions of the valley sides.

The uplands are hilly, and the depth to bedrock is less than 10 feet in most places according to exposures along the valley sides.

DAMSITE

The left abutment is a vertical bluff composed primarily of tan to buff, thick-bedded, vuggy dolomite of the Galena formation. The dolomite is capped by light reddish-brown, sandy loess. The moderately sloping right abutment is covered with vegetation, but its composition is probably similar to that of the left abutment.

The streamfflows in a 4-foot notch in the floodplain, which is approximately 500 to 600 feet wide and lies 50 to 60 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, silty, fine sand with stringers of gravel. Loess-mantled Galena dolomite crops out nearly continuously along the moderately sloping reservoir sides.

BORROW

Reddish-brown, sandy clay which might be suitable for borrow is exposed below the loess at a few places in the uplands near the damsite. The thickness and extent of this material must be determined in order to ascertain whether or not the clay is present in sufficient quantity for an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Jo Daviess

Quadrangle Elizabeth Site No. 6

LOCATION

Coon Creek
NW¼ sec. 13, T 28 N, R 3 E

GENERAL GEOLOGY

Coon Creek is a minor stream in north-central Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments including the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite. The Niagaran dolomite crops out only at the tops of the higher mounds and ridges in the area. Gentle slopes below the Niagaran and above the Galena are formed on the Maquoketa shale. The Galena crops out in the lower portions of the valley sides.

The rolling uplands have considerable relief, and the depth to bedrock is less than 10 feet in most places according to exposures in the valley sides.

DAMSITE

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 200 feet wide and lies 30 to 40 feet below the uplands.

The abutments are composed of tan to buff, thick-bedded, vuggy dolomite of the Galena formation. The dolomite is capped by loess. The right abutment slopes steeply; the left abutment has a moderate slope.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. In some places the stream bed is formed in the Galena dolomite. The valley sides, like the abutments, are composed primarily of dolomite, and have moderate to steep slopes.

BORROW

As no material suitable for borrow for an earth dam was observed in the area, it may be necessary to consider some other type of dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Jo Daviess

Quadrangle Elizabeth Site No. 7

LOCATION

Apple River
E½ sec. 5, T 28 N, R 4 E

GENERAL GEOLOGY

Apple River is a major stream in Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments, including the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite.

The Niagaran dolomite crops out only at the tops of the highest mounds and ridges in the area. The Maquoketa shale underlies the gentle slopes between the Niagaran and the Galena dolomites. The Galena dolomite crops out in the lower portions of the valley sides.

The hilly uplands have considerable relief, and the depth to bedrock is less than 10 feet in most places according to exposures along the valley sides.

DAMSITE

The abutments are composed of tan to buff, thick-bedded, vuggy, sandy dolomite of the Galena formation. The dolomite is mantled with light reddish-brown, sandy loess. The abutments are steeply sloping to vertical bluffs.

The stream flows in a 5-foot notch in the floodplain. The floodplain is approximately 250 feet wide and lies 50 to 60 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of 3 feet of dark brown, silty sand overlying 2 feet of coarse, sandy gravel, the base of which is not exposed. The valley sides have moderate to steep slopes and are composed of tan to buff dolomite capped by loess.

BORROW

At a few places in the uplands near the damsite, reddish-brown, sandy clay, which might be suitable for borrow, is exposed below the loess. The thickness and extent of this material should be determined in order to ascertain whether the clay is present in sufficient quantity for the project needs. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Jo Daviess

Quadrangle Elizabeth Site No. 8

LOCATION

South Fork of Apple River
N½ sec.10, T 28 N, R 4 E

GENERAL GEOLOGY

The South Fork of Apple River is a major stream in northeastern Jo Daviess County. The stream drains an area of loess- and drift-mantled early Paleozoic sediments including the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite. The Niagaran dolomite crops out only at the tops of the higher mounds and ridges in the area. Gentle slopes are formed on the Maquoketa shale between the Niagaran and Galena dolomites. The Galena dolomite crops out in the lower portions of the valley sides.

The uplands are rolling to hilly with considerable relief, and some mounds rise 200 feet above the general level of the uplands. The depth to bedrock is probably less than 10 feet in most places according to exposures along the valley sides.

DAMSITE

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 500 feet wide and lies 40 to 50 feet below the uplands.

The abutments are composed primarily of tan to buff, thickly bedded, vuggy, sandy dolomite of the Galena formation, and is capped by tan to light-brown, sandy loess. The left abutment is a vertical bluff; the right abutment has a moderate slope.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The reservoir sides are composed of Galena dolomite and are capped by brown to light reddish-brown, clayey, sandy loess. The valley sides slope moderately to the uplands.

BORROW

Suitable borrow material for an earth dam was not observed in the area. Till which may be suitable for borrow is reported to be present 3 or 4 miles east of the damsite. Whether or not the till is present in sufficient quantities is not known. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Jo Daviess

Quadrangle Elizabeth Site No. 9

LOCATION

Rush Creek
SE¼ sec. 34, T 27 N, R 3 E

GENERAL GEOLOGY

Rush Creek is a major stream in central Jo Daviess County and drains an area of loess-mantled early Paleozoic sediments, including the Niagaran dolomite, the Maquoketa shale, and the Galena dolomite.

The Niagaran dolomite crops out only at the tops of the higher mounds and ridges in the area. Gentle slopes are formed on the Maquoketa shale between the Niagaran and the Galena dolomites. The Galena crops out in the lower portions of the valley sides.

The hilly uplands have considerable relief, and the depth to bedrock is probably 15 feet or less in most places according to logs of borings made previously in the area and as observed in exposures along the valley sides.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and lies 50 to 60 feet below the uplands.

The abutments are almost entirely covered with vegetation. Light brown, sandy loess is exposed in the gently sloping right abutment. The left abutment has a moderate slope. Both abutments are probably underlain by Galena dolomite as are the reservoir sides.

RESERVOIR

The floodplain alluvium consists of brown, silty, fine sand. Tan to buff, sandy, vuggy dolomite belonging to the Galena formation crops out nearly continuously along the valley sides. The dolomite is capped by loess.

BORROW

As suitable borrow material for an earth dam was not observed in the area, it may be necessary to consider some other type of dam. The floodplain alluvium would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The lack of exposures in the abutments makes such a program necessary in order to determine the nature and sequence of the subsurface materials. Special attention should be given to the possible presence of solution channels in the dolomite.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1965 County Kane

Quadrangle Crystal Lake Site No. 1

LOCATION

Tributary of Fox River
NE¼ NW¼ sec. 4, T 42 N, R 8 E

GENERAL GEOLOGY

The stream is a tributary of Fox River and drains a small area underlain by till east of the Farm Ridge moraine. Previous reports suggest that the contact between the till and the highly permeable Algonquin outwash gravels lies just east of the damsite and reservoir. The following is a log of a previous boring located less than a mile southwest of the damsite.

Materials	Depth in feet
Yellow sand clay	35
Sandy clay, brownish	55
Pink, sandy clay	218
Sand	248
Rock	

Other logs of previous borings nearby show that approximately 200 feet of unconsolidated glacial material overlies the limestone bedrock. Relief in the area is about 100 feet.

DAMSITE

The tributary stream flows in a notch 20to 4 feet wide and 2 to 3 feet deep. The stream does not have a definite floodplain, and the valley sides have moderately steep slopes rising to a height of about 70 feet above the level of the creek. Both abutments are underlain by stony, clayey till. There is a small spring near the foot of the right abutment. As indicated by the Bedrock Surface Map of Illinois, bedrock will not be encountered at the level of the proposed emergency spillway.

RESERVOIR

The valley sides have strong to moderately steep slopes which appear to be underlain by till similar to that at the damsite.

BORROW

Sufficient quantities of till, which is probably a suitable, impervious borrow material, are available in the adjacent uplands.

SPECIAL NOTE

A small farm pond is locatedbelow the proposed damsite. The surface elevation of this pond is a few feet below the base of the proposed dam. A local farmer stated that the dam was constructed of local "red clay and blue clay," probably till. No evidence of serious leakage or siltation of the pond was observed.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing. The performance of the successful farm pond supports the opinion that the site is feasible.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Kane

Quadrangle Geneva 7.5-minute Site No. 2

LOCATION

Norton Creek
SE. cor. sec. 15, T 40 N, R 8 E

SPECIAL NOTE

The topography of the right abutment and upstream from the right abutment has been altered since the 1949 edition of the topographic map of the Geneva 7.5-minute quadrangle was published. The area formerly shown as a valley wall and terrace has been excavated. Present conditions would require a longer dam to block the additional width of valley now present at the right abutment.

GENERAL GEOLOGY

Norton Creek drains a part of the Minooka moraine. Fox River, which joins the creek half a mile downstream from the damsite, flows parallel to the moraine front in a valley 1000 to 1500 feet wide and between 80 and 110 feet below the upland. Along Fox River Valley there are several extensive deposits of outwash sand and gravel. Logs of previous borings in the area indicate that between 94 and 130 feet of glacial material overlie limestone bedrock. The following is a log of a boring made at the Little Woods School approximately half a mile northwest of the site of the right abutment:

Materials	Depth in feet
Yellow clay	65
Fine sand	125
Coarse gravel	130

DAMSITE

Norton Creek flows in a valley which is approximately 200 feet wide. The valley side at the left abutment has a steep slope rising about 80 feet. The right abutment has a moderately steep slope and rises about 30 feet to a terrace which is underlain by permeable coarse sand and gravel. As indicated by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

There are extensive sand and gravel pits upstream from the right abutment and in the valley floor. The reservoir area is bounded by gentle to moderately steep slopes.

BORROW

Exposures in the upland upstream from the right abutment show till overlying the outwash sand and gravel. Sufficient quantities of till, which is probably suitable for impervious borrow, are probably available in the adjacent uplands.

OPINION

The site is considered not feasible. As noted earlier, a longer dam is now required. The presence of permeable sand and gravel underlying the damsite would probably result in serious leakage from the reservoir.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Kane

Quadrangle Aurora North Site No. 3

LOCATION

Mill Creek
NE cor. sec. 29 and NW cor. sec. 28, T 39 N, R 8 E

SPECIAL NOTE

The 1950 edition of the topographic map of the Aurora North 7.5-minute quadrangle does not show the north-south county road constructed in the vicinity of the damsite. This new road is located along the section line between sections 20, 21, 28, and 29.

GENERAL GEOLOGY

Mill Creek drains a part of the gently rolling Marseilles moraine. Most of the area is underlain by till; however, small local deposits of outwash sand and gravel may be present. Logs of previous borings in the area indicate that between 110 and 150 feet of unconsolidated material, mostly glacial, overlie limestone bedrock.

DAMSITE

Mill Creek flows in a notch 10 to 15 feet wide and 4 to 6 feet deep cut in a floodplain which is approximately 350 feet wide. In the vicinity of the damsite, the floodplain is marshy. Both abutments have moderate slopes rising 20 to 40 feet toward the rolling upland. The left abutment is underlain by coarse sand and gravel. The right abutment appears to be underlain by till.

RESERVOIR

The valley ranges in width from 200 to 1200 feet in the proposed reservoir area. The valley sides have gentle to moderate slopes and are largely underlain by till; however, small scattered sand and gravel deposits are also present. The floodplain is underlain by alluvial gravel and sand.

BORROW

Sufficient quantities of till, which may provide suitable impervious borrow material, are available in the adjacent uplands.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. The gravel underlying the left abutment is probably permeable and could allow serious leakage from the reservoir.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1964 County Kankakee

Quadrangle Momence Site No. 2

LOCATION

Pike Creek
Center NE¼ sec. 5, T 31 N, R 14 E

GENERAL GEOLOGY

Pike Creek is a tributary of Trim Creek draining the front slope of the Manhattan moraine. The topography is gently rolling upstream from the proposed damsite and nearly flat downstream. Logs of previous borings indicate the bedrock surface elevation is approximately 600 feet above Mean Sea Level and the bedrock surface is mantled by glacial deposits composed of sandy gravelly till.

DAMSITE

The stream flows in a 6-foot notch in a broad, very gently sloping floodplain. The bottom of the stream is sandy and the banks consist of alluvial silt. The abutments slope gently and are covered except for a few small erosional cuts in which a clayey silty sandy till is exposed.

RESERVOIR

The reservoir is broad with gently sloping sides. A light yellow-brown silty sandy till was observed in small erosional cuts along the upper slopes. Logs of previous borings indicate that till underlies most of the proposed reservoir.

BORROW

Materials for construction of an earth dam are available in the nearby till deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The useful life of the reservoir may be shortened because of the silty quality of the upland materials and to the large area of shallow water in parts of the proposed reservoir.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1964 County Kankakee

Quadrangle Momence Site No. 4

LOCATION

Tributary of Kankakee River
NE¼ SE¼ sec. 25, T 32 N, R 14 E

GENERAL GEOLOGY

The stream is a tributary of the Kankakee River draining the front slope of the Manhattan moraine. The topography is gently rolling to the north and nearly flat to the south of the proposed damsite. Logs of previous borings indicate the bedrock is mantled by glacial deposits composed of sandy gravelly till. The bedrock surface in the vicinity is approximately 600 feet above Mean Sea Level.

DAMSITE

The stream is flowing in a 4- to 6-foot notch in a flat floodplain. The stream banks are composed of sandy silty alluvium and the bottom is sand. The abutments have moderately steep slopes and are covered except for small cuts on the left side. A yellow well-sorted sand is exposed on the lower part of the left abutment and a yellow-brown silty till occurs in another exposure in the upper part of the left abutment. The sands are probably local valley-fill deposits overlying the till, but their areal extent is not known.

RESERVOIR

The proposed reservoir is a broad valley with wide, flat bottom and gently sloping sides. Yellow-brown silty sandy till is probably the predominant material underlying the reservoir area.

BORROW

The nearby till is suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Early siltation may shorten the expected life of the reservoir owing to the nature of the upland materials and to the large area of shallow water in the proposed reservoir.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 7, 1965 County Kendall

Quadrangle Sandwich Site No. 2

LOCATION

Little Rock Creek
Ctr. SE¼ sec. 33, T 37 N, R 6 E

SPECIAL PROBLEM

The site of the proposed dam is occupied by an earthfill dam, with a concrete spillway, constructed in 1905. The dam has a length of approximately 500 feet; the 100- to 125-foot-long spillway section is flanked on the left by a 125- to 150-foot-long earthfill section and on the right by a 250- to 300-foot-long earthfill section. A steel sheet-pile cutoffowall reportedly forms the core of the entire structure. The dam has a height of about 10 to 15 feet, and the elevation of the present spillway is approximately 580 to 590 feet. The earthfill sections are reported to be composed of local valley fill. Exposures adjacent to the dam suggest that this material is very gravelly. The crest of the proposed dam will be 50 to 60 feet above the elevation of the existing structure.

GENERAL GEOLOGY

Little Rock Creek drains a part of the till plain located between the Farm Ridge and Marseilles moraines. The till plain has a gently rolling topography, into which the creek has cut a deep valley. Relief in the area ranges up to 60 or 70 feet. Logs of previous borings in the area show 63 to 156 feet of unconsolidated glacial material overlying limestone, shale, and sandstone bedrock.

DAMSITE

Below the present dam the creek flows in a notch approximately 10 feet wide and 6 feet deep. Coarse gravel is exposed along the creek; however, some of this gravel may be the remnants from construction of the present dam. The floodplain is approximately 500 feet wide. Both abutments have very steep slopes, rising 60 feet to the upland. The left abutment is underlain by sandy, clayey till which has zones of gravelly material. The base of the right abutment is underlain by gravelly material while the upper slope appears to be underlain by sandy, clayey till.

RESERVOIR

The reservoir is bounded by moderately steep to very steep slopes which are underlain by a variety of materials including sand, gravel, gravelly sand, sandy till, and sandy, clayey till. The extent of the sand and gravel deposits is not known, but they may be local in extent; however, this should be determined by test boring prior to construction. The width of the floodplain along Little Rock Creek ranges from approximately 50 to 500 feet. The alluvium in the reservoir area probably consists primarily of sand and some gravel.

Kendall County
Site No. 2

BORROW

Sufficient quantities of sandy, clayey till, which is probably a suitable impervious borrow material, are available in the adjacent uplands. The nearby deposits of sand and gravel may be used as filter materials.

OPINION

The presence of a dam at this site may complicate construction of a largerdam; however, the site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Coarse,gravelly material at the base of the right abutment may be quite permeable, and an extension of the cutoff wall may be ncesssary. Some leakage may develop in the sand depositw which occur within the reservoir area.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 7, 1965 County Kendall

Quadrangle Yorkville 7.5-minute Site No. 4

LOCATION

Tributary of Fox River
Center sec. 34, T 37 N, R 7 E

GENERAL GEOLOGY

The creek is an intermittent tributary of Fox River and drains a small part of the front slope of the Marseilles moraine. The project site is located in a mile wide zone of gently rolling country between the moraine to the southeast and the Fox River Valley to the northwest. Logs of previous borings in the area indicate a thickness of 53 to 85 feet of unconsolidated glacial material overlying shale and limestone bedrock. Relief in the area ranges from 60 to 90 feet.

DAMSITE

The right abutment has moderately steep slopes rising 60 feet to the upland. Approximately 20 feet above the bottom of the valley there is a terrace-like bench on the right abutment. The surface of this bench and the slope below it are very marshy and are underlain by black, wet, organic-rich, sandy, clayey material. This area resembles a "quaking bog"; when the surface was jumped on, it vibrated or shook noticeably. Sandy, clayey till underlies the valley slopes above the bench; the till and marshy material have a sharp contact at the upper, or inner, edge of the bench. Somewhat similar conditions are also present on the left abutment. The upper two-thirds of the slope appear to be underlain by a sandy, silty till. The lower one-third of the slope is underlain by sandy, clayey gravel through which considerable seepage occurs. The creek flows in a notch 3 to 5 feet wide and 2 to 3 feet deep. The floodplain is less than 25 feet wide at the damsite. As indicated by the Bedrock Surface Map of Illinois, rock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The reservoir area is heavily wooded and the underlying geology is covered. Because of its location at the front of the Marseilles moraine, some sand and gravel outwash may be expected in the reservoir area. The valley sides in the reservoir area have moderate to strong slopes.

BORROW

Sufficient quantities of till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

Alan G. Goodfield

Kendall County
Site No. 4

OPINION

This site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. The lower slopes of both abutments are groundwater discharge areas where considerable seepage occurs. Because of this condition, the valley sides are considered unsuitable for abutment foundations.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1964 County LaSalle

Quadrangle Mendota Site No. 1

LOCATION

Tributary of Vermilion Creek
SE¼ sec. 36, T 36 N, R 1 E

GENERAL GEOLOGY

This short tributary of Vermilion Creek drains a part of the Cropsey moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial material is glacial drift, primarily till. The depth to bedrock is probably in excess of 100 feet according to logs of previous borings.

DAMSITE

The stream flows in a 3- to 5-foot notch in the floodplain. The floodplain is approximately half a mile wide. The abutments are very gently sloping and merge imperceptibly with the floodplain. The abutment areas are covered, but the soil appears to be developed on glacial till.

RESERVOIR

The floodplain is covered with brown, sandy, clayey silt. The color changes to greenish-gray with depth. There is very little change in slope where the floodplain merges with the uplands.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings and material testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 8, 1964 County LaSalle

Quadrangle Sandwich Site No. 2

LOCATION

Somonauk Creek
NW¼ sec. 21, T 36 N, R 5 E

GENERAL GEOLOGY

Somonauk Creek is a major tributary of the Fox River in this area. The stream drains parts of the Cropsey and Farm Ridge moraines and the drift plains behind the moraines. The creek is bordered on both sides by rolling uplands with relief of 20 to 30 feet. The surficial material is till and drift of undetermined thickness.

DAMSITE

The stream flows in a 4- to 6-foot notch in a broad floodplain. The floodplain is approximately a quarter of a mile wide.and is incised 60 to 70 feet into the surrounding uplands. The abutments are composed of brown, silty, sandy, stoney clay till. The right abutment contains bodies of fine to medium, silty, brown sand. The shape and extent of these deposits was not determinable.

RESERVOIR

The valley floor is covered with silty, dark brown alluvial sand. There is a sharp break in slope where the floodplain merges with the steep valley walls. The valley sides are composed of brown, silty, sandy, stoney clay till and, in at least one exposure, a body of brown, silty sand.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably feasible, although the presence of the large sand body in the right abutment makes a test boring program imperative.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 8, 1964 County LaSalle

Quadrangle Sandwich Site No. 3

LOCATION

Mission Creek
S½ sec. 16, T 35 N, R 5 E

GENERAL GEOLOGY

Mission Creek is a small tributary of the Fox River. The creek drains part of the Marseilles moraine and an area once covered by a glacial lake. The uplands on both sides of the creek are flat to very gently rolling. The surficial material is probably glacial drift, primarily till and lacustrine sediments. The depth to bedrock ranges from approximately 10 to 75 feet as indicated by logs of previous borings and an exposure downstream from the damsite.

DAMSITE

The stream flows in a 2- to 4-foot notch in the floodplain. The floodplain is approximately 500 to 800 feet wide and is incised into the uplands about 50 to 60 feet. The abutments are covered; however, an exposure a quarter of a mile downstream displays the following sequence:

Silt, with some clay, brown to pinkish brown	-	4 ft.
Gravel, fine to coarse, sandy, rusty brown	-	1 ft.
Till, clayey, sandy, mottled gray and brown	-	19 ft.
Sandstone, medium grained, white, poorly cemented, some jointing present, parting along bedding planes	-	10 ft.

RESERVOIR

The valley floor is covered with sandy, silty, alluvium, which varies in color from light to dark gray. There is a sharp break in slope between the floodplain and the steeply sloping valley walls. There were no exposures along the valley walls near the reservoir. However, the geology probably is similar to that exposed downstream from the damsite.

BORROW

Sufficient quantities of till and clayey silt which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably not feasible as the porous sandstone which underlies the area may permit excessive leakage. The overlying till may be sufficiently thick and widespread to prevent leakage. This would have to be determined by an adequate program of test borings. The permeability of the St. Peter sandstone would have to be determined also.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 9, 1964 County LaSalle

Quadrangle Ottawa Site No. 4

LOCATION

Buck Creek
E½ sec. 8, T 34 N, R 4 E

GENERAL GEOLOGY

Buck Creek is a major tributary to the Fox River in this area. The stream drains an area covered by Farm Ridge drift and glacial lake sediments. The uplands are very gently rolling with relief of 10 to 20 feet. The depth to bedrock varies from 15 to 50 feet according to exposures in the valley walls and in logs of previous borings in the area.

DAMSITE

The stream flows in a broad notch 8 to 10 feet below the floodplain. The floodplain is approximately 250 to 300 feet wide and is 50 to 70 feet below the uplands.

The abutments are composed of 30 to 40 feet of white, poorly cemented, fine to medium sandstone, the St. Peter sandstone. The sandstone is compact and fairly well cemented on weathered outcrops. The sandstone is overlain by about 12 to 15 feet of brown, sandy, silty, pebbly clay till. Large cobbles and boulders occur in the lower part of the till. The right abutment is a steep bluff, and the left abutment is steeply sloping.

RESERVOIR

The valley floor is covered with dark brown, silty, alluvial sand. The beds of tributary streams on the valley floor are covered with light brown, silty fine to medium sand with some gravel. The steeply sloping valley walls are composed of St. Peter sandstone below and till above.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably not feasible, as the porous St. Peter sandstone not only forms part of the valley walls, and underlies the damsite, but probably underlies the entire reservoir area. In addition, the site is about a quarter of a mile west of a silica sand quarry and may contain silica sand reserves. A program of test borings would have to be carried out in order to ascertain the precise character of the foundation and particularly the permeability of the sandstone.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1964 County LaSalle

Quadrangle LaSalle Site No. 5

LOCATION

Little Vermilion River
NW¼ sec. 11, T 33 N, R 1 E

GENERAL GEOLOGY

Little Vermilion River is a principal tributary to Illinois River in this area. The stream drains a part of the Farm Ridge moraine and an area covered by Cropsey ground moraine. There are scattered outcrops of Ordovician and Pennsylvanian rocks in the area, particularly in the stream valleys. The uplands are very gently rolling, with relief of 20 to 30 feet. Glacial drift, primarily till, forms a thin mantle over the Pennsylvanian limestones, shales, and sandstones.

DAMSITE

The stream flows in a broad 6- to 10-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 70 to 80 feet below the uplands.

The upper 30 feet of the right abutment is a bluff of gray, flaggy, fossiliferous limestone. The lower portion is covered and slopes steeply to the floodplain. The left abutment slopes steeply to the floodplain. The lower portion of this abutment is composed of 10 to 15 feet of the limestone described above. This limestone is overlain by 25 to 30 feet of mottled gray to brown, thinly laminated shale containing numerous small ironstone concretions. The shale is weathered in some places. The shale is overlain by 8 to 10 feet of light brown to brown, clayey silt.

RESERVOIR

The valley floor is covered with dark brown, sandy, clayey, alluvial silt. Approximately one mile upstream from the damsite, the lower portion of the valley wall is composed of about 10 to 15 feet of white, cross-bedded, loose, fine to medium St. Peter sandstone. The sandstone weathers to a rusty brown on the surface. The sandstone is overlain by about 10 feet of fissile shale. The material above this point is covered. Approximately 3 miles upstream from the damsite, a blue-gray, flaggy limestone (Platteville?) crops out in the walls. Where the stream flows near the valley walls, they are very steep.

BORROW

A sufficient quantity of clayey silt which can be used for borrow material is probably available nearby.

OPINION

The site is probably not feasible owing to the presence of the porous St. Peter sandstone in the walls of the reservoir. In addition, the sandstone probably underlies much of the reservoir area. Borings would be required to evaluate this damsite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 9, 1964 County LaSalle

Quadrangle Marseilles Site No. 6

LOCATION

North Kickapoo Creek
NE¼ sec. 21, T 33 N, R 5 E

GENERAL GEOLOGY

North Kickapoo Creek is a minor tributary of Illinois River and drains a portion of the Marseilles moraine. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The surficial material is glacial drift, primarily till. The depth to bedrock varies from 50 to 80 feet according to exposures along the creek, and to logs of borings made preciously in the area.

DAMSITE

The stream meanders in a broad notch 3 to 4 feet below the floodplain. The floodplain is approximately 250 to 300 feet wide and is 60 to 80 feet below the uplands.

*The abutments are composed of the following materials:

Brown sandy, clayey, silt till, approximately 40 feet.
Mottled brown and gray, thinly laminated shale somewhat less than 10 feet thick.
Brown, cross-bedded, fine- to medium-grained, micaceous sandstone with some slabby partings along bedding planes. 15 to 20 feet thick.

Both abutments slope steeply to the uplands.

RESERVOIR

The valley floor is covered with brown, sandy, clayey, alluvial silt. In places, a layer of coarse gravel occurs beneath the silt. There are many large boulders and cobbles in the stream bed. Where the stream flows near the valley walls, the sandstone forms an escarpment. Directly opposite such a point, the valley sides slope steeply to the uplands. The geology of the valley walls is similar to that of the abutments.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is probably feasible, although the sandstone in the valley walls makes a program of test borings and materials testing imperative.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 10, 1964 County LaSalle

Quadrangle Marseilles Site No. 7

LOCATION

South Kickapoo Creek
NW¼ sec. 32, T 33 N, R 5 E

GENERAL GEOLOGY

South Kickapoo Creek is a minor tributary of Illinois River. The Stream drains a part of the Marseilles moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial material is glacial drift, primarily till. The depth to bedrock was not determined but according to logs of borings made previously is estimated to be between 70 and 100 feet.

DAMSITE

The stream meanders in a broad notch 8 to 12 feet below the flood-plain which is approximately 400 to 600 feet wide and lies 40 to 60 feet below the uplands.

The left abutment is composed of dark gray, sandy, stoney clay till with stringers of brown sand and gray to brown, sandy silt with some pebbles. The right abutment is covered. A small exposure in the lower portion of the right abutment reveals about 5 feet of gray to grayish brown, sandy clay till. This till is overlain by a brown, sandy, clayey silt of variable thickness. The geology is probably similar to that of the left sbutment. Both abutments have moderately steep slopes.

RESERVOIR

The valley floor is covered with loose, brown, fine to medium, alluvial sand. The sand overlies a bed of fine to coarse gravel, the base of which is not exposed. There are many large cobbles and boulders in the stream bed. Where the stream flows near the valley walls, they are very steep. The geology is similar to that of the abutment, except that several seeps or springs occur along the valley walls.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably feasible, however, the nature and extent of the gravel layer at the base of the stream channel should be investigated further. The man who farms the land reports several successful stock dams on the property. A program of test borings and materials testing would be required.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1964 County LaSalle

Quadrangle Ottawa West Site No. 8

LOCATION

Tributary of Illinois River
Center sec. 29, T 33 N, R 3 E

GENERAL GEOLOGY

This stream is one of a number of small tributaries of Illinois River in this area. The stream drains a portion of the Chatsworth moraine and an area covered with sediments of a glacial lake. The uplands are very gently rolling with relief of 10 to 20 feet. The surficial material is glacial drift and lacustrine (?) sediments. The depth to bedrock varies from 10 to 30 feet according to exposures along the valley walls.

DAMSITE

The stream meanders in a 4- to 6-foot notch in the floodplain. The floodplain is 300 to 400 feet wide and is 60 to 70 feet below the uplands.

Near the right abutment, the following sequence of sediments was observed:

Upper 30 to 40 feet is covered
5 feet of black, fissile shale
4 feet of mottled gray and brown, thinly laminated shale
1 foot of coal, black, thinly laminated
1 foot of rusty brown, silty sandstone
1 foot of gray, soft underclay

Lower 15 feet is covered with slump material. The left abutment is mostly covered, but the geology is probably similar to that described above. A reddish-brown, clayey silt is exposed near the top of the left abutment. Both abutments slope steeply to the uplands.

RESERVOIR

The valley floor is covered with grayish-brown, silty, clayey, alluvial sand. Large cobbles and boulders are present in the streambbed. The valley walls are steeply sloping and their geology is similar to that of the abutment described above.

BORROW

Sufficient quantities of clayey silt which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is probably feasible. However, St. Peter sandstone crops out a short distance downstream from the damsite. Consequently, a program of test borings is needed to determine the thickness of cover over the sandstone at the damsite and in the reservoir area.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 10, 1964 County LaSalle

Quadrangle Streator Site No. 10

LOCATION

Wolf Creek
N½ sec. 13, T 31 N, R 3 E

GENERAL GEOLOGY

Wolf Creek is a principal tributary of the Vermilion River in this area and drains a portion of the Chatsworth moraine. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The surficial material is glacial drift, primarily till. The depth to bedrock was not determined, but is probably about 100 feet as previously determined by logs of borings made in the area.

DAMSITE

The stream meanders in a broad notch 2 to 3 feet below the floodplain. The floodplain is approximately a quarter of a mile wide and is cut 60 to 70 feet into the uplands. The right abutment is very steep and consists of glacial till. The lower 30 to 40 feet consists of reddish-brown, sandy, clayey silty till. This till is overlain by about 15 feet of brown to gray sandy, clayey till. The left abutment is steeply sloping and is mostly covered. A small exposure near the top of the abutment reveals about 3 feet of brown, sandy, fine to medium gravel. The gravel is overlain by 4 feet of brown, sandy, silty till.

RESERVOIR

The valley floor is covered with dark brown, silty alluvial sand. Where the stream flows near the valley walls, they are very steep. The geology of the valley walls is similar to that of the abutments.

BORROW

Sufficient quantities of till which can be used as borrow material can probably be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings. The presence of gravel in the left abutment makes such a program highly desirable in order to prove out an adequate source of borrow.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 10, 1964 County LaSalle

Quadrangle Streator Site No. 11

LOCATION

Eagle Creek
W½ sec. 27, T 31 N, R 3 E

GENERAL GEOLOGY

Eagle Creek and Egg Bag Creek, which joins Eagle Creek just above the damsite, are principal tributaries of Vermilion River in this area. They drain a portion of the Cropsey moraine and an area covered by both Cropsey ground moraine and some glacial lake sediments. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The surficial material is primarily glacial till with some bedrock outcrops in the lowlands. The till forms a thin mantle over the bedrock.

DAMSITE

The streams meander in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 300 feet wide and is cut 40 to 50 feet into the uplands. The right abutment is steeply sloping and in the upper portion is composed of light reddish-brown, sandy, pebbly till. The lower portion is covered. The left abutment is gently sloping and is composed of a veneer of glacial till over buff to reddish brown sandy siltstone.

RESERVOIR

The valley walls contain about 10 feet of glacial till, as above. The till overlies a soft, mottled gray and brown shale which contains scattered iron-stone concretions. The shale grades downward into siltstone. The valley floor is covered with dark brown to dark reddish-brown clayey, sandy, alluvial silt containing stringers of sand.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by a program of test borings and materials testing. Such a program would be especially desirable in order to determine the nature of the till-bedrock contact.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Lake

Quadrangle Libertyville Site No. 2

LOCATION

Tributary of Des Plaines River
W½ SE¼ sec. 28, T 45 N, R 11 E

GENERAL GEOLOGY

The stream, a small tributary of the Des Plaines River, drains a part of the back-slope of the Tinley moraine. The topography is gently rolling, and the relief ranges from 60 to 100 feet. Logs of previous borings in the area indicate that about 200 feet of glacial material, primarily till, overlie the limestone bedrock. Till is exposed in a new roadcut a quarter of a mile downstream from the damsite.

DAMSITE

The stream flows in a notch 6 to 8 feet wide and 3 to 4 feet deep. The flood plain is about 300 to 400 feet wide. Exposures along the creek indicate that the flood plain is underlain by sandy, clayey, silty alluvium with an occasional large boulder. The valley sides have moderate slopes. Surficial material in the fields at the abutment sites suggest the presence of underlying till. As indicated by the Bedrock Surface Map of Illinois, it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

The flood plain becomes more narrow and the valley slopes become considerably more gentle upstream from the damsite. The valley sides appear to be underlain by till.

BORROW

Sufficient quantities of till probably suitable for use as impervious borrow material are available in the adjacent uplands.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Lake

Quadrangle Wheeling Site No.+ 3

LOCATION

Indian Creek
SE¼ sec. 7, T 43 N, R 11 E

GENERAL GEOLOGY

Indian Creek, a tributary of the Des Plaines River, drains parts of the Valparaiso ground moraine and the Tinley moraine. The topography is gently rolling, becoming somewhat more hilly along the Tinley moraine, which runs north to south along the left abutment at the damsite. The relief ranges from 35 to 55 feet. Logs of previous borings in the area indicate that 160 to 235 feet of unconsolidated material, largely glacial, overlie bedrock.

DAMSITE

Indian Creek is 8 to 10 feet wide and flows in a notch 4 to 5 feet deep in a flood plain approximately 1400 feet wide. Both abutments were covered with vegetation and surficial soil. The valley sides have very gentle to gentle slopes. Scattered cobbles and boulders in adjacent fields suggest that the abutments are underlain by till. As indicated by the Bedrock Surface Map of Illinois, bedrock is unlikely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The slopes and geology of the valley sides appear to be the same as at the damsite. The width of the flood plain decreases greatly upstream from the damsite. Several small water-filled gravel pits were observed in the flood plain floor about 3 miles north of the dam. These pits appear to be located in pockets of outwash gravel along the western face of the Tinley moraine. A peat and muck area is present approximately half a mile north of the damsite.

BORROW

Sufficient quantities of till, probably suitable for impervious borrow material can be obtained from the adjacent uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The presence and extent of any permeable outwash gravel beneath the flood plain floor and in the abutments should be determined.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 12, 1965 County Lake

Quadrangle Lake Zurich Site No. 5

LOCATION

Buffalo Creek
S½ NE¼ sec. 25, T 43 N, R 10 E

GENERAL GEOLOGY

Buffalo Creek drains a part of the gently rolling country underlain by the Valparaiso ground moraine. Relief in the area ranges from 40 to 80 feet. Logs of previous borings in the area indicate that the limestone bedrock is overlain by 170 to 190 feet of unconsolidated material, mostly of glacial origin.

DAMSITE

Buffalo Creek, 6 to 10 feet wide, flows in a notch 3 to 4 feet deep in a flood plain which is about 200 feet wide. Exposures in the flood plain along the creek show silty, clayey alluvium with little or no coarse material. The valley sides have moderate to steep slopes rising 30 to 40 feet above the flood plain to the uplands. The abutment sites appear to be underlain by silty, clayey till that contains little coarse material. The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

Upstream from theddamsite, the width of the valley is about 1500 feet, and the flood plain has extensive swamp and marsh areas. The slopes and geology of the valley sides appear to be similar to those at the damsite.

BORROW

Sufficient quantities of clayey till which is probably a suitable impervious borrow material can be obtained from the adjacent uplands.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date Examined June 22, 1964 County Lee

Quadrangle Dixon Site No. 1

LOCATION

Franklin Creek
SE¼ sec. 20, T 22 N, R 10 E

GENERAL GEOLOGY

Franklin Creek is a major tributary of the Rock River in this area. The stream drains an area in which till partially covers the St. Peter sandstone. The uplands are rolling to hilly. The surficial material is loess. St. Peter sandstone crops out in the valley sides.

DAMSITE

The stream meanders in a broad 6 to 8 foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 50 to 60 feet below the uplands. The abutments are composed of white, poorly-cemented, cross-bedded, fine to medium sandstone. Some jointing is present and the rock is thin-bedded near the top. The sandstone is fairly well indurated in surface exposures. The abutments have moderate slopes.

RESERVOIR

The floodplain is covered with dark brown, silty, fine, alluvial sand. The valley walls are composed of St. Peter sandstone and are moderately sloping.

BORROW

Sufficient quantities of suitable borrow material may not be available in the immediate vicinity of the damsite. However, sufficient quantities of till which can be used for borrow can be obtained within a few miles of the damsite.

OPINION

The site is considered probably not feasible because of the porous sandstone which forms the abutments and valley walls. However, permeability tests on the sandstone might indicate a slow percolation rate.

Illinois State Geological Survey
Urbana, Illinois

M T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 15, 1964 County Lee

Quadrangle Mendota Site No. 2

LOCATION

Fourmile Grove Creek
SW¼ sec. 31, T 37 N, R 2 E

GENERAL GEOLOGY

Fourmile Grove Creek is a minor stream in this area which drains a portion of the Cropsey moraine. The stream is bordered by rolling uplands with relief of 30 to 40 feet. The surficial material is glacial drift, primarily till. The depth to bedrock was not determined, but is probably in excess of 100 feet according to logs of previous borings in this area.

DAMSITE

The stream flows in a broad 8- to 10-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is cut 30 to 40 feet into the uplands. There are no defined abutments, as the valley floor slopes gently into the uplands. Near the base of the stream channel about 5 feet of grayish-brown to brown, sandy, gravelly, clayey silt till containing some stringers of sand and gravel is exposed. The till is overlain by brown, clayey silt.

RESERVOIR

The valley floor is covered with the clayey silt described above. There is little or no material which can be definitely identified as alluvium. The valley floor merges with uplands with little or no change in slope.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the nearby uplands.

OPINION

The site is probably feasible subject to verification by an adequate program of test borings and materials testing. Particular attention should be given to the sand and gravel stringers, and to the possible presence of outwash in the area.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Livingston

Quadrangle Streator Site No. 1

LOCATION

Mud Creek
SW¼ NE¼ sec. 32, T 30 N, R 4 E

GENERAL GEOLOGY

Mud Creek is a tributary of Vermilion River draining parts of Lake Pontiac and the Chatsworth moraine. The upland areas are very gently rolling and have a relief of 10 to 20 feet. Chatsworth outwash materials occur locally as a veneer or as alluvial fan deposits within the area of glacial Lake Pontiac. Pennsylvanian sediments crop out along Vermilion River and Mud Creek.

DAMSITE

Mud Creek flows in a sand and gravel notch 6 to 8 feet deep. Medium gray siltstone of Pennsylvanian age forms the stream bed and parts of the banks in the downstream part of the valley and the lower 5 to 6 feet of the abutments. The upper 25 to 30 feet of the abutments consists of dark brown clayey till. The abutments have steep slopes.

RESERVOIR

The valley sides have moderately steep slopes and are composed primarily of till. Bedrock crops out below the till to a point about half a mile upstream from the damsite. A local deposit of yellow brown well-sorted sand occurs in a road cut along the left side of the reservoir.

BORROW

Material suitable for the construction of an earth dam is available in the nearby till. Local deposits of outwash material and the sandy valley fill is probably not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Livingston

Quadrangle Odell Site No. 2

LOCATION

Mud Creek
Center SW¼ sec. 6, T 29 N, R 5 E

GENERAL GEOLOGY

Mud Creek is a tributary of Vermilion River draining parts of Lake Pontiac and the Chatsworth moraine. The upland areas are very gently rolling and have a relief of 10 to 20 feet. The reservoir is in an area of Chatsworth outwash in front of the Chatsworth moraine.

DAMSITE

The abutments have moderately steep slopes and are composed of brown clay till. The stream flows in a silt notch about 6 feet deep. The water in the stream appeared cloudy.

RESERVOIR

The valley is broad and has steeply sloping sides composed of drift, primarily till. No lake silts or outwash gravels were observed in the proposed reservoir area, but an exposure one mile west of the site contains a sequence of beds which consists of one foot of well-sorted coarse gravel overlain by 7 feet of dark brown till and underlain by 5 feet of dark gray, stratified, clayey silt.

BORROW

Material for use as borrow in the construction of an earth dam is available from the till in the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Livingston

Quadrangle Sibley Site No. 4

LOCATION

Tributary of Vermilion River
NW¼ NE¼ sec. 33, T 26 N, R 8 E

GENERAL GEOLOGY

The stream comprises a part of the headwaters of Vermilion River and drains part of the front slope of the Chatsworth moraine. Surficial soils are developed in loess deposits which mantle the gently rolling topography. The uplands have a relief of about 20 to 30 feet. The thickness of glacial material, primarily till, may exceed 300 feet owing to a bedrock valley which underlies the Chatsworth moraine in this vicinity.

DAMSITE

The stream flows in a 6-foot notch composed of dark gray alluvial silts; the stream bed is sandy. The abutments are vegetation covered and have moderate slopes.

RESERVOIR

The lower part of the valley is hummocky and of little enough relief so that the depth of water dammed in this section would be shallow. The upper part of the valley is the broad, flat, intermittent lake, Turtle Pond. The valley sides have moderate slopes. The areas surrounding the proposed reservoir and dam project are assumed to be primarily clayey till.

BORROW

A sufficient quantity of till suitable for borrow material can be obtained from the uplands nearby and from the reservoir sides.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Livingston

Quadrangle Sibley Site No. 5

LOCATION

Tributary of Vermilion River
Center sec. 32, T 26 N, R 8 E

GENERAL GEOLOGY

The stream comprises part of the headwaters of Vermilion River and drains a portion of the front slope of the Chatsworth moraine. Surficial soils are developed in loess deposits which mantle the gently rolling topography. The uplands have a relief of about 20 to 30 feet. The thickness of glacial material, primarily till, may exceed 300 feet owing to a bedrock surface valley which underlies the Chatsworth moraine in this vicinity.

DAMSITE

The stream flows in a 3- to 4-foot notch in drift materials. The abutments are vegetation covered and have moderate slopes. The underlying materials are glacial drift, primarily till.

RESERVOIR

The valley is a very broad and flat area consisting of several small intermittent lakes and large swampy areas. The sides of the reservoir have moderate to gentle slopes and are dark brown clayey till.

BORROW

Suitable material for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Logan

Quadrangle Minier Site No. 1

LOCATION

Tributary of West Fork Sugar Creek
Ctr. SW¼ sec. 33, T 22 N, R 2 W

GENERAL GEOLOGY

The stream is a tributary of West Fork Sugar Creek and drains a part of the back slope of the Leroy moraine. The topography is gently rolling with a relief of 20 to 30 feet. Surficial soils are developed in loess which mantles the area. Logs of previous borings indicate the depth to bedrock to be about 175 feet.

DAMSITE

The stream flows in a 4- to 6-foot notch, the upper two feet of the banks being composed of silt and the lower three feet of dark gray, clayey colluvium. The abutments have moderate slopes and are covered with vegetation. The underlying material is probably till.

RESERVOIR

The sides of the valley consist of a layer of loess resting on clayey till, and the slopes are generally moderate to gentle.

BORROW

The nearby till is suitable material for the construction of an earth dam.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 24, 1964 County Logan

Quadrangle McLean Site No. 2

LOCATION

Tributary of Kickapoo Creek
NW¼ NW¼ sec. 25, T 21 N, R 1 W

GENERAL GEOLOGY

The stream is a tributary of Kickappo Creek and drains a part of the gently rolling Shelbyville moraine. Logs of previous borings in the vicinity of the site indicate the thickness of glacial material, primarily till, to be about 130 feet.

DAMSITE

The abutments have moderate to gentle slopes, are blanketed with loess, and covered with vegetation. The underlying material is probably clayey till. The stream flows in a 4-foot notch in a gently sloping, nearly flat silt floodplain.

RESERVOIR

The proposed reservoir is small and is confined to a narrow valley which has gently sloping sides. The materials underlying the upland areas are probably till.

BORROW

A sufficient quantity of materials suitable for use in the construction of an earth dam are available in the clayey loess and underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 7, 1964 County Logan

Quadrangle Kenney Site No. 3

LOCATION

Tributary of Kickapoo Creek
SW¼ NW¼ sec. 1, T 20 N, R 1 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Kickapoo Creek and drains a part of the loess-covered Shelbyville moraine. The relief of the gently rolling upland topography is about 10 to 20 feet. The depth to bedrock is about 200 feet. Logs of previous borings in the vicinity of the site indicate about 60 feet of clayey materials underlying the uplands.

DAMSITE

At the time of the examination the stream was dry exposing the sandy bottom. The lower four feet of the bank is composed of colluvium or till and a thick layer of black soil overlies this material. The valley sides slope gently from the stream banks to the uplands.

RESERVOIR

The valley is gently sloping and soil covered. The underlying materials are probably clayey and sufficiently impermeable to prevent reservoir leakage.

BORROW

Material suitable for the construction of an earth dam is available in the clayey till underlying the uplands.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 7, 1964 County Logan

Quadrangle Mason City Site No. 4

LOCATION

Tributary of Salt Creek
Ctr. SE¼ sec. 18, T 19 N, R 4 W

GENERAL GEOLOGY

The stream is a minor tributary of Salt Creek located west of Middletown. The Illinoian drift plain is nearly flat, having a topographic relief of about 10 to 20 feet. Wisconsinan outwash materials have been deposited on parts of the Illinoian drift plain. A previous investigation made south of Middletown indicates that the uplands are covered with 145 feet of glacial materials, primarily till.

DAMSITE

The abutments have gentle slopes and are covered with vegetation. The underlying materials are probably till. The stream flows in a 6- to 8-foot notch composed of black silt or soil. The slopes of the abutments rise gently from the banks of the stream which has no pronounced floodplain.

RESERVOIR

The valley is small and the sides have very gentle slopes. Local farming practice is to cultivate the fields to within a short distance of the stream banks. The underlying material probably is till.

BORROW

An adequate supply of clayey till is available nearby for use in the construction of an earth dam.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 7, 1964 County Logan

Quadrangle Mason City Site No. 5

LOCATION

Tributary of Salt Creek (Spring Creek not named on map)
NW¼ NW¼ sec. 26, T 19 N, R 4 W

GENERAL GEOLOGY

The stream is a tributary of Salt Creek and drains part of the gently undulating Buffalo Hart drift plain. Loess and some Wisconsinan outwash sand and gravel mantle parts of Logan County. Logs of previous borings nearby indicate that 12 feet of loess or sand overlies till which extends to a depth of 70 feet.

DAMSITE

The stream flows in a notch of silt and alluvium 4 to 6 feet deep. The floodplain is small and is bounded by abutments which slope gently to the uplands. The underlying materials are probably till.

RESERVOIR

The reservoir would occupy a valley which has gently sloping sides. The bedrock surface map indicates that the reservoir area is underlain by a deep bedrock valley leading to the northwest. This valley may be as much as 250 feet below the surface of the surrounding uplands. A small, successful dam and reservoir are indicated on the topographic map about half a mile east of the proposed damsite.

BORROW

Suitable material for the construction of an earth dam is available nearby in the underlying clay till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 7, 1964 County Logan

Quadrangle Lincoln Site No. 6

LOCATION

Tributary of Salt Creek
Ctr. SW¼ sec. 18, T 19 N, R 3 W

GENERAL GEOLOGY

The stream is a minor tributary of Salt Creek and drains a part of the Illinoian drift plain northwest of Broadwell. The upland topography is gently rolling and has a relief of about 10 to 20 feet. A previous boring northeast of the damsite indicates 48 feet of glacial material resting on the bedrock surface. Bedrock outcrops are indicated by the bedrock surface map to be located in the vicinity of the proposed reservoir.

DAMSITE

The abutments are steep and composed of yellow-brown, silty, clayey till. The stream flows in a 2- to 6-foot notch composed of shale and weathered rock fragments.

RESERVOIR

The valley is small and narrow, and has moderately steep slopes. A mantle of loess 4 to 6 feet thick is exposed on some parts of the upper slopes of the valley sides. The loess rests on silty, clayey till.

BORROW

Clayey till suitable for the construction of an earth dam is available in upland areas nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

A.G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 10, 1965 County McHenry

Quadrangle McHenry 15-min., Hebron 7.5-min. Site No. 2

LOCATION

Nippersink Creek
SW¼ NW¼ sec. 18, T 46 N, R 7 E

GENERAL GEOLOGY

Nippersink Creek drains a part of the backslope of the West Chicago moraine. The rolling uplands have relief of 50 to 75 feet. Upstream from the damsite the creek valley becomes broad and flat. The valley bottom is extensively tiled and is now being cultivated. Logs of previous borings indicate thicknesses of glacial deposits ranging from 200 to 335 feet.

DAMSITE

The stream flows in a notch about 5 feet deep and 6 to 8 feet wide in a floodplain approximately 300 feet wide. Exposures along the creek reveal that about 3 feet of black, clayey silt overlies coarse sandy gravel. The thickness of the gravel was not determined. Both abutments have moderate to steep slopes and are composed of clayey, sandy, gravelly till containing scattered large boulders.

RESERVOIR

The valley floor is composed of sand, gravel, clayey sand, and peaty material. There is a moderate to sharp change in slope from the flat valley floor to the valley sides, which have moderate to steep slopes. Both the north and south sides of the proposed reservoir are composed of till similar to that found at the damsite. A flat, terrace-like area, rising a little above elevation 950 feet and surrounded on all sides by lower ground, is located about half a mile north of the left abutment. Gravel deposits are being worked north and east of the terrace-like area. If these extend into and through the terrace-like area, they could provide an avenue of leakage from the reservoir

BORROW

A sufficient quantity of till which can be used for borrow material can be obtained from the nearby uplands.

McHenry County
Site No. 2

SPECIAL PROBLEMS

The 1963 edition of the topographic map of the Hebron 7.5-minute quadrangle shows the ground surrounding the terrace-like area north of the left abutment is lower than elevation 950 feet. If the spillway is constructed at elevation 950, at least two small dikes will be required in these saddles to prevent overflow from the reservoir.

OPINION

The site is probably not feasible subject to verification by an adequate program of test boring and materials testing. Leakage through porous sand and gravel in the alluvium at the damsite and through any extensive gravel deposits that may be present beneath the terrace-like area north of the left abutment appear to be the most serious geologic problem at this proposed damsite.

Illinois State Geological Survey
Urbana, Illinois

A. G. Goodfield

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1965 County McHenry

Quadrangle Fox Lake 7.5 Site No. 3

LOCATION

Tributary of Nippersink Creek
Center S½ sec. 25, T 46 N, R 8 E

GENERAL GEOLOGY

Nippersink Creek, a major stream in the area, flows in a large valley bordered on the south by moderately steep to steep slopes and on the north by gentle slopes. The relief along the southern edge of the valley is about 50 to 100 feet while the relief along the northern edge is much less. The glacial deposits in this area are till underlying the uplands and ice-contact stratified drift along the sides of Nippersink Valley. Following is a log of a previous boring located about a quarter of a mile southeast of the right abutment:

Materials	Depth in feet
Gravel (hard and dry)	50
Dry clay	65
Dry sand	95
Red sand and gravel	110

DAMSITE

The damsite is in a narrow tributary on the south side of Nippersink Valley. There is no floodplain at the site, and the abutments have moderately steep to steep slopes. Interbedded sands, gravels, and till, typical of kame terrace deposits, are exposed in a gravel pit on the left abutment. The abutment slopes are strewn with boulders indicating the possibility that the gravels in the kame terrace may be extensive.

RESERVOIR

As at the damsite, no floodplain is present along the creek. The reservoir sides have moderate to strong slopes. A gravel pit is present in the reservoir area three-fourths of a mile upstream from the damsite.

BORROW

Sufficient quantities of till suitable for borrow material can possibly be located in the upland.

OPINION

The site is considered not feasible subject to an adequate program of test boring and materials testing. Serious leakage is likely to occur through the permeable sand and gravel both in the vicinity of the damsite and in the reservoir area.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1965 County McHenry

Quadrangle Richmond Site No. 4

LOCATION

Tributary of Fox River
SE¼ NE¼ sec. 14, T 45 N, R 8 E

GENERAL GEOLOGY

The stream, a tributary of Fox River, drains a part of the rolling upland east of the West Chicago morraine. Relief in the area ranges from 60 to 150 feet, and the relatively narrow Fox River Valley is bordered by numerous kames and kame terraces composed of ice contact stratified sand and gravel and till. Logs of previous borings indicate that approximately 200 feet of unconsolidated materials rest on the dolomite bedrock.

DAMSITE

The stream flows in a notch 2 to 5 feet deep and about 10 feet wide in the floodplain which has a width of approximately 500 feet. Exposures in the floodplain reveal black, sandy alluvium. A trace of gravel is present in the creek bed. The abutments have moderate to strong slopes and are covered. Boulders in nearby fields suggest that till probably underlies these areas.

RESERVOIR

The maximum width of the floodplain is 500 feet and the sides of the valley have moderate to strong slopes. The geology of the valley is the same as that at the damsite.

A kame is located approximately a quarter of a mile north of the damsite, where large quanitites of fine to medium, well-sorted sand and smaller quantities of coarse gravel are exposed in a pit nearby. The kame is surrounded and overlain by till which appears to underlie the reservoir valley sides. The extent of the sand and gravel deposit was not determined.

BORROW

Sufficient quantities of sandy, clayey till suitable for relatively impervious borrow materials can be obtained from the adjacent uplands. Sand and gravel useful for other kinds of construction is available from the kame or similar deposits.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 1965 County McHenry

Quadrangle Richmond Site No. 5

LOCATION

Tributary of Nippersink Creek
NW¼ SE¼ sec. 30, T 46 N, R 8 E

GENERAL GEOLOGY

Nippersink Creek, a major stream in this area, drains a large part of of the back-slope of the West Chicago moraine. The creek flows in a wide valley which is bordered partly by gently rolling till uplands and partly by areas of rounded hills or kames composed of ice contact stratified drift, consisting primarily of sand and gravel. Relief in the area ranges from 70 to 150 feet. Logs of previous borings indicate that as much as 92 feet of glacial material rest on the bedrock surface.

DAMSITE

The stream is 3 to 5 feet wide and flows in a notch 2 to 5 feet deep in a floodplain approximately 200 feet wide. Exposures in the floodplain along the tributary reveal 3 to 4 feet of sandy, clayey alluvium overlying coarse gravel. The thickness of the alluvium was not determined. Both abutments have moderately steep slopes and are probably underlain by till. A small gravel pit is located in a kame terrace approximately 500 feet downstream from the left abutment.

RESERVOIR

The valley floor is covered with 2 to 3 feet of black, sandy, silty clay which overlies a coarse, gravelly material. The width of the floodplain ranges from 50 to 300 feet. The valley sides are convex in shape, with moderate slopes in the lower part. The slopes of the valley sides become progressively more gentle toward the upland. The valley sides are probably composed of till. Logs of previous borings nearby indicate the presence of gravel deposits at or near the surface.

BORROW

A sufficient quantity of till for borrow material can be obtained from the nearby uplands.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Serious leakage is likely to occur through the permeable sand and gravel in the vicinity of the proposed project.

A. G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 11, 12, 1965 County McHenry

Quadrangle Crystal Lake 7.5 Site No. 6

LOCATION

Tributary of Fox River
SW¼ NE¼ sec. 33, T 43 N, R 8 E

GENERAL GEOLOGY

The stream, a small tributary of Fox River, drains a part of the back-slope of the Marseilles moraine. Previous reports indicate Algonquin outwash gravels crop out in numerous large gravel pits along the front of the West Chicago moraine, which lies east of the damsite. Fox River occupies a narrow valley approximately 190 feet below the upland. Logs of previous borings nearby indicate that approximately 200 feet of unconsolidated materials overlie the limestone bedrock.

DAMSITE

The stream flows in a narrow notch 3 to 4 feet deep in a floodplain less than 100 feet wide. The black, clayey, sandy alluvium probably has a relatively limited extent. The valley sides have steep slopes and rise about 100 feet to the upland. Stoney till probably underlies the abutment areas. A small (10 by 20 feet) earthflow in sandy, clayey, stoney till has occurred at the base of the right abutment.

RESERVOIR

The stream valley has moderate to steep sides and very little floodplain. Till probably underlies the valley sides. Gravel crops out along the upland rim of the proposed reservoir north of the left abutment.

BORROW

Sufficient quantities of till probably suitable for impervious borrow material are available in the uplands west and south of the damsite.

OPINION

This site is probably feasible subject to verification by an adequate program of test boring and materials testing. The possible presence and extent of permeable Algonquin gravels in the vicinity of the left abutment should be determined.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County McLean

Quadrangle Danvers Site No. 1

LOCATION

Sixmile Creek
SE¼ SW¼ sec. 7, T 25 N, R 2 E

GENERAL GEOLOGY

Sixmile Creek is tributary to Mackinaw River and drains the back slope of the Normal moraine. Most of the surficial soils have developed in loess deposits which blanket the gently rolling topography.

Logs of previous borings indicate that bedrock is covered by a thick layer of clay till, sands, and gravels.

DAMSITE

The creek flows in a 3- to 4-foot notch in a narrow floodplain. The left abutment is gently sloping and covered. The right abutment has a moderately steep slope and is the end of a narrow topographic ridge. Exposures observed on the upstream slope of the ridge consist of 10 to 15 feet of brown, clayey silt overlying 10 to 15 feet of clayey, silty, coarse gravel. The permeability of the abutments should be ascertained before serious consideration is given to the site.

RESERVOIR

The floor of the reservoir is a broad flat plain consisting of alluvial sands and silts. The sides are moderately steeply sloping and consist largely of brown clay till. Silts and gravels are present locally in the right abutment and if they extend into the right side of the reservoir, they could cause leakage problems.

BORROW

An adequate supply of suitable borrow material can be found in the deposits of clay till nearby.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test borings and materials testing. Problems arising from local gravels and silts would require special attention which could be very expensive for a small reservoir.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County McLean

Quadrangle Danvers Site No. 2

LOCATION

Sixmile Creek
NW¼ NW¼ sec. 7, T 25 N, R 2 E

GENERAL GEOLOGY

Sixmile Creek is a tributary of Mackinaw River and drains the back slope of the Normal moraine. Most of the surficial soils have developed in loess deposits which blanket the gently rolling topography. Logs of previous borings indicate that bedrock is covered by a thick layer of clay till, sands, and gravels.

DAMSITE

The stream flows in a 6- to 8-foot notch in a narrow floodplain composed of silty alluvium. The right abutment is gently sloping and small cuts expose a brown, gravelly, clay till. The creek swings near the left abutment and brown clay till was observed in the steep bank.

RESERVOIR

The floor of the reservoir is a meandering flat alluvial floodplain. The sides are steeply sloping and outcrops of clay till were observed. Deposits of silt and gravel appear upstream, but these probably are locally occurring.

BORROW

An adequate supply of suitable borrow material can be found in the deposits of clay till nearby.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County McLean

Quadrangle Normal Site No. 4

LOCATION

Tributary of Mackinaw River
NE¼ NE¼ sec. 19, T 24 N, R 4 E

GENERAL GEOLOGY

The stream is a short intermittent tributary to Mackinaw River that drains part of the Outer Cropsey moraine. Most of the surficial soils have developed in loess which blankets the gently rolling topography. Logs of previous borings indicate that the bedrock surface is covered with a thick deposit of glacial material consisting of till, sand, and gravel.

DAMSITE

The stream is flowing in a 4-foot notch in a bed of silt or soil. The abutments are gently sloping and covered. The sequence and character of the deposits will have to be ascertained.

RESERVOIR

The reservoir sides are broad and gently sloping. Exposures of the underlying material were not available. The conclusion that till underlies the reservoir is supported by the observation of numerous erratics in the fields and by the logs of previous borings nearby.

BORROW

Suitable material probably can be located nearby for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 26, 1964 County McLean

Quadrangle LeRoy Site No. 5

LOCATION

West Fork North Fork Salt Creek
NE¼ SE¼ sec. 30, T 22 N, R 4 E

GENERAL GEOLOGY

West Fork is an upper tributary to North Fork Salt Creek and drains part of the LeRoy moraine. The topography is characterized by gently rolling hills. Logs of previous borings indicate that bedrock is covered by a thick mantle of glacial deposits consisting of clayey tills separated by soil zones.

DAMSITE

The left abutment is gently sloping and covered, but the right abutment is partially exposed because of slumping and erosion. The material observed in the right abutment is a yellow-brown clayey till. Scattered 6- to 8-inch erratics were noted on both abutments. The abutments range in height from 20 to 30 feet and the floodplain is about 300 feet wide. The stream meanders somewhat and flows in a 4-foot notch in the very silty, dark gray alluvium. The sequence and character of materials beneath the damsite must be ascertained.

RESERVOIR

Clayey, yellow-brown till forms the sides of the reservoir where fresh exposures were observed, and there is silty alluvium in the valley bottom. A successful stock dam has been constructed in the ravine southeast of Gilmore Cemetery.

BORROW

An adequate quantity of material suitable for construction of the proposed embankment is available in the deposits of clayey till nearby.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 26, 1964 County McLean

Quadrangle LeRoy Site No. 6

LOCATION

Tributary of Kickapoo Creek
SE¼ SE¼ sec. 34, T 22 N, R 2 E

GENERAL GEOLOGY

The stream is a tributary to Kickapoo Creek and drains an area of gently rolling morainal topography.

Logs of previous borings indicate a thick mantle of glacial material consisting of clayey tills separated by soil zones.

DAMSITE

Both abutments at the damsite are moderately to gently sloping to the uplands. They exhibit no prominent exposures, but a light brown clay till occurs in some small cuts. The stream is presently cutting a 4-foot soil or alluvial silt bank near the left abutment. The base of the stream appears to be sandy. The sequence and character of materials beneath the damsite must be ascertained. Gravels are known to occur locally along Kickapoo Creek.

RESERVOIR

The floodplain area of the reservoir is narrow, and the sides are gently sloped to the uplands. A 10- to 12-foot yellow-brown clay till bank is present about half a mile upstream from the site on the left side of the reservoir. The till appears to be persistent, but gravel beds may be present locally.

BORROW

An adequate supply of suitable borrow material is available nearby in clayey till deposits.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 26, 1964 County McLean

Quadrangle McLean Site No. 7

LOCATION

Tributary of Sugar Creek
SW¼ SE¼ sec. 27, T 22 N, R 1 W

GENERAL GEOLOGY

The stream is a short tributary of Sugar Creek and drains the back slope of the LeRoy end moraine. The topography is characterized by gently rolling hills.

Logs of previous borings indicate the bedrock to be covered by a thick mantle of glacial material consisting of clay tills separated by soil zones.

DAMSITE

Both abutments are covered at the proposed site; the valley has no floodplain and the abutments slope gently to the uplands. The stream is presently flowing in a 2- to 3-foot notch cut in a dark gray soil or silty alluvium. The sequence and character of the materials beneath the damsite must be ascertained.

RESERVOIR

The valley sides slope gently to the uplands, and the stream flows in a 3-foot meandering notch. An extensive tile system is in operation draining the left side of the reservoir, and there is an abandoned stock dam in a ravine in the SE¼ SE¼ sec. 27, T. 22 N, R 1 W.

BORROW

Suitable material for construction of a dam will have to be determined by test boring. Clayey tills are probably available nearby in sufficient quantities, but exposures are lacking.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing. The proposed reservoir would inundate an existing tile drainage system.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County McLean

Quadrangle Danvers Site No. 8

LOCATION

Tributary of Sugar Creek
SW¼ NW¼ sec. 14, T 24 N, R 1 W

GENERAL GEOLOGY

The stream is an intermittent tributary to Sugar Creek and drains part of the Bloomington moraine. Most of the surficial soils are developed in loess that mantles the gently rolling topography. Logs of previous borings indicate a bedrock valley is present locally beneath a thick layer of glacial till.

DAMSITE

The stream is flowing in a 4- to 6-foot notch in a layer of soil or silt. The abutments are covered, broad, and very gently sloping. The sequence and character of the deposits must be determined.

RESERVOIR

The reservoir is broad and gently sloping. No exposures of the underlying materials were observed.

BORROW

As indicated by logs of borings made previously in the area, clay till suitable for construction of an earth dam is probably available in the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 26, 1964 County McLean

Quadrangle LeRoy Site No. 9

LOCATION

Tributary of Little Kickapoo Creek,
Center E½ NE¼ sec. 15, T 22 N, R 2 E

GENERAL GEOLOGY

The stream is a short tributary to Little Kickapoo Creek draining an area of stream-dissected till plain which probably has a veneer of outwash. The topography is rolling, and logs of previous borings indicate a thick mantle of glacial material covers the bedrock. The glacial deposits are composed of clayey tills separated by soil zones and discontinuous lenses of sand and gravel.

DAMSITE

Both abutments are covered, and except for a 3-foot notch in which the stream is presently flowing, slope gently to the uplands. The only material exposed at the site is the soil or silty alluvium comprising the creek banks. Gravel lenses are common along Kickapoo Creek. The sequence and character of materials beneath the damsite must be ascertained.

RESERVOIR

The reservoir sides slope gently to the uplands, and there is little or no floodplain developed along the creek. There are no prominent exposures of underlying material within the reservoir, however, a yellow-brown clayey till crops out a few hundred feet downstream from the damsite.

BORROW

Suitable material for construction of an earth dam is probably available nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Macon

Quadrangle Kenney Site No. 1 S

LOCATION

North Fork
NE¼ SE¼ sec. 12, T 18 N, R 1 E

GENERAL GEOLOGY

North Fork drains a part of the front slope of the Shelbyville moraine. The uplands are gently rolling with relief of 20 to 30 feet. Logs of previous borings indicate that the thickness of the glacial deposits exceeds 150 to 200 feet. A soil profile is developing in the loess deposits exposed at the surface.

DAMSITE

Both abutments are covered and slope gently from the banks of the stream. Little change in slope occurs where the floodplain merges with the uplands. The stream flows in a 6-foot notch in silts, but the stream bed is a sand and pebble layer. The sand and pebbles are probably outwash which was deposited in the bottoms of valleys draining the front slope of a moraine. Previous bore holes indicate that till underlies the valley and the abutments.

RESERVOIR

The sides of the reservoir are gently sloping and merge with the floodplain. The deposit of medium brown silt just below the soil on the left side of the reservoir is probably loess.

BORROW

The clayey till found beneath the abutments and the valley is suitable material for the construction of an earth dam. The valley alluvium is not suitable for use as borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Macon

Quadrangle Maroa Site No. 2

LOCATION

Friends Creek
NW¼ SW¼ sec. 18, T 18 N, R 4 E

GENERAL GEOLOGY

Friends Creek drains the very gently rolling till plain behind the Shelbyville moraine. Deposits of Cerro Gordo outwash are found in this area. Surficial soils are developed in loess which covers the 10- to 20-foot rolling hills.

DAMSITE

The valley bottom is flat and bounded by 20- to 30-foot-high abutments composed of yellow-brown clayey till. In places the abutments are covered by a thin veneer of sand. The stream flows in a 6-foot notch and appeared cloudy when observed. The upper 4 feet of creek bank consists of dark gray silt; the lower 2 feet consists of dark gray-brown colluvium.

RESERVOIR

The sides of the reservoir are moderately steep in the lower part and gently sloping in the upper part of the valley. A thin veneer of locally deposited sands occur on parts of the yellow-brown clayey till of the reservoir sides.

BORROW

A sufficient quantity of suitable borrow material is available in the nearby clayey till deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Deposits of Cerro Gordo outwash are probably local and do not present a serious problem to the site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Macon

Quadrangle Decatur Site No. 3

LOCATION

Kickapoo Creek
NE¼ NE¼ sec. 26, T 18 N, R 3 E

GENERAL GEOLOGY

Kickapoo Creek is a tributary of Friends Creek and drains a part of the Shelbyville moraine which is nearly flat, but is hummocky in places. The area is blanketed by surficial loess deposits.

DAMSITE

The stream flows in a 5-foot notch in banks composed of dark gray silt. The bottom of the stream is sand and pebbles. The abutments are moderately steep. An exposure of dark yellow-orange silty till is exposed to a height of 6 to 8 feet in the lower part of the left abutment.

RESERVOIR

The reservoir is small and narrow and has gently sloping sides. The materials underlying the reservoir are presumed to be till according to exposures observed downstream.

BORROW

A suitable supply of borrow material for the construction of an earth dam is available in the nearby clayey till deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Niantic Site No. 4

LOCATION

Long Point Slough
NE¼ SE¼ sec. 33, T 17 N, R 1 E

GENERAL GEOLOGY

Long Point Slough is an intermittent stream draining the gently rolling, hummocky topography of the Shelbyville moraine. The surficial soil has been developed in the loess overlying glacial till. The depth to bedrock at the damsite is probably greater than 225 feet.

DAMSITE

The stream flows in a dredged notch 4 to 6 feet below the floodplain. The abutments are broad and very gently sloping. Soil covers the abutments and valley, but the underlying materials are reported as till in logs of previous borings.

RESERVOIR

Little change in slope occurs where the floodplain merges with the uplands. Relief at the damsite is 20 to 30 feet.

BORROW

Sufficient quantities of till suitable for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Niantic Site No. 5

LOCATION

Tributary of Sangamon River
NW¼ SE¼ sec. 7, T 16 N, R 2 E

GENERAL GEOLOGY

The stream is a short intermittent tributary of Sangamon River and drains a part of the gently rolling Shelbyville moraine. Local relief of the area attains a height of about 20 to 30 feet. Surficial soils are developed in loess deposits which overlie glacial deposits known to be greater than 200 feet thick.

DAMSITE

The stream flows in a narrow floodplain bounded by steeply sloping abutments composed of light brown till. The floodplain is approximately 500 feet wide and is composed of alluvial silt and sand.

RESERVOIR

The floor of the narrow, meandering valley is covered with silty, sandy alluvium. The sides are 20 to 40 feet high and have a moderately steep slope. The geology of the reservoir sides is assumed to be predominantly till as observed in the abutments.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the uplands nearby.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Decatur Site No. 6

LOCATION

Sand Creek
NW¼ NW¼ sec. 1, T 15 N, R 2 E

GENERAL GEOLOGY

Sand Creek is a tributary of Lake Decatur on Sangamon River and drains the very gently rolling till plain behind the Shelbyville moraine. Some outwash material from the Cerro Gordo moraine was observed in this area. Glacial deposits are known to be as much as 200 feet thick locally. These deposits are mantled by soils developed in surficial loess which blankets the area.

DAMSITE

The stream flows in a notch 4 to 6 feet deep in alluvial silt. The floodplain is approximately 1000 feet broad and is bounded by abutments which have moderately steep slopes and are composed of light brown, silty, clayey till.

RESERVOIR

The floodplain is broad and branches into two nearly equal parts about half a mile upstream from the damsite. The banks of the creek are composed of alluvial silt and sand. The sides of the reservoir have moderate to gentle slopes.

BORROW

The nearby clayey till is suitable for the construction of an earth dam.

OPINION

The site is considered to be probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Decatur Site No. 7

LOCATION

Big Creek
NE¼ SW¼ sec. 1, T 15 N, R 3 E

GENERAL GEOLOGY

Big Creek is a tributary of Lake Decatur on Sangamon River and drains the very gently rolling till plain behind the Shelbyville moraine. Cerro Gordo outwash covers parts of this area. Other glacial deposits, primarily till, are indicated in logs of previous borings to be as much as 200 feet thick. Surficial soils developed in loess blanket these glacial deposits.

DAMSITE

Moderately steep abutments approximately 30 feet high flank the flat-bottomed valley. The valley alluvium consists of silt and sand. The stream flows in a notch 3 to 4 feet below the floodplain. The abutments are assumed to be composed of silty, clayey till similar to the material observed a short distance downstream from the damsite.

RESERVOIR

The reservoir sides are moderately steep and probably are underlain by till. The floodplain is broad and flat and consists of silt and sand alluvium.

BORROW

An adequate supply of suitable borrow material is available in the nearby silty, clayey till.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Decatur Site No. 8

LOCATION

Finley Creek
NW¼ NW¼ sec. 9, T 15 N, R 3 E

GENERAL GEOLOGY

Finley Creek is a tributary of Lake Decatur on the Sangamon River and drains the very gently rolling till plain behind the Shelbyville moraine. Outwash from the Cerro Gordo moraine is present in this area.

Logs of previous borings indicate that glacial deposits, primarily till, are as much as 200 feet thick. These deposits are mantled by soils developed in loess deposits which cover the area.

DAMSITE

The stream flows through a narrow constriction in the valley and is bounded by moderately steep abutments. The valley alluvium is composed of silt and sand; the abutments are composed of clayey, silty, medium brown till which was observed in a 20-foot exposure.

RESERVOIR

The sides of the reservoir are moderately steep, and are composed of clayey, silty till. Silty, sandy, gravelly alluvium fills the broad flat valley. A small artificial lake which once existed about half a mile upstream from the damsite on a small tributary has been drained as a result of a breach in the center part of the earth dam.

BORROW

An adequate supply of material suitable for the construction of an earth dam is available in the nearby clayey, silty till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Dalton City Site No. 9

LOCATION

Finley Creek
Center SE¼ sec. 17, T 15 N, R 3 E

GENERAL GEOLOGY

Finley Creek drains a part of the backslope of the Shelbyville moraine. The Shelbyville moraine is a broad, very gently rolling moraine with a relief of about 10 to 20 feet. Surficial soils are developed in loess deposits that mantle a thick layer of glacial material, primarily till.

DAMSITE

The abutments are vegetation- and silt-covered and have moderate slopes. The stream flows in a dredged notch 4 to 6 feet deep. A 6- to 8-foot section of light brown, silty till is exposed a short distance downstream from the proposed site.

RESERVOIR

The sides of the reservoir slope gently from the stream bank and merge with the gently rolling uplands. The valley is covered by silt and vegetation and probably is underlain by till as indicated by logs of previous borings.

BORROW

An adequate supply of suitable borrow material is available in the nearby silty till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Assumption Site No. 10

LOCATION

Mosquito Creek
SE¼ SE¼ sec. 23, T 15 N, R 1 E

GENERAL GEOLOGY

Mosquito Creek is a tributary of Spring Creek and drains the front slope of the Shelbyville moraine. The gently rolling uplands are loess covered. and have a relief of 20 to 30 feet.

Logs of previous borings indicate that at least 90 feet of silty, sandy, clayey till underlies the upland areas.

DAMSITE

The gently sloping abutments are covered with vegetation and merge imperceptibly with the floodplain. The stream flows in a shallow silt and sand notch in a broad vegetation- and silt-covered valley. The damsite is probably underlain by till.

RESERVOIR

The gently sloping reservoir sides are covered in most places. About 1000 feet upstream from the damsite a 15-foot section of medium brown, silty, clayey till crops out on the left side of the valley. At this location a medium gray, clayey colluvium is exposed in the valley bottom.

BORROW

Material suitable for borrow is available in the nearby till.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 1, 1964 County Macon

Quadrangle Dalton City Site No. 11

LOCATION

Long Grove Creek
Center SW¼ sec. 13, T 14 N, R 2 E

GENERAL GEOLOGY

Long Grove Creek is an intermittent stream draining a part of the front slope of the Shelbyville moraine. The uplands are very gently rolling and have a relief of 10 to 20 feet.

Logs of previous borings indicate the thickness of glacial material, primarily till, to be approximately 150 feet.

DAMSITE

The stream flows in a 4- to 6-foot notch composed of dark gray silt and loess. A road cut near the right abutment exposes 5 feet of moderate brown loess. Materials underlying the loess were not exposed; however, boulder erratics were common and probably indicate that the underlying materials are primarily till. Both abutments have gentle slopes.

RESERVOIR

The broad, gently sloping sides of the reservoir are vegetation- and silt-covered. A pipeline crosses the stream valley about half a mile upstream from the damsite.

BORROW

Suitable material for the construction of an earth dam is probably available in the underlying till. The upper parts of the loess are not suitable for construction purposes.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Lacon Site No. 1

LOCATION

Tributary Crow Creek
SE¼ NE¼ sec. 22, T 13 N, R 9 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Crow Creek and drains a part of the Illinois River bluff about 4 miles west of Henry. The stream is located on the backslope of the Normal moraine, and the gentle topography has relief of about 10 to 20 feet. Logs of previous borings indicate that soil, lake silts, and loess may underlie the upland areas to depths of as much as 18 feet.

Marshall County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance. Coal reserves exist beneath the proposed reservoir.

DAMSITE

The right abutment has a moderate slope and the left abutment has a moderately steep slope. Bedrock crops out at about elevation 530. A layer of gravel separates the bedrock surface from the overlying till. This gravel may be continuous in this area.

RESERVOIR

The sides of the valley have moderate slopes which consist of till underlain by gravel. As much as 20 feet of loess covers the upland area.

BORROW

Suitable material for borrow is available in the nearby till.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Lacon Site No. 2

LOCATION

Thenius Creek
NE¼ SW¼ sec. 11, T 12 N, R 9 E

GENERAL GEOLOGY

Thenius Creek is an intermittent tributary of Illinois River and drains a part of the Illinois River bluffs north of Sparland. The stream drains part of the gently rolling backslope of the Normal moraine. The relief of the upland areas is about 20 to 30 feet. As much as 20 feet of loess covers the upland areas. Coal has been mined from beneath a part of the reservoir area. Logs of previous borings in the vicinity of the reservoir indicate that the thickness of glacial material above the bedrock surface is about 60 feet, that this material includes about 40 feet of glacial till resting on coarse sand and gravel, and that this sequence in turn is overlain by loess.

DAMSITE

The stream flows on bedrock in a shallow notch. Both abutments are moderately steep and bedrock was observed to cropuout to about the height of the proposed reservoir. Gravel and then till overlie the bedrock surface.

RESERVOIR

The valley has a narrow somewhat meandering flat bottom consisting primarily of weathered bedrock with some alluvial silts and sands. The sides are moderately steep in the downstream parts of the valley and gently sloping in the upstream parts of the valley. A tailings pile from previous mining activities is located about half a mile upstream from the damsite, indicating the possible presence of open shafts in the area.

BORROW

Suitable material for borrow is probably available in the upland till areas.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Serious leakage may occur through underground workings of previous coal mines.if these cannot be sealed from the reservoir. An investigation of the presence of possible avenues of leakage through the gravels that overlie the bedrock surface is necessary before the feasibility of the site is ascertained.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Lacon Site No. 3

LOCATION

Tributary Illinois River
SE¼ NE¼ sec. 15, T 12 N, R 9 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Illinois River near Sparland and drains part of the gently rolling backslope of the Normal moraine. The relief of the upland areas is about 20 to 30 feet. As much as 20 feet of loess covers the upland areas. Coal has been mined from beneath a part of the reservoir area. Logs of previous borings in the vicinity of the reservoir indicate that the depth of glacial material above the bedrock surface is about 60 feet, that this material includes about 40 feet of glacial till resting on coarse sand and gravels, and that this sequence in turn is overlain by loess.

DAMSITE

The stream flows in a bedrock notch 6 feet deep composed of weathered bedrock on the bedrock surface. The abutments both have moderately steep slopes and appear to be underlain by the same bedrock that crops out in about the lower one third of each slope. The upper part of the abutments are composed of reddish brown till capped by a few feet of loess and separated from the underlying bedrock surface by a silty, gravelly horizon.

RESERVOIR

In the area of the proposed reservoir the valley has a configuration of that of a stream in late youth. The upland areas are underlain by till overlying the shallow bedrock surface. A mine dump located about half a mile west of the damsite indicates the possible existance of an open shaft in the vicinity of the reservoir.

BORROW

Material suitable for borrow is probably available in the nearby upland till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The existence of open shafts in a reservoir area may make it difficult or impossible to prevent serious leakage from the reservoir.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Bradford Site No. 4

LOCATION

Senachwine Creek
SW¼ SE¼ sec. 7, T 12 N, R 9 E

GENERAL GEOLOGY

Senachwine Creek is a tributary of Goose Lake and drains a part of the backslope of the Metamora moraine and the area between the Metamora and the Normal moraines. The height of Metamora moraine is as much as 200 feet above the level of Senachwine Creek in the area of the reservoir. The log of a previous boring about half a mile east of the damsite is as follows:

Materials	Depth in feet
Soil, black	2
Clay, yellow	13
Clay, blue	57
Sand, coarse	60
End of boring	

The bedrock surface elevation is indicated on the bedrock surface map to be between 650 and 700 feet.

DAMSITE

Both abutments have moderate slopes, and the following section was observed on the right abutment:

Materials	Thickness in feet
Loess	1 - 2
Till, clayey, reddish-brown	12
Siltstone	8
Bottom covered	

The stream flows in a notch 5 to 6 feet deep composed of alluvial silts resting on exposed bedrock.

RESERVOIR

The valley configuration is that of a stream in youth in the vicinity of the proposed reservoir. The geology of the uplands is probably similar to that observed in the abutments. A nearby roadcut exposed about 8 feet of fine sand and coarse gravel capped by 1 to 2 feet of loess indicating the possible presence of local sand and gravel deposits.

BORROW

The nearby clayey till is probably suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Serious siltation of the proposed reservoir area is likely to occur owing to the kind of materials present in the watershed and because of the rationbetween the watershed area and the proposed reservoir area.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Dunlap Site No. 5

LOCATION

Little Senachwine Creek
SW¼ NE¼ sec. 26, T 12 N, R 8 E

GENERAL GEOLOGY

Little Senachwine Creek is a tributary of Senachwine Creek and, in the vicinity of the damsite, drains a part of the backslope of the Metamora moraine. The height of the Metamora moraine is about 150 feet above the level of the stream. Surficial soils are developed in loess which blankets the moderately rolling topography. According to the bedrock surface map, the elevation of the bedrock is about 650 to 700 feet.

DAMSITE

The stream flows in a notch 8 feet deep composed of coarse sand and gravel. The following section is exposed on the left abutment.

Materials	Depth in feet
Loess, buff brown	6
Silt, gravelly	2
Till, reddish brown	12
Bottom covered	

The abutments have moderate to strong slopes.

RESERVOIR

The valley configuration is that of a stream in youth, and the materials underlying the valley sides are probably similar to that in the abutments. The sides have moderate to gentle slopes. A roadcut in the upper part of the valley exposes about 6 feet of sandy silts overlain by 2 feet of loess.

BORROW

Suitable material for the construction of an earth dam is probably available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Lacon Site No. 6

LOCATION

Shaw Creek
Center SE¼ sec. 12, T 30 N, R 2 W

GENERAL GEOLOGY

Shaw Creek is an intermittent tributary of Sandy Creek and drains a part of the gently rolling topography of the front slope of the Outer Cropsey moraine. Surficial soils are developed in loess which mantles the upland areas. The relief of the uplands is about 10 to 20 feet. As much as 250 feet of glacial material covers the bedrock surface.

Marshall County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

A log of a previous boring about two miles west of the damsite indicates that about 130 feet of clay overlies the porous Sankoty sand bed.

DAMSITE

The stream channel is a 5-foot notch composed of sand and gravel. Sand and gravel terraces are also present in the floodplain area. The abutments are steep and consist of chocolate brown till, as exposed on the right abutment, capped by about 2 to 3 feet of loess.

RESERVOIR

The sides of the stream valley have moderately steep slopes and probably consist of the same materials that are found in the abutments. The presence of the chocolate brown till was observed about one mile upstream from the damsite on one of the sides of the tributary creek valley.

BORROW

Suitable material for the construction of an earth dam is available in the nearby chocolate brown till.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County Marshall

Quadrangle Wenona Site No. 7

LOCATION

Tributary Sandy Creek
North Line sec. 16, T 30 N, R 1 W
NOTE: Used written description and not location as shown on map.

GENERAL GEOLOGY

The stream is a tributary of Sandy Creek and drains a part of the Outer Cropsey moraine near Varna. The relief of the gently rolling uplands is about 20 to 30 feet. Surficial soils are developed in loess which blankets the area to a depth of 2 to 3 feet. The log of a previous boring located about a mile south of the damsite is as follows:

Material	Depth in feet
Dirt, black	2
Clay, yellow	17
Clay, gray	24
Clay, green	38
Clay, gray	51
Clay, sand, gravel	69
Clay, gray	111
Sand and gravel	120

The depth of glacial material overlying the bedrock surface is about 100 to 150 feet. Previous reports concerned with the geology of Sandy Creek indicate that the morainal materials along the valley sides overlie extensive sand and gravel deposits. It is not known how far up the tributaries these gravel deposits may extend.

Marshall County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The abutments have moderate slopes composed of chocolate brown till. The stream has no definite floodplain and flows in a 5-foot notch.

RESERVOIR

The proposed reservoir is a valley with moderate to gently sloping sides consisting primarily of brown till.

Marshall County
Site No. 7

BORROW

The nearby chocolate brown till is suitable material for borrow.

OPINION

The site is considered probably feasibie subject to verification by an adequate program of test boring and materials testing. Serious leakage may occur through underlying sand and gravel deposits if they are exposed at the damsite or in the proposed reservoir area.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County Marshall

Quadrangle Wenona Site No. 8

LOCATION

Judd Creek
NE¼ SW¼ sec. 7, T 30 N, R 1 E

GENERAL GEOLOGY

Judd Creek is a tributary of Sandy Creek and drains a part of the area located within the complex depositional pattern of the Cropsey moraine. The upland areas are loess covered and have relief of 20 to 30 feet. According to the bedrock surface map, the elevation of the bedrock is about 600 feet. Bedrock crops out in Sandy Creek valley about two miles east of the damsite. The log of a previous boring located nearby in the upland is as follows:

Materials	Depth in feet
Clay, yellow, soft	10
Clay, blue	56
Sand	66
Hardpan	100
Clay, red	103
Clay, soft, shaly	106

DAMSITE

The stream channel is a shallow notch composed of sand and gravel. Both abutments have moderate slopes, and, as observed in nearby exposures, are composed of brown, clayey till. The stream valley is narrow at this point and has no floodplain.

RESERVOIR

The reservoir is a narrow, V-shaped valley and has the configuration of that of a youthful stream. The sides of the valley have moderate to gentle slopes and are composed of brown, clayey till capped by one to two feet of loess.

BORROW

Suitable material for the construction of an earth dam is available in the nearby clayey till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. If gravel deposition extends upstream to this point, serious leakage may occur beneath the dam. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County = Marshall

Quadrangle Wenona Site No. 9

LOCATION

Tributary of Sandy Creek
SE¼ SE¼ sec. 10, T 30 N, R 1 E

GENERAL GEOLOGY

The stream is an intermittent tributary of Sandy Creek and drains a part of the area located within the complex depositional pattern of the Cropsey moraine. The gently rolling topography is mantled by surficial soils which are developed in the loess which blankets the area. The relief of the upland areas is about 20 to 30 feet. About 75 to 100 feet of glacial material, primarily till, overlies the bedrock surface. Bedrock crops out along Sandy Creek valley about a mile north of the damsite. Lenses of silt and sand outwash may occur locally because of the complex morainal deposition. Parts of the coal beds underlying the Wenona area have already been mined out.

DAMSITE

Both abutments have moderate slopes and are probably underlain by medium gray, clayey till as observed in nearby exposures. The stream channel was dry at the time of examination. The 4- to 6-foot notch was composed of alluvial silt and some colluvial materials.

RESERVOIR

The valley sides have moderate to gentle slopes and are composed of medium gray, clayey till mantled by loess. About 15 feet of this till is exposed in an outcrop about half a mile upstream from the damsite. According to mined-out coal maps the reservoir area does not overlie mined-out areas.

BORROW

The nearby clayey till is probably suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 23, 1964 County Marshall

Quadrangle Metamora Site No. 11

LOCATION

Pigeon Creek
Center SE¼ sec. 18, T 29 N, R 2 W

GENERAL GEOLOGY

Pigeon Creek is an intermittent tributary of Babb Slough and drains a part of the Illinois River bluff northeast of Chillicothe. The upland topography is covered with loess and is very gently rolling. The stream overlies the main part of a major bedrock valley. As much as 350 feet of glacial material is deposited in this region.

Marshall County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious materials. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

The log of a previous boring made in this vicinity indicated that about 60 feet of till overlies porous sand and gravel which extend to a depth of 110 feet.

DAMSITE

The abutments have steep slopes and consist of dark brown till capped by loess. The stream channel is about 4 feet deep and is composed of sandy silt with some coarse gravel. The floodplain is narrow at this location.

RESERVOIR

The valley sides are steep to strongly sloping and are underlain primarily by chocolate brown till as observed in nearby exposures. The reservoir area is heavily wooded; loess covers most of the underlying materials. The stream valley has very little floodplain area.

BORROW

The nearby chocolate brown till is probably suitable for construction of an earth dam.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

P. B.DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Marshall

Quadrangle Metamora Site No. 12

LOCATION

Tributary of Snag Creek
SE¼ SW¼ sec. 35, T 29 N, R 2 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Snag Creek and drains a part of the glacial deposits between the Outer Cropsey moraine and the Normal moraine near Washburn. Surficial soils are developed in the loess that blankets the nearly flat upland topography. A previous boring located about half a mile north of the damsite indicates that 117 feet of drift, primarily till,overlies 217 feet of sand and gravel. The proposed reservoir is located over an ancient bedrock river valley.

DAMSITE

The stream channel is a shallow notch in silt. The soil and loess covered abutments are probably underlain by till and have moderate to gentle slopes.

RESERVOIR

The proposed reservoir is a gently sloping valley that is loess covered and underlain by till.

BORROW

Suitable material for borrow is probably available in the underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Marshall

Quadrangle Minonk Site No. 13

LOCATION

South Branch Hallenback Creek
West Line sec. 21, T 29 N, R 1 W

GENERAL GEOLOGY

South Branch Hallenback Creek is a tributary of Crow Creek and drains a part of the front slope of Outer Cropsey moraine south of LaRose. The gently rolling topography has relief of 20 to 30 feet and is generally loess covered. According to the bedrock surface map, the stream is located on the slope of a major bedrock valley and ~~that~~ the bedrock surface elevation is probably about 550 feet. A previous report concerned with a proposed damsite on North Branch Crow Creek at LaRose indicates that the narrow neck of land between North Branch Crow Creek and South Branch Hallenback Creek at the proposed damsite location is probably underlain by continuous gravel. Outwash materials derived from the Outer Cropsey moraine may be present in this area.

DAMSITE

The road crossing the abutment areas exposes silty, gravelly, glacial deposits. The stream channel is a 3- to 4-foot notch composed of alluvial silt with a sand bottom.

RESERVOIR

The valley has a configuration of a mature stream. The valley sides have moderate slopes which may be underlain by till. It has been previously reported that gravel deposits do not extend this far east, and it was not determined whether sand or other porous silt materials underlie this area.

BORROW

Till deposits may be found nearby which would probably be suitable for the construction of an earth dam.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Serious leakage would probably occur through the porous gravel deposits located along the right abutment and right side of the proposed reservoir and also beneath the reservoir area. An investigation of the rate of siltation would be helpful in determining the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Mason

Quadrangle Pittsburg Site No. 1

LOCATION

Tributary of Sangamon River
NW¼ NW¼ sec. 31, T 20 N, R 6 W

GENERAL GEOLOGY

The stream is a short, intermittent tributary of Sangamon River and drains the Illinoian glacial deposits which form the north bluff of the Sangamon valley. The upland topography is hummocky and has relief of about 20 to 30 feet. The proposed reservoir lies on the south side of a large bedrock valley, and glacial material, primarily till, may be as much as 250 feet thick. Logs of previous borings in the vicinity of the site indicate at least 200 feet of material overlying the bedrock surface. Wisconsinan outwash materials may also be present in this part of Mason County.

DAMSITE

The stream bed at the time of examination was dry and consisted of a 3- to 4-foot notch composed of buff-colored silt within a small floodplain. The left abutment has a steep slope and consists of 30 feet of cross-bedded, well-sorted sand and coarse gravel capped by 6 feet of buff-colored loess. Other exposures of sand and gravel were observed along the north bluffs of the Sangamon River-Salt Creek valley both east and west of the proposed damsite.

RESERVOIR

A layer of loess about 6 feet deep covers the upland areas and the underlying materials are hidden. The valley is short and narrow, and the sides have moderately steep slopes. Several lakes shown on the topographic map in the vicinity of the proposed reservoir may indicate that impermeable material underlies the upland areas.

BORROW

Material suitable for use as borrow appears to be scarce near this damsite. More clayey material may be found in the upland areas either in the lower weathered part of the loess or in an underlying till deposit.

OPINION

The site is probably not feasible, but this is subject to verification by an adequate program of test boring and materials testing to determine the extent and detailed characteristics of the permeable deposits.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Mason

Quadrangle Mason City Site No. 2

LOCATION

Tributary of Salt Creek
SW¼ SE¼ sec. 19, T 20 N, R 5 W

GENERAL GEOLOGY

This stream is an intermittent tributary of Salt Creek and drains the front slope of the Illinoian Buffalo Hart moraine south of Mason City. The gently rolling uplands have relief of about 20 to 30 feet. The depth to bedrock as indicated by the bedrock surface map is greater than 100 feet. The following record is from the log of a boring at Mason City:

	Thickness in feet
Loam	5
Clay, yellow	25
Sand, clayey, yellow	25
Sand, fine	30
Quicksand	8
Clay, blue	6
Sand, coarse, water-bearing	31
Sand, fine, yellow	65
Sand, dark, and bouldered	57
Bedrock	
Bottom of hole	

DAMSITE

The abutments have moderate slopes and are composed of buff loess. At the time of the examination the streambed was dry. The stream flows in a notch 4 to 6 feet deep in an alluvial silt.

RESERVOIR

The valley sides have moderate slopes which are composed of loess. Local farming practice is to till the lands adjoining the streambed wherever it is possible.

BORROW

The nearby clayey loess may be used for borrow material if the proper control is exercised in the building of the embankment.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Petersburg Site No. 1

LOCATION

Clary Creek
SE¼ SW¼ sec. 27, T 19 N, R 8 W

GENERAL GEOLOGY

Clary Creek is a tributary of Sangamon River and with Little Grove Creek drains the loess-covered Jacksonville drift south of Oakford. The upland topography has relief of 10 to 20 feet, and the valleys are cut about 100 feet below the uplands. Previous field observations in the vicinity of the site indicate the glacial materials consist of till overlain by a thick layer of loess. Sand and gravel deposits overlying some parts of the Illinoian till are probably Wisconsinan outwash materials. Abandoned coal mines are present in the upper part of the proposed reservoir.

DAMSITE

The stream flows in a notch 5 to 6 feet deep in silt. The abutments are composed of till capped by about 20 feet of buff loess. Parts of the till are covered by local sand deposits 5 to 10 feet thick. The length of the proposed dam is approximately 400 feet, and the top of the structure would probably lie below the till-loess contact.

RESERVOIR

The valley sides have moderate to steep slopes and consist of loess and drift resting on an irregular bedrock surface. The loess is draped into the valley and is thinly deposited on the slopes.

BORROW

The till is suitable for use as borrow and is available in sufficient quantity in the vicinity of the proposed site.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Petersburg Site No. 2

LOCATION

Little Grove Creek
SE¼ NE¼ sec. 35, T 19 N, R 8 W

GENERAL GEOLOGY

Little Grove Creek is a tributary of Clary Creek and with Clary Creek drains the loess-covered Illinoian drift plain south of Oakford. The Relief of the uplands is about 10 to 20 feet and the valley bottoms are as much as 100 feet below the uplands. Silt, probably loess, 20 feet thick rests on till which in turn is deposited on an irregular bedrock surface. Wisconsinan outwash sands and gravels occur as local deposits on the Illinoian drift.

DAMSITE

The narrow floodplain is bounded by steep valley sides. The loess is draped over the till and the bedrock. The contact between the till and the loess is not horizontal but slopes to the uplands. The stream flows in a notch 6 feet deep composed of valley silt and alluvium.

RESERVOIR

The flow of the stream is intermittent in the upper half of the proposed reservoir. The floodplain is narrow and the sides of the valley are moderately to steeply sloping. Till underlies the uplands, and the loess covering ranges from 5 to 25 feet deep.

BORROW

A supply of till suitable for use as borrow is available nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Petersburg Site No. 3

LOCATION

Tar Creek
NW¼ NW¼ sec. 17, T 19 N, R 7 W

GENERAL GEOLOGY

Tar Creek is a minor tributary of Sangamon River east of Oakford and drains a part of the Illinoian drift plain. The upland topography is gently undulating. Wisconsinan outwash materials are deposited in this area. Logs of previous borings indicate that the thickness of glacial drift is about 200 feet.

DAMSITE

The stream flows in a notch about 6 feet deep in alluvial silt. The abutments have moderate slopes and are composed of loess and sand. A medium to fine-grained, light brown, well sorted sand 3 to 4 feet thick rests on light gray loess along the right abutment and a 15- to 20-foot section of sand is exposed on the left abutment. The extent of these deposits should be determined.

RESERVOIR

The stream is intermittent upstream from the proposed damsite. The creek has no floodplain and the sides of the valley slope moderately to the uplands. The slopes are covered with vegetation and loess which blankets the underlying materials.

BORROW

Suitable material for the construction of a dam is scarce in the vicinity of this damsite. Weathered portions of the loess may be utilized, and till may be located underlying the loess cover. Exploration for suitable borrow areas will be necessary.

OPINION

The site is considered probably not feasible, but this is subject to verification by an adequate program of test boring and materials testing. The extent of the porous deposits at the proposed site must be ascertained if the site is considered for development.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Petersburg Site No. 4

LOCATION

Concord Creek
SW¼ SE¼ sec. 22, T 19 N, R 7 W

GENERAL GEOLOGY

Concord Creek is a minor tributary of Sangamon River and drains the nearly flat Illinoian drift plain east of Atterbury. Previous borings near the proposed reservoir indicate that the glacial drift, primarily silt and till, is more than 200 feet thick. A sand and gravel horizon occurs at a depth of 75 to 100 feet. The site is located on the front slope of the Buffalo Hart moraine.

DAMSITE

The stream flows in a notch dredged 6 to 10 feet deep in alluvial silt. The abutments are blanketed with light gray loess and covered with vegetation. The lower 1 to 2 feet of the right abutment consists of a dark brown, silty, clayey material, possibly the top of the underlying till. The abutments have moderately steep slopes.

RESERVOIR

The floodplain is narrow and consists of alluvial silts. The valley sides have moderate slopes and the underlying materials are blanketed by loess and covered with vegetation.

BORROW

Adequate quantities of suitable materials for construction of an earth dam may be available if the weathered loess is utilized. Till is not exposed but it probably would be suitable if an adequate quantity can be located nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing and to the proving of an adequate quantity of suitable borrow.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Mason City Site No. 7

LOCATION

Grove Creek
Ctr. S½ sec. 25, T 19 N, R 6 W

GENERAL GEOLOGY

Grove Creek is a tributary of Salt Creek and drains a part of the loess-covered Buffalo Hart moraine southeast of Greenview. Surficial soils are developed in loess which mantles the gently rolling topography. Wisconsinan sand and gravel outwash is present in the area. Logs of previous borings in the area indicate that the bedrock surface lies only a few feet below the bottom of the stream. Bedrock crops out at the surface in Indian Creek valley about 4 miles south of the damsite.

DAMSITE

The stream flows in a notch cut about 6 feet deep in alluvial silt. Bedrock was not observed to crop out in Grove Valley. The moderately sloping abutments are blanketed with loess and covered with vegetation.

RESERVOIR

The sides of the valley have moderate to gentle slopes and the floodplain is narrow. Loess and vegetation hide the underlying materials; however, a previous boring nearby indicates that 10 feet of loess overlies 15 feet of till which rests on the bedrock surface.

BORROW

Material suitable for use as borrow is available nearby in the underlying till and in the weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. A small part of the reservoir has been mined out. If the site is considered for development, the location and extent of the mined-out area must be determined.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Menard

Quadrangle Tallula Site No. 9

LOCATION

Halls Branch
Ctr. NE¼ sec. 34, T 18 N, R 6 W

GENERAL GEOLOGY

Halls Branch is a tributary of Sangamon River and drains a part of the loess-covered, very gently rolling Illinoian drift plain. The upland topography has relief of about 10 feet. Previous field reports indicate that local sand and gravel deposits, probably Wisconsinan outwash materials, are exposed overlying loess, and that the loess in turn rests on till. A small part of the proposed reservoir extends over an area of mined-out coal.

DAMSITE

The abutments are exposed at the damsite, and outwash materials are not present. The moderate to gentle slopes consisted of dark brown, pebbly till capped by about 15 feet of buff loess. The stream flows in a very narrow floodplain in a 5-foot notch in alluvial silt.

RESERVOIR

The valley sides have moderate slopes and are composed of till mantled by loess. The stream does not have a well-developed floodplain in the reservoir area.

BORROW

Adequate quantities of clayey till suitable for construction of an earth dam can be located nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Menard

Quadrangle Tallula Site No. 11

LOCATION

Rock Creek
SW¼ SW¼ sec. 9, T 17 N, R 6 W

GENERAL GEOLOGY

Rock Creek is a tributary of Sangamon River and drains part of the gently undulating Jacksonville moraine. Surficial soils are developed in the thick loess deposits that blanket the moraine. The relief of the uplands is about 10 to 20 feet. Previous field investigations indicate the presence of bedrock along the west bluff of Sangamon River half a mile north of the damsite and at a second location about 4 miles upstream from the damsite east of Loyd.

DAMSITE

The abutments have moderate slopes and contain a bluff loess about 12 feet thick resting on more than 6 feet of dark reddish-brown loess. The stream flows in a 6-foot notch cut in the alluvial silts, sands, and gravel.

RESERVOIR

The stream bottom lies 50 to 60 feet below the uplands in a flat floodplain bounded by moderately sloping sides. The underlying materials are hidden by loess and vegetation, but a local resident reported that a nearby well encountered 40 to 50 feet of hardpan which may be till.

BORROW

The more clayey parts of the loess and possibly the underlying hardpan may be utilized for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The construction of the embankment to form Lake Petersburg required the excavation of weathered bedrock to insure a suitable foundation.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Menard

Quadrangle Talula Site No. 12

LOCATION

Tributary of Sangamon River
Ctr. NE¼ sec. 35, T 18 N, R 7 W

GENERAL GEOLOGY

This intermittent stream is a minor tributary of Sangamon River and drains a part of the Illinoian drift plain. The lower part of the stream passes through and is the drainage system for New Salem State Park. The proposed reservoir is about the same size as Lake Petersburg which is located a mile north. Geological conditions probably are similar at both sites.

DAMSITE

The stream flows at or near the bedrock surface, and the bottom debris consists of shale fragments and alluvial silts. The abutments have moderately steep slopes and appear to be composed of loess underlain by bedrock. Although till was not observed at the site, it may be hidden by loess draped over it.

RESERVOIR

The valley sides slope moderately steeply and consist primarily of loess. As much as 15 to 20 feet of loess covers the till or bedrock in the uplands. An abandoned mine shaft is present downstream from the damsite, but no mining activity was observed in the reservoir area. The extent of mined-out areas beneath the proposed reservoir would have to be determined if the project is considered for development.

BORROW

An adequate quantity of suitable borrow material can probably be obtained from the weathered loess in areas nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. A study of the construction of the Lake Petersburg dam and the operation experience of the reservoir would prove helpful if this site is considered for development.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Menard

Quadrangle Tallula Site No. 13

LOCATION

Tributary of Clary Creek
Ctr. NE¼ sec. 1, T 17 N, R 8 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Clary Creek and drains a part of the loess-covered Illinoian drift plain north and west of Tallula. The relief of the uplands is about 10 feet. Logs of previous borings indicate about 10 feet of buff loess resting on dark brown clay till.

DAMSITE

The stream flows in a 5-foot notch with a silt bottom and dark brown till or colluvium banks. The abutments have moderate slopes. At the time of the examination, a portion of the left abutment was being excavated for foundation fill exposing the following section:

	Feet
Loess, silt, buff	5
Loess, clayey, reddish brown	6
Till, clayey, pebbly, dark brown; base not exposed	3

RESERVOIR

The valley has no floodplain, and the sides have moderate to gentle slopes. Till probably underlies the layer of loess covering the area.

BORROW

The till and the clayey parts of the loess are suitable for the construction of an earth dam. Borrow areas can be developed in these materials nearby.

OPINION

The site is considered geologically feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 1964 County Mercer

Quadrangle Edgington Site No. 1

LOCATION

Eliza Creek
NE¼ sec. 29, T 15 N, R 5 W

GENERAL GEOLOGY

Eliza Creek is a major stream in northwestern Mercer County and drains an area of loess- and till-covered bedrock. The uplands are gently rolling and have relief of 20 to 30 feet. The depth to bedrock exceeds 100 feet.

DAMSITE

The abutments slope steeply to the uplands. The lower 10 to 15 feet of the left abutment is composed of orange-brown, silty, fine to medium sand. The sand is capped by tan, sandy silt (loess). The right abutment is covered with vegetation, but is probably composed of material similar to that of the left abutment.

The stream flows in a 6- to 8-foot notch in the floodplain which is approximately 400 to 500 feet wide and lies 40 to 50 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of dark brownish-gray, silty, fine to medium sand. The valley walls are composed of brown, sandy, clayey silt which grades downward to mottled gray and brown, silty, fine sand. The valley walls are moderately to steeply sloping.

BORROW

Material suitable for construction of an earth dam is scarce in this area. The floodplain alluvium is not suitable for borrow. Because of the scarcity of suitable borrow materials, some type of dam other than a rolled-earth embankment may be more practicable.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary in order to determine the nature and extent of the sand in the abutments and in the valley walls.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 1964 County Mercer

Quadrangle Keithsburg Site No. 2

LOCATION

Camp Creek
NE¼ sec. 5, T 14 N, R 4 W

GENERAL GEOLOGY

Camp Creek, located in west-central Mercer County, is a tributary of Edwards River and is a major stream in this area. The stream drains an area of loess-covered Pennsylvanian sediments. The gently rolling uplands have relief of 20 to 30 feet. The depth to bedrock is approximately 20 feet according to exposures along the valley walls.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain which is approximately 500 to 600 feet wide and lies 40 to 50 feet below the uplands.

The abutments are moderately sloping. The lower 15 feet of the left abutment is composed of mottled blue, gray, and brown, soft, thinly laminated, shaly siltstone. The siltstone is capped with light reddish-brown, sandy, clayey silt (loess). The right abutment is covered with vegetation in most places. Lo Loess is exposed where vegetation is sparse or absent.

RESERVOIR

The floodplain alluvium consists of dark, brownish-gray, silty, fine sand. The valley walls are composed primarily of loess-mantled Pennsylvanian sediments. About a quarter of a mile east of the damsite the following section is exposed in a road cut:

Buff, fine to medium grained, thinly bedded sandstone -	4 ft.
Gray to dark gray, soft, thinly laminated shale. Well-w well-weathered near the top -	8 ft.
Coal, base not exposed -	1 ft.

The valley walls have moderate slopes.

BORROW

Sufficient quantities of suitable borrow material are not present in the area. The floodplain alluvim is probably not suitable for borrow.

OPINION

The site is probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation should be made to determine the possibility of leakage through the sandstone present in the valley walls. There are two abandoned mine tipples about one and one-half miles east of the damsite near the reservoir area. The extent of the mining operations in the area must be determined in the course of consideration of this project.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 10, 1964 County Mercer

Quadrangle Alexis Site No. 4

LOCATION

Tributary of Donohue Run
N½ sec. 12, T 14 N, R 2 W

GENERAL GEOLOGY

This tributary of Donohue Run, located in east-central Mercer County, is a minor stream and drains an area of loess- and till-covered Pennsylvanian sediments. The gently rolling uplands have relief of 20 to 30 feet. The surficial material is loess and glacial drift, primarily till. The depth to bedrock is probably less than 50 feet.

DAMSITE

The right abutment is composed of tan to light brown, sandy, clay till capped by light brown, sandy silt (loess). Only the loess is exposed in the left abutment. Both abutments are covered with vegetation in most places and both have gentle slopes.

The stream meanders in a 4- to 5-foot notch in the floodplain which is 100 to 150 feet wide and lies 30 to 40 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy, clayey silt. The valley walls slope moderately to the uplands and are composed of till and loess similar to that of the abutments.

BORROW

A sufficient quantity of till suitable for borrow material can be obtained from the nearby uplands and reservoir sides. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 25, 1964 County Mercer

Quadrangle Woodhull Site No. 5

LOCATION

Tributary of Parker Run
NE¼ sec. 2, T 14 N, R 1 W

GENERAL GEOLOGY

The tributary of Parker Run is a minor stream in this area and drains an area in which the surficial materials are loess and till. The uplands are very gently rolling. The depth to bedrock is less than 25 feet in some places, according to an exposure of sandstone downstream from the damsite.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain. The floodplain is 200 to 300 feet wide and lies 30 to 40 feet below the uplands.

The abutments are composed of mottled brown and gray, sandy, clay till and are capped with tan to brown, sandy, clayey silt (loess). Bedrock probably lies at shallow depth.

RESERVOIR

The floodplain is covered with dark brown, sandy, clayey, alluvial silt. The valley walls have moderate slopes and are composed of soft weathered shale which is overlain by till.

BORROW

Sufficient quantities of till which can be used for borrow material can be obtained from the valley sides and from the uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The characteristics of the bedrock must be ascertained.

Illinois State Geological Survey
Urbana, Illinois

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PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 25, 1964 County Mercer

Quadrangle Woodhull Site No. 6

LOCATION

Tributary of Pope Creek
NW¼ sec. 35, T 14 N, R 1 W

GENERAL GEOLOGY

The stream is a minor tributary of Pope Creek and drains an area of loess-covered till. The uplands are flat to very gently rolling. The surficial material is primarily loess, although some till is exposed. The depth to bedrock is probably less than 100 feet according to logs of borings made previously in the area.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 200 to 300 feet wide and is 40 to 50 feet below the uplands.

The abutments are composed of tan to brown, sandy clay till and are capped by tan to brown, very sandy silt (loess). Both abutments have moderate slopes.

RESERVOIR

The floodplain is covered with dark brown to dark grayish-brown, clayey, alluvial silt. The valley walls are moderately sloping and are composed of till and loess similar to that found in the abutments.

The Hazel Dell coal mine has workings which extend under the upper portion of the reservoir.

BORROW

Sufficient quantities of till which can be used for borrow material are present in the nearby uplands.

OPINION

The site is considered probably not feasible because of the presence of coal mine workings beneath part of the reservoir.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1964 County Mercer

Quadrangle Alexis Site No. 7

LOCATION

Nigger Run
NE¼ sec. 28, T 14 N, R 2 W

GENERAL GEOLOGY

Nigger Run, located in central Mercer County, is a tributary of Pope Creek and a minor stream in this area. The stream drains an area of loess- and till-covered Pennsylvanian sediments. The uplands are very gently rolling. The surficial material is loess and glacial drift, primarily till. The depth to bedrock is probably less than 100 feet according to logs of borings made previously in this area.

DAMSITE

The stream meanders in an 8- to 10-foot notch in the floodplain. The floodplain is approximately 150 to 200 feet wide and lies 20 to 30 feet below the uplands.

The abutments are covered with vegetation in most places, but in the left abutment light brown, sandy, clayey silt (loess) is exposed where the cover is sparse. Both abutments have gentle to moderate slopes.

RESERVOIR

The floodplain alluvium consists of dark brown, silty sand. In some places sand and sandy gravel are exposed beneath the alluvium. The valley walls are composed of light brown, sandy clay till which is capped by loess. The valley walls slope moderately to the uplands.

BORROW

A sufficient quantity of till suitable for borrow material can be obtained from the nearby uplands and reservoir sides. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably not feasible partly because of the presence of sand and gravel beneath the floodplain alluvium and the possibility of leakage through it and partly because a mined-out area extends beneath a large portion of the reservoir.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1964 County Mercer

Quadrangle Alexis Site No. 8

LOCATION

Dugout Run
SW¼ sec. 30, T 14 N, R 2 W

GENERAL GEOLOGY

Dugout Run, located in central Mercer County is a tributary of Pope Creek and is a minor stream in this area. The stream drains an area of surficial loess and till underlain by Pennsylvanian sediments. The uplands are hilly with relief of 60 to 80 feet. The depth to bedrock is probably less than 50 feet according to logs of borings made previously in the area.

DAMSITE

The stream flows in a 6- to 8-foot notch in the floodplain which is approximately 300 to 400 feet wide. Both abutments are covered with vegetation but are probably similar in composition to the valley walls. The right abutment has a gentle slope; the left abutment is moderately to steeply sloping.

RESERVOIR

The floodplain alluvium consists of dark grayish-brown, silty, clayey sand. The moderately sloping valley walls are composed of light brown, sandy, clay till which becomes mottled gray and light brown with depth. The till is capped with light brown, sandy, clayey silt (loess).

BORROW

Till suitable for borrow material can be obtained in sufficient quantities from the uplands nearby and from the reservoir sides. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary in order to better determine the nature and extent of the subsurface materials. The extent of a mined-out area one and a half miles northeast of the damsite should be determined.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 7, 1964 County Mercer

Quadrangle Keithsburg Site No. 11

LOCATION

Tributary of Pope Creek
SW¼ section 5, T 13 N, R 4 W

GENERAL GEOLOGY

This stream, located in southwestern Mercer County, is a tributary of Pope Creek and a minor stream in this area. The uplands are gently rolling with relief of 20 to 30 feet. The surficial materials are loess and glacial drift, primarily till. The depth to bedrock was not determined, but is probably less than 100 feet according to logs of borings made previously in nearby areas.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 250 to 300 feet wide and lies 40 to 50 feet below the uplands.

The right abutment is composed primarily of mottled gray and brown, very sandy, clay till, and loessial soil. The upper portion of the abutment is covered with vegetation. Mottled gray and light brown, sandy, clayey silt is exposed near the base of the left abutment, and is probably underlain by glacial till. Both abutments slope moderately to the uplands.

RESERVOIR

The floodplain alluvium consists of grayish-brown, silty sand. The moderately sloping valley walls are covered with vegetation in most places, but in the few places where the cover is sparse or absent till and loess are exposed. The composition of the valley walls probably is similar to that of the abutments.

BORROW

A sufficient quantity of till suitable for use as borrow material can probably be obtained from the nearby uplands and reservoir sides. The floodplain alluvium would probably not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and sequence of the subsurface materials.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 10, 1964 County Mercer

Quadrangle Alexis Site No. 12

LOCATION

North Henderson Creek
SE¼ sec. 20, T 13 N, R 2 W

GENERAL GEOLOGY

North Henderson Creek is a tributary of Henderson Creek, in southern Mercer County and is a major stream in this area. The stream drains an area of loess- and till-covered Pennsylvanian sediments. The uplands are flat to very gently rolling with relief of 10 to 20 feet. The depth to bedrock is probably about 50 feet according to logs of borings made previously in the area.

DAMSITE

The stream flows in a 5- to 6-foot notch in the floodplain. The floodplain is approximately 400 to 500 feet wide and lies 20 to 30 feet below the uplands.

The gently sloping abutments are covered with vegetation in most places. In a small outcrop on the left abutment tan to light brown, silty sand containing many sandstone pebbles is exposed. Light brown, sandy, clayey silt (loess) is present in the right abutment. The composition of the abutments is generally similar to that of the valley walls.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy, clayey silt; the valley walls are light brown, sandy, clay till, capped by loess and are gently to moderately sloping.

BORROW

A sufficient quantity of till suitable for borrow can probably be obtained from the nearby uplands and from the reservoir walls. The floodplain alluvium probably would not be suitable for borrow material.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing to determine the nature and sequence of the subsurface materials. An abandoned mine tipple site just east of the damsite indicates that mining has been done in the area, and the extent and location of mined-out areas should be determined.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1964 County Mercer

Quadrangle Alexis Site No. 13

LOCATION

Pope Creek
SE¼ sec. 32, T 14 N, R 2 W

GENERAL GEOLOGY

Pope Creek, located in central Mercer County, is a major stream in this area and drains an area of loess- and drift-covered Pennsylvanian sediments. The uplands are very gently to gently rolling with relief of 10 to 30 feet. The surficial materials are loess and glacial drift, primarily till. The depth to bedrock is probably less than 25 feet according to exposures along the valley walls.

DAMSITE

The abutments have steep slopes. The right abutment contains the following section:

Railroad fill -	10 ft.
Light brown, clayey, sandy silt (loess) -	12 ft.
Light brown, very clayey, sandy till -	3 to 4 ft.
Mottled brown and white, soft, fine to medium grained sandstone -	3 ft.
Rusty brown, thinly bedded, silty sandstone with parting along bedding planes -	10 ft.

The left abutment is covered with vegetation but is probably similar in composition to the right abutment.

The stream flows in a 6- to 8-foot notch in the floodplain. The floodplain is approximately 300 to 400 feet wide and lies 40 to 50 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of grayish-brown, silty sand. The valley walls are composed primarily of loess and till, but some sandstone is exposed in their lower portions. The valley walls have gentle to moderate slopes.

BORROW

A sufficient quantity of till suitable for use as borrow material can probably be obtained from the nearby uplands and from the reservoir sides. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Consideration should be given to the possibility of leakage through the sandstone. The underground extent of abandoned mines near the damsite should be determined.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Morgan

Quadrangle Arenzville Site No. 1

LOCATION

Mud Creek
NE¼ NE¼ sec. 1, T. 16 N., R. 12 W.

GENERAL GEOLOGY

Mud Creek is a tributary of Indian Creek and drains a part of the left bluff of Illinois River valley. The gently rolling uplands have relief of less than 20 feet. The present valley is located on the left slope of the lower Illinois bedrock surface valley, and bedrock is indicated to crop out in the vicinity of the damsite. Logs of previous borings indicate that the uplands are underlain by about 140 feet of glacial drift, primarily till. Loess which caps the drift materials may be as thick as 20 feet. Strippable coal underlies the proposed reservoir and damsite area.

DAMSITE

The streambed was dry at the time of examination. The channel consists of a 5- to 7-foot notch in a floodplain composed of silt and sand. The floodplain is narrow, and the abutments have moderately steep slopes which are covered with vegetation and loess.

RESERVOIR

About half a mile upstream from the damsite the stream valley divides into two channels trending northwest toward the Illinois River valley and joined together by a short segment lying perpendicular to the the two valleys. Loess is draped into the valley areas and covers the underlying materials.

BORROW

Material suitable for the construction of an earth dam may be available in the underlying till or weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Particular investigation of the bluff area along Illinois River to ascertain possible areas of leakage is necessary to insure feasibility of this project.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Morgan

Quadrangle Arenzville Site No. 2

LOCATION

Tributary of Indian Creek
NE¼ NW¼ sec. 9, T. 16 N., R. 14 W.

GENERAL GEOLOGY

The stream is an intermittent dendritic tributary of Indian Creek and drains a part of the loess-covered Illinoian drift southeast of Arenzville. The upland areas have relief of about 10 to 20 feet. The log of a well located near Mt. Vernon School indicates that about 140 feet of glacial drift, primarily till, overlies the bedrock surface. Strippable coal exists beneath the proposed reservoir and damsite.

DAMSITE

At the time of examination the streambed was dry. The channel consisted of a 4-foot notch in a valley with moderately sloping sides. A thick layer of loess covers the underlying materials.

RESERVOIR

The valley has no floodplain and the sides have moderate to gentle slopes. The underlying material, probably till, is covered by a thick layer of loess and vegetation.

BORROW

The weathered loess and probably the underlying till are suitable materials for use as construction materials in an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Morgan

Quadrangle Arenzville Site No. 3

LOCATION

Little Indian Creek
SE¼ NE¼ sec. 10, T. 16 N., R. 11 W.
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GENERAL GEOLOGY

Little Indian Creek is a tributary of Indian Creek and drains a part of the gently rolling Illinoian glacial plain. Surficial soils are developed in the thick layer of loess which blankets the gently undulating topography. The relief of the uplands is about 10 to 20 feet. Logs of previous borings indicate that about 150 feet of glacial drift, primarily till, overlies the bedrock surface. Strippable coal underlies the reservoir and damsite area.

DAMSITE

The stream flows in a dredged notch composed of silt and sand alluvium lying in a broad, flat floodplain. The abutments have moderate to steep slopes and are composed of loess which drapes over the valley sides into the floodplain area. The abutments are probably underlain by till.

RESERVOIR

The watershed valley system is composed of numerous, dendritic tributaries to a central valley with a broad, flat floodplain. A previous boring about two miles upstream from the damsite along the valley side indicates that about 50 feet of alluvium is underlain by 40 feet of till. Greater depth of alluvium would be expected nearer the center of the valley. The materials underlying the loess on the valley sides is also presumed to be primarily till.

BORROW

Material suitable for the construction of an earth dam is available in the nearby weathered loess or underlying till materials.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Morgan

Quadrangle Virginia Site No. 4

LOCATION

Indian Creek
NW¼ SE¼ sec. 18, T. 16 N., R. 9 W.

GENERAL GEOLOGY

The site is located southeast of Literberry on the upper part of Indian Creek which drains the very gently rolling loess covered Illinoian drift topography. The uplands have relief of about 10 to 20 feet. The bedrock surface elevation is estimated to be at or near the base of Indian Creek. The bedrock formations are Pennsylvanian rocks of the Carbondale Group. The overlying glacial materials are about 50 to 60 feet thick and consist of Illinoian drift, primarily till, overlain by about 10 feet of loess. Strippable coal reserves underlie a part of the proposed reservoir area.

DAMSITE

The stream flows in a shallow notch within a nearly flat floodplain composed of silt and valley alluvium. The abutments have moderate to steep slopes, the upper parts of which consist of a thick layer of loess and this in turn presumably rests upon till. Bedrock was not observed in the vicinity of the proposed damsite.

RESERVOIR

The width of the broad, flat floodplain is about a quarter of a mile at the proposed damsite and narrows toward the headwaters of the stream.. Alluvial silts and sands overlie shallow bedrock in the valley bottom. The sides of the valley have moderate to gentle slopes which are covered by soil or loess at most places.

BORROW

Material suitable for the construction of an earth dam is available in the nearby underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of the proposed reservoir area would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Morgan

Quadrangle Virginia Site No. 5

LOCATION

Snake Creek
SE¼ SW¼ sec. 25, T. 16 N., R. 10 W.

GENERAL GEOLOGY

Snake Creek in the vicinity of the proposed reservoir is an intermittent tributary of Indian Creek. The upland topography is very gently undulating and has relief of about 10 to 20 feet. Thick layers of loess cover the Illinoian Jacksonville till deposits. The deposits in this area are probably about 70 feet thick.

DAMSITE

The stream flows in a 6- to 8-foot notch composed of gray silt, primarily valley alluvium. The abutments are well covered by vegetation and loess except for a small exposure on the left abutment of sandy, gravelly clay, probably till. Both abutments have moderate slopes.

RESERVOIR

The valley sides are mantled by thick layers of loess and have moderate to gentle slopes. The material underlying the loess is probably till or valley alluvium which covers the shallow bedrock.

BORROW

A sufficient quantity of till or clayey loess is available for use as borrow in the construction of an earth embankment.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Morgan

Quadrangle Arenzville Site No. 6

LOCATION

Indian Creek
NW¼ NW¼ sec. 25, T. 16 N., R. 11 W.

GENERAL GEOLOGY

Indian Creek is a tributary of Illinois River and drains a part of the west bluff area of Illinois River valley. The gently rolling uplands consist of thick loess resting upon Illinoian Jacksonville till deposits. The thickness of the glacial deposits in the vicinity of the proposed damsite may range from 50 to 200 feet. Indian Creek valley overlies a bedrock surface valley. Strippable coal underlies part of the reservoir area.

DAMSITE

The stream flows in a dredged notch 10 feet thick. The broad nearly flat floodplain is composed of alluvial sand and silt. The abutments have moderate slopes and consist of a layer of loess which appears to become more clayey at depth.

RESERVOIR

The valley has a flat bottomed floodplain lying about 100 feet below the upland area. The sides have moderate to moderately steep slopes and are loess covered. Till probably underlies the surficial loess.

BORROW

Material suitable for the construction of an earth dam is available in the nearby underlying till or clayey loess.

OPINION

Thesite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 1, 1964 County Morgan

Quadrangle Arenzville Site No. 7

LOCATION

Coon Run
Center NW¼ sec. 30, T 16 N, R 11 W

GENERAL GEOLOGY

Coon Run drains the east bluff of Illinois River valley. The site is located in the upper headwaters of this stream in an area where most of the drainage is intermittent. The uplands are gently undulating to flat and have relief of about 10 feet. A log of a previous boring in the vicinity of the site indicates that the depth of glacial materials is greater than 100 feet. These materials include a thick loess cover resting upon a layer of Illinoian Jacksonville till. Strippable coal underlies part of the proposed reservoir.

DAMSITE

The stream flows in a shallow notch composed of alluvial silt and loess. Vegetation and loess cover both abutments and appear to make up most of the material in the valley. The lower three feet in the stream channel is clayey.

RESERVOIR

The valley is located on the headwaters of Coon Creek and the slopes are moderate to gentle. Loess mantles the upland areas and is draped into the valley.

BORROW

Material suitable for the construction of an earth dam is available in the clayey loess and probably from the till underneath.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of this reservoir would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 1, 1964 County Morgan

Quadrangle Arenzville Site No. 8

LOCATION

Coon Run
SE¼ SW¼ sec. 19, T 16 N, R 12 W

GENERAL GEOLOGY

Coon Run is a tributary of Illinois River and drains a part of the east bluff of the Illinois River valley. The upland topography is gently undulating and has relief of about 10 to 20 feet. The log of a previous boring in the upland area is as follows:

Material	Depth in feet
Soil	25
Clay, yellow	55
Gravel	85
Shale, blue	110
Shale, sandy	140
Sand	155
Water sand	165

Bedrock crops out below the thick loess layer along the Illinois River floodplain. Strippable coal underlies the damsite and most of the reservoir area.

DAMSITE

The stream flows in a shallow notch in a nearly flat, narrow floodplain. The loess may be as much as 20 feet thick and is draped into the valley areas and covers the underlying materials. The abutments have moderate to steep slopes and rise 40 to 60 feet above the floodplain areas.

RESERVOIR

The valley of Coon Run consists of a narrow, flat floodplain area bounded by moderate to steep sloping sides which are mantled with vegetation and loess. The materials underlying the loess probably consist of glacial drift material, primarily till.

BORROW

Material suitable for the construction of an earth dam is available in the nearby clayey, weathered loess or underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Morgan

Quadrangle Winchester Site No. 9

LOCATION

Tributary of Willow Branch
SE¼ SW¼ sec. 19, T 15 N, R 11 W

GENERAL GEOLOGY

The stream is a short intermittent tributary of Willow Creek north of Allison Mound. The relief of the upland areas is from 10 to 20 feet except for the nearby isolated hills which rise from 40 to 60 feet above the general elevation of the uplands. Allison Mound is a bedrock high as well as a topographic high, but the mound located about 3 miles east of the proposed reservoir is not a bedrock high and may have been constructed by Illinoian Jacksonville glacial deposition. Bedrock crops out in the vicinity of the reservoir and also along Willow Branch. Strippable coal underlies the dam and reservoir.

DAMSITE

The stream flows in a 3- to 4-foot notch composed of alluvial silt and loess. The abutments have moderate slopes and are composed of loess which is draped into the valley.

RESERVOIR

The reservoir area is a small valley whose sides have moderate to gentle slopes and are composed of loess. Bedrock may be encountered at a shallow depth in parts of the valley.

BORROW

Material suitable for borrow may be available in the weathered loess and possibly the underlying till if it is present.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Morgan

Quadrangle Winchester Site No. 10

LOCATION

Tributary Willow Branch
NE¼ SW¼ sec. 20, T 15 N, R 11 W

GENERAL GEOLOGY

The stream is a short tributary of Willow Creek north of Allison Mound. The relief of the upland areas is from 10 to 20 feet except for the nearby isolated hills which rise from 40 to 60 feet above the general elevation of the uplands. Allison Mound is a bedrock high as well as a topographic high, but the mound located about 2 miles east of the damsite is not a bedrock high and may have been constructed by Illinoian Jacksonville glacial deposition. Bedrock crops out in the vicinity of the reservoir and also along Willow Branch. Strippable coal underlies the dam and reservoir.

DAMSITE

The stream flows in a 3-foot notch composed of alluvial silt and loess. The abutments have moderate slopes and are composed of loess which is draped into the valley.

RESERVOIR

The reservoir is a small valley whose sides have moderate to gentle slopes and are composed of loess. Bedrock may be encountered at a shallow depth in parts of the valley.

BORROW

Material suitable for borrow may be available in the weathered loess and possibly the underlying till if it is present.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Morgan

Quadrangle Jacksonville Site No. 11

LOCATION

North Fork Mauvaise Terre
SW¼ NW¼ sec. 14, T 15 N, R 10 W

GENERAL GEOLOGY

North Fork Mauvaise Terre is a tributary of Mauvaise Terre and drains the loess-covered Illinoian Jacksonville drift east of Jacksonville. As much as 10 feet of loess may cover parts of the upland areas. Depth to bedrock is probably 30 to 50 feet in the upland areas but probably is shallower below the bottomlands. Strippable coal underlies parts of the reservoir area.

DAMSITE

The stream flows in a dredged channel 6 to 8 feet deep eroded in alluvial silt and loess. The floodplain is about 1000 feet wide and the abutments have moderate slopes. The underlying materials are covered by a thick layer of loess.

RESERVOIR

The valley divides into two nearly equal branches about a mile upstream from the proposed damsite. The valleys of both branches have moderate to gentle slopes and are covered by a thick layer of loess which probably is underlain by till or bedrock.

BORROW

Material suitable for the construction of an earth dam is available in the nearby clayey loess and underlying till.

OPINION

The site is considered probably feasible subject to verification by adequate program of test boring and materials testing. An investigation of the problems encountered during the development of the existing Mauvaise Terre Lake and Jacksonville Lake would be helpful in the determination of the feasibility of this site. The rate of siltation of the proposed reservoir will probably seriously shorten the life of this project.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Winchester Site No. 12

LOCATION

Brushy Fork
NW¼ SE¼ sec. 22, T 14 N, R 11 W

GENERAL GEOLOGY

Brushy Fork is a tributary of Sandy Creek and drains the gently undulating topography of the Illinoian Payson till plain in front of the Illinoian Jacksonville moraine. The relief of the uplands is about 10 to 20 feet. Loess covers some parts of the uplands to a depth of 10 feet. The depth to bedrock is about 50 to 100 feet. Parts of the proposed reservoir are underlain by strippable coal.

DAMSITE

The stream was not flowing at the time of examination. The channel is 6 to 8 feet deep and is composed of silt with a sand bottom. The abutments have moderate slopes. An exposure near the left abutment is made up of about 50 feet of sandy, gravelly till overlain by 8 to 10 feet of loess. Sandy layers 1 to 2 feet thick are present in parts of the abutments, but did not appear to be extensive.

RESERVOIR

The valley sides have moderate slopes and are probably underlain by till. The loess which mantles the uplands is draped into the valley and covers most of the underlying materials.

BORROW

Material suitable for the construction of an earth dam is available in the nearby underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Winchester Site No. 13

LOCATION

Tributary of Coal Creek
SE¼ SW¼ sec. 25, T 13 N, R 11 W

GENERAL GEOLOGY

The stream is a tributary of Coal Creek and drains a part of the gently undulating Illinoian Payson till plain. The relief of the uplands is about 10 to 20 feet. The depth of the glacial materials resting on the bedrock is about 50 to 100 feet. The proposed reservoir is underlain by strippable coal.

At the time of examination the streambed was dry. The channel was 4 to 6 feet deep and composed of silt and sand alluvium. Exposures of bedrock crop out to a height of 15 to 25 feet above the valley bottom. About 5 feet of weathered bedrockkor glacial drift rests on the bedrock and is in turn overlain by 8 to 10 feet of loess. Both abutments have moderate slopes.

RESERVOIR

The valley divides into two nearly equal parts above the proposed damsite. The valleys have moderate to gentle slopes and are covered with loess. Bedrock underlies most of the area at a shallow depth. Till is probably present resting on the bedrock in parts of the upland areas.

BORROW

Material suitable for borrow may be available in the till deposits nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of the proposed reservoir would be helpful in the determination of the feasibility of this site. Raising the proposed water level 20 to 40 feet would reduce the relative siltation rate.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Jacksonville Site No. 15

LOCATION

Little Apple Creek
NW¼ SW¼ sec. 7, T 13 N, R 9 W

GENERAL GEOLOGY

Little Apple Creek is a tributary of Apple Creek and drins the gently undulating front slope of the Illinoian Jacksonville moraine south of Clements. The relief of the uplands is about 20 to 30 feet. The depth of the glacial drift materials is about 100 feet. Strippable coal may underlie parts of the reservoir area.

DAMSITE

The stream channel is 4 to 6 feet deep and is composed of sandy alluvial materials. At the time of examination the streambed was dry. The abutments have moderate slopes and a 20- to 30-foot dark brown till is exposed, mantled by an 8- to 10-foot layer of loess. The floodplain is narrow at the proposed damsite.

RESERVOIR

The valley has a floodplain composed of silt and sand. The sides of the valley are composed of a thick layer of loess resting on till. The slopes are moderate to gentle. A small dam and reservoir is located on the headwaters of this stream southeast of Clements.

BORROW

Material suitable for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of the proposed reservoir would be helpful in the determination of the feasibility of this project.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Jacksonville Site No. 16

LOCATION

Tributary of Little Apple Creek
SW¼ NE¼ sec. 36, T 13 N, R 10 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Little Apple Creek south of Nortonville and drains a part of the loess-covered, gently rolling, Illinoian topography. The uplands have relief of 20 to 30 feet. The thickness of the glacial deposits is about 50 to 100 feet. Parts of the upland areas may be covered by as much as 10 feet of loess. The reservoir area is partly underlain by strippable coal.

DAMSITE

The channel is composed of alluvial silt and sand 4 to 6 feet deep. Exposures along the moderately sloping abutments indicate that 20 to 30 feet of dark brown till underlies an 8- to 10-foot bed of loess. At the time of examination the bed of the stream was dry.

RESERVOIR

The proposed reservoir is located in the upper headwaters of the stream. The valley sides are moderately to gently sloping and are composed of till covered by a thick layer of loess.

BORROW

Material suitable for borrow is available in the nearby underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Jacksonville Site No. 17

LOCATION

Left Fork Apple Creek
NE¼ SE¼ sec. 15, T 13 N, R 9 W

GENERAL GEOLOGY

Left Fork Apple Creek is a tributary of Apple Creek and drains a part of the front slope of the Illinoian Jacksonville moraine near Franklin. The relief of the uplands is about 20 to 30 feet. The thickness of the glacial deposits is 50 to 75 feet. Strippable coal probably underlies part of the reservoir area.

DAMSITE

The stream was not flowing at the time of examination. The channel is about 8 to 10ffeet deep and is composed of alluvial silt and sand. The floodplain is broad and is bounded by moderately steep abutments. The thick layer of loess drapes into the valley and covers the underlying till or bedrock.

RESERVOIR

The valley has a broad, flat floodplain and the sides are steep to moderately steep. Bedrock probably occurs at a shallow depth beneath the stream bottom.

BORROW

Till is probably available for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Jacksonville Site No. 18

LOCATION

Woods Creek
NE¼ NE¼ sec. 34, T 13 N, R 9 W

GENERAL GEOLOGY

Woods Creek is a tributary of Apple Creek and drains the gently undulating front slope of the Illinoian Jacksonville moraine. The relief of the uplands is about 20 to 30 feet. The depth to bedrock in the upland areas is about 50 to 75 feet. Parts of the upland areas may be covered by as much as 10 feet of loess. Strippable coal may underlie parts of the proposed reservoir.

DAMSITE

At the time of examination the streambed was dry. The channel is a notch about 8 feet deep composed of silt and sand alluvium in a broad floodplain. The abutments are composed of dark brown, silty till mantled by 8 to 10 feet of loess. The abutments have a moderately steep slope.

RESERVOIR

The valley has a floodplain bounded by sides which are moderately steeply sloping. The sides are composed of silty, brown till overlain by loess. Bedrock probably lies at a shallow depth beneath the bottom of the stream.

BORROW

Material suitable for the construction of an earth dam is available in the nearby underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Morgan

Quadrangle Waverly Site No. 19

LOCATION

Tributary Apple Creek
SW¼ NE¼ sec. 15, T 13 N, R 8 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Apple Creek, located in the headwaters of Apple Creek, and drains a part of the Illinoian glacial topography near Waverly. The uplands are gently undulating and have relief of about 10 to 20 feet. The thickness of glacial material is about 50 to 60 feet.

DAMSITE

At the time of examination the stream was dry. The stream channel is a shallow notch composed of alluvial sand and silt. The abutments have gentle to moderate slopes and are probably overlain by loess.

RESERVOIR

The reservoir is formed by a valley with gently sloping sides. The materials that underlies the loess is probably till.

BORROW

Material suitable for the construction of an earth dam is probably available in the underlying till nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation of this reservoir would be helpful in the determination of the feasibility of this project.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 23, 1964 County Ogle

Quadrangle Forreston Site No. 1

LOCATION

Tributary of Leaf River
NE¼ sec. 1, T 24 N, R 8 E

GENERAL GEOLOGY

This minor stream, located in northwestern Ogle County, drains an area of loess- and till-covered Ordovician dolomite. The rolling uplands have relief of 30 to 40 feet. The depth to bedrock is probably less than 10 feet in most places according to outcrops along the valley sides.

DAMSITE

The stream meanders in a 4-foot notch in the floodplain. The floodplain is approximately 150 feet wide and lies 30 to 40 feet below the uplands.

The abutments are composed primarily of tan to buff dolomite belonging to the Galena formation. The dolomite is capped by a thin layer of brown, sandy, clay till of variable thiciness. The right abutment is very steep; the left abutment slopes moderately to the uplands.

RESERVOIR

The floodplain alluvium consists of dark brown, silty, fine to medium sand. The valley sides are gentle slopes and are mostly covered with vegetation. The composition of the valley walls is probably similar to that of the abutments.

BORROW

Some till suitable for borrow material is present in the vicinity of the damsite, but probably not in sufficient quantity for an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The dolomite should be examined for the possible presence of solution channels which could cause leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 22, 1964 County Ogle

Quadrangle Oregon Site No. 2

LOCATION

Mud Creek
NW¼ sec. 26, T 25 N, R 9 E

GENERAL GEOLOGY

Mud Creek is a major stream in north-central Ogle County and drains an area of loess- and till-covered Ordovician sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock is probably less than 10 feet in most places according to exposures along the valley sides.

DAMSITE

The abutments slope gently to the uplands, and are covered with vegetation in most places. Brown, gravelly, sandy, clay till is exposed in the right abutment.

The stream flows in an 8-to 10-foot notch in the floodplain. The floodplain is approximately half a mile wide and is 20 to 30 feet below the uplands.

RESERVOIR

The floodplain alluvium is of dark brown, sandy silt. Some buff, vuggy dolomite belonging to the Galena formation crops out beneath the till in the reservoir sides. The valley sides have gentle slopes and in most places are covered with begetation.

BORROW

Some till suitable for borrow material is present in the vicinity of the damsite but it is doubtful that a sufficient quantity is available for an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necesssry to determine the nature and sequence of the subsurface matetials, as surface exposures in the abutments and valley walls are lacking. The dolomite should be examined for solution channels which could cause leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date Examined July 22, 1964 County Ogle

Quadrangle Oregon Site No. 3

LOCATION

East Fork of Mill Creek
NE¼ sec. 7, T 25 N, R 11 E

GENERAL GEOLOGY

The East Fork of Mill Creek is a major stream in northeastern Ogle County and drains an area of loess- and till-covered Ordovician sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock is probably less than 10 feet in most places according to exposures along the valley sides.

DAMSITE

The stream meanders in a 3-foot notch in the floodplain. The floodplain is approximately 600 to 700 feet wide and lies 30 to 40 feet below the uplands.

The abutments slope gently to the uplands and in most places are covered with vegetation. Brown, sandy loess is present in the lower right abutment. The abutments are probably underlain by dolomite which crops out in the valley walls.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy silt. The valley walls have gentle slopes and in most places are covered with vegetation. Some buff, vuggy dolomite is exposed in the lower reservoir sides.

BORROW

No suitable borrow material for an earth-fill dam is exposed in the vicinity of the damsite. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary as a result of a lack of surface exposures in the abutments and valley walls, and should be instituted in order to determine the nature and sequence of the subsurface materials. The dolomite should be examined for the presence of solution channels which could cause leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 21, 1964 County Ogle

Quadrangle Kings Site No. 4

LOCATION

Tributary of the Rock River
SE¼ sec. 2, T 25 N, R 11 E

GENERAL GEOLOGY

This stream is a minor tributary of the Rock River in north-central Ogle County and drains an area of loess- and till-covered Ordovician dolomite. The uplands area are gently rolling with relief of 20 to 30 feet. The depth to bedrock is probably 10 feet or less in most places according to exposures in the valley sides.

DAMSITE

Both abutments are covered with vegetation and slope gently to the uplands. A small dam is retaining water at the proposed damsite. The tailings piles near this small dam indicate that the abutments are probably underlain by tan to buff, vuggy, crystalline dolomite belonging to the Galena formation.

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately one quarter of a mile wide and is 30 to 40 feet below the uplands.

RESERVOIR

The floodplain alluvium is about one foot thick and consists of dark gray, silty, fine to medium sand. Underlying this sand are about 2 feet of sandy, fine to coarse gravel. The valley walls have moderate slopes and in most places are covered with vegetation. A small exposure in the reservoir side about one mile north of the damsite reveals the following section:

Brown, clayey, sandy loess - - 4 ft.
Brown, clayey, sandy, silt till - 1 ft.
Dolomite, base not exposed - 1 ft.

BORROW

It is doubtful that a sufficient amount of till is present to provide suitable borrow for an earth-fill dam. The floodplain alluviumkprobably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary as a result of a lack of exposures in the abutments and valley walls. Special attention should be given to the dolomite which may contain solution channels through which leakage could occur.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 23, 1964 County Ogle

Quadrangle Forreston Site No. 5

LOCATION

Five Mile Creek
NW¼ sec. 24, T 24 N, R 7 E

GENERAL GEOLOGY

Five Mile Creek is a minor stream located in southwestern Ogle County. The stream drains an area of loess- and till-covered Ordovician sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock was not determined, but is probably less than 25 feet.

DAMSITE

The stream flows in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 150 to 200 feet wide and is 30 to 40 feet below the uplands.

The abutments are moderately sloping and are heavily covered with vegetation. No outcrops were visible in the abutments, but the sediments present are probably similar to those of the valley sides.

RESERVOIR

The floodplain alluvium consists of dark brown, silty sand. Tan to light brown, sandy loess is present in the valley sides overlying brown, sandy, clayey, silt till.. The valley walls have gentle to moderate slopes.

BORROW

Till suitable for borrow material is present in the vicinity of the damsite, but it is doubtful that a sufficient quantity is available for an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The lack of surface exposures in the abutments makes such a program imperative.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 22, 1964 County Ogle

Quadrangle Oregon Site No. 6

LOCATION

Pine Creek
SE ¼ sec. 32, T 24 N, R 9 E

GENERAL GEOLOGY

Pine Creek is a major stream in western Ogle County and drains an area of loess-and-till-covered Ordovician sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock is probably less than 10 feet in most places according to exposures along the valley walls.

DAMSITE

The stream flows in a 5 to 6 foot notch in the floodplain. The floodplain is approximately 100 feet wide and is 30 to 40 feet below the uplands.

The abutments are composed primarily of tan to buff, cherty dolomite belonging to the Galena formation. The upper part of the dolomite is thin-bedded and fractured; the lower part is more massive and jointed. Both abutments are nearly vertical bluffs.

RESERVOIR

The floodplain alluvium consists of dark brown, silty, fine sand. Nearly continuous dolomite outcrops are present in the valley sides upstream from the damsite. The valley walls have moderate to steep slopes.

BORROW

A sufficient quantity of suitable borrow material for an earth dam was not observed in the area of the damsite. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The dolomite should be examined for the presence of solution channels which could cause leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 3, 1964 County Ogle

Quadrangle Oregon Site No. 7

LOCATION

Silver Creek
NW¼ sec. 21, T 24 N, R 10 E

GENERAL GEOLOGY

Silver Creek, located in central Ogle County, is a minor tributary of the Rock River. The stream drains an area of bedrock which is thinly mantled by loess and glacial drift. The hilly uplands have relief of 60 to 80 feet. The bedrock in most places is probably no further than 20 feet below the surface.

DAMSITE

The stream meanders in a 2- to 3-foot notch in the floodplain. The floodplain is approximately 200 to 250 feet wide and is 40 to 50 feet below the uplands. The abutments are composed of buff, fine-grained, vuggy, medium bedded dolomite and slope moderately to the uplands.

RESERVOIR

The floodplain alluvium consists of dark brown, silty sand. The valley walls are composed of buff dolomite as in the abutments, and are overlain by light brown, silty, clayey, fine sand. A spring flows from the dolomite in the valley wall in one locality. The valley walls are moderately sloping.

BORROW

Sufficient quantities of suitable borrow material were not observed in the immediate vicinity of the damsite, nor is the floodplain alluvium suitable for borrow. Consequently, a borrow area probably will have to be developed elsewhere.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. It will be necessary to determine whether or not solution channels are present in the dolomite and if so, to what extent.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 3, 1964 County Ogle

Quadrangle Oregon Site No. 8

LOCATION

Spring Creek
NW ¼ sec. 26, T 24N, R 10E

GENERAL GEOLOGY

Spring Creek, located in central Ogle County, is a minor tributary of the Rock River. The stream drains an area of loess- and till-mantled bedrock. The uplans are rooling to hilly with relief of 40 to 60 feet. Thin deposits of glacial drift and loess cover the bedrock in the area. The depth to bedrock is probably less than 20 feet in the area.

DAMSITE

The base of the stream channel is 4 to 6 feet below the floodplain. The floodplain is approximately one quarter of a mile wide and lies 30 to 40 feet below the uplands. Both abutments are covered with soil and vegetation. Buff, fine-grained, vuggy, sandy, fairly thick-bedded dolomite crops out in the stream channel. Both abutments slope gently to the uplands.

RESERVOIR

The floodplain alluvium consists of brown, sandy, clayey silt. The valley walls are composed of buff, sandy dolomite, as in the stream channel, and are capped by a thin layer of loess. The valley walls are moderately to gently sloping.

BORROW

Sufficient quantities of suitable borrow material were not observed in the immediate vicinity of the damsite, nor is the floodplain alluvium suitable for borrow. Consequently, a borrow area probably will have to be developed elsewhere.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. It will be necessary to determine whether or not solution cavities are present in the dolomite and if so, to what extent.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 21, 1964 County Ogle

Quadrangle Kings Site No. 9

LOCATION

Stillman Creek
NW ¼ sec. 7, T 41 N, R 1 E

GENERAL GEOLOGY

Stillman Creek is a major stream in northeastern Ogle County and drains an area of loess-sand till-covered Ordovivian sediments. The uplands are very gently rolling with relief of 10 to 20 feet. The depth to bedrock is less than 10 feet in most places, according to exposures along the valley walls.

DAMSITE

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 100 to 150 feet wide and is 20 to 30 feet below the uplands.

The right abutment is a vertical bluff; the left abutment is gently sloping. The abutments are composed largely of buff to brown, vuggy, crystalline, thick-bedded, jointed dolomite with partings and some solution channels along bedding planes. The dolomite, which belongs to the Galena formation, is overlain by 4 to 2 feet of brown, sandy, clay till.

RESERVOIR

The floodplain alluvium consists of dark gray, sandy, clayey silt. The valley walls, like the abutments, are composed of till-capped dolomite, and have gentle to steep slopes.

BORROW

It is extremely doubtfull that a sufficient quantity of till suitable for borrow material can be obtained in the vicinity of the damsite. Consequently, an earth-fill dam may not be feasible unless a borrow area can be developed elsewhere.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Special attention should be given to the possible presence of solution channels in the dolomite which could permit leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 3, 1964 County Ogle

Quadrangle Dixon Site No. 11

LOCATION

Tributary of Kyte River
SE¼ sec. 30, T 23 N, R 11 E

GENERAL GEOLOGY

Located in south-central Ogle County, this stream is a tributary of Kyte River and is a minor stream in this area. The stream drains an area of dolomite and sandstone which is covered in some places by a thin mantle of glacial drift. The uplands are rolling to hilly with relief of 30 to 60 feet. Bedrock is near the surface and crops out in many localities.

DAMSITE

The stream meanders in a 4- to 5-foot notch in the floodplain. The floodplain is 250 to 300 feet wide and is 30 to 40 feet below the uplands.

Tan to light brown, silty,clayey sand is exposed in the right abutment. The left abutment is composed primarily of tan to light brown, loose, fine to medium sand which contains many angular pebbles and cobbles of buff, sandy dolomite. The sand in the abutments may be a weathering product of the dolomite. The sand is capped by 2 to 3 feet of light reddish-brown, sandy clay. The abutments are moderately to steeply sloping.

RESERVOIR

The floodplain alluvium consists of brownish-gray, silty, alluvial sand. The valley walls are covered at most places. However, where exposures are present they are composed of sand and sandy dolomite as in the abutments. The valley walls slope moderately to the uplands.

BORROW

Sufficient quantities of suitable borrow material were not observed in the immediate vicinity of the damsite. The floodplain alluvium is not; suitable for borrow. Consequently, a borrow area probably will have to be developed elsewhere.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Such a program is necessary to determine the nature and sequence of the subsurface materials, including the sand observed in the abutments and in the valley walls.

Attention also should be given to the possibility of leakage through the permeable St. Peter sandstone which underlies much of the area.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 24, 1964 County Ogle

Quadrangle Sterling Site No. 14

LOCATION

Buffalo Creek
SW ¼ sec. 36, T 23 N, R 7 E

GENERAL GEOLOGY

Buffalo Creek, located in southwestern Ogle County, is a tributary of Elkhorn Creek and drains an area of loess- and till- covered Ordovician dolomite. The uplands are very gently rolling with relief of 10 to 20 feet. In most places the depth to bedrock is probably less than 10 feet, according to exposures in the valley sides.

DAMSITE

The abutments are composed largely of tan to buff, thick-bedded dolomite belonging to the Galena formation. The dolomite is overlain by loess and brown, sandy, gravelly clay till of variable thickness. The right abutment is gently sloping; the left abutment is moderately to steeply sloping.

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 100 feet wide and lies 20 to 30 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of dark brown, silty sand. The valley walls are composed of dolomite overlain by till. The slope of the valley walls ranges from gently to steep.

BORROW

Till suitable for borrow material is present in the vicinity of the damsite, but probably not in sufficient quantities for use in an earth dam. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The dolomite should be examined for the presence of solution channels which could cause leakage.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 6, 1964 County Piatt

Quadrangle Mahomet Site No. 1

LOCATION

Tributary of Sangamon River
center SE¼ sec. 25, T 20 N, R 6 E

GENERAL GEOLOGY

The stream is a short tributary to Sangamon River cutting through a gently rolling drift plain. The surficial soils have developed from loess. The damsite is in an area where outwash deposits of silt, sand, and gravel are widespread. Logs of previous borings indicate that bedrock is covered by a thick mantle of glacial deposits consisting of till beds separated by soil zones.

DAMSITE

The abutments are made up of a brownish-buff sandy till with a possible silt bed appearing at creek level. The left abutment is steep owing to cutting by the stream and progressive slumping, while the right abutment is generally covered and has a more gradual slope. The stream bed is composed of sand, and presently the floodplain is mantled by half an inch of silt. The permeability of the abutments and the extent of porous sand in the valley floor will have to be determined.

RESERVOIR

The floodplain alluvium is predominantly sand mantled by a thin layer of silt. The reservoir walls are brownish-buff till, somewhat yellowish upstream. Anyssoil zones or permeable layers must be ascertained.

BORROW

Suitable borrow material can probably be located nearby. Quantity and quality of construction material must be determined by testing. Some special design specification may be necessary to utilize the sandy till. Scattered boulder-size erratics are common in the uplands.

OPINION

The site is considered to be probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 6, 1964 County Piatt

Quadrangle Monticello Site No. 2

LOCATION

Tributary of Madden Creek
NE¼ NW¼ sec. 17, T 19 N, R 6 E

GENERAL GEOLOGY

The stream is a short intermittent tributary of Madden Creek and flows in a broad valley in the gently rolling glacial drift. Most of the surficial soils in the area have developed from loess. The damsite is in an area where outwash deposits of silt, sand, and gravel are widespread.

Logs of previous borings indicate that bedrock is covered by a thick layer of glacial drift which consists of a series of tills separated by soil zones.

DAMSITE

The stream flows in a shallow notch in a broad valley with gently sloping sides. Both abutments are covered except for small cuts along the stream and in the road cut in the upper part of the right abutment. Coarse gravel is present in the stream bottom and a dark gray, clayey, pebbly colluvium underlies a layer of silt exposed in the banks of the stream notch. In an exposure on the upper part of the right abutment brown, clayey sand crops out near a clayey till. This exemplifies the irregular distribution of the various kinds of materials in the area. The sequence and character of materials beneath the damsite must be determined.

RESERVOIR

The reservoir area is a broad valley with gently sloping sides. Silty, clayey alluvium and colluvium make up the deposits in the lower part of the valley, and clayey sands and till beds are present in the uplands. Leakage through buried permeable outwash deposits may be a potential problem.

BORROW

The clay till in the surrounding uplands is suitable for construction of an earth dam, and an adequate quantity is probably available in nearby areas.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P.B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATIONS OF DAMSITES

Date examined May 6, 1964 County Piatt

Quadrangle Bement Site No. 5

LOCATION

Tributary to Sangamon River
SE¼ NW¼ sec. 36, T 18 N, R 4 E

GENERAL GEOLOGY

The stream is a short tributary to Sangamon River and drains part of a gently rolling drift plain. The surficial soils have developed from loess. The damsite is in an area where outwash deposits of silt, sand, and gravel are widespread. Logs of previous borings indicate a thick layer of glacial drift covers the bedrock surface. The glacial material consists of a series of tills with scattered, discontinuous sands, gravels, and soils.

DAMSITE

The stream at the damsite is cutting against the left abutment exposing an 8-10 foot bank of yellow to chocolate brown till. Most of both abutments are covered and slope gently to the rolling uplands. As there are possible permeable sands and gravels present in the vicinity, the possibility of leakage must be considered.

RESERVOIR

The stream flows in a shallow 3-4 foot notch and the reservoir sides slope to the uplands. The yellow to chocolate brown till appears to be persistent in the uplands. A dark gray silt bed 2 to 3 feet thick is exposed along the creek banks. Borings would be required to provide information concerning possible leakage through permeable beds.

BORROW

Suitable borrow material for the construction of a dam is probably available in the nearby till deposits. Test borings should be made to confirm that adequate quantities of suitable material are available.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings. Particular attention should be paid to the character of underlying materials to ascertain the possibility of serious leakage problems.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 28, 1964 County Piatt

Quadrangle Monticello Site No. 6

LOCATION

Wildcat Creek
NW¼ NE¼ sec. 21, T 18 N, R 5 E

GENERAL GEOLOGY

Wildcat Creek is a tributary of Sangamon River and drains a part of the area in front of the Cerro Gordo moraine. The uplands have a relief of 10 to 20 feet, and surficial soils are developed in loess which mantles the gently rolling topography. The damsite is located over a buried bedrock valley system and the thickness of glacial material may exceed 250 feet. Cerro Gordo outwash materials are known to be wide spread in the vicinity of this reservoir project.

DAMSITE

Wildcat Creek flows in a 4- to 6-foot notch in black soil and silt. The width of the valley at the proposed damsite is approximately 800 feet, and the abutments as observed in small cuts consist of gravelly silty till. Cobble and boulder size erratics are present in nearby fields.

RESERVOIR

The valley has a small floodplain which is bounded by moderately sloping sides. Although much of the area is covered by loess and vegetation, sandy silty till was noted in a road cut about half a mile upstream from the damsite.

BORROW

A sufficient quanitity of till suitable for borrow can be obtained from the nearby uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 6, 1964 County Piatt

Quadrangle Monticello Site No. 7

LOCATION

Goose Creek
SW¼ SE¼ sec. 36, T 19 N, R 5 E

GENERAL GEOLOGY

Goose Creek is a principal tributary of Sangamon River in this area. The stream has dendritic tributaries upstream; however, an apparent constructional glacial control is evident in the over-all pattern. The surficial soils have developed from loess. The damsite is in an area where outwash deposits of silt, sand, and gravel are widespread.

Logs of previous borings indicate that bedrock is covered by a thick layer of glacial drift composed of a series of tills, sands, gravels, and soil zones.

DAMSITE

The stream meanders in a broad floodplain and is presently flowing in a 4-6 foot notch. The abutments, as exposed in road cuts, consist of gray-brown clay till.

RESERVOIR

The broad floodplain is bordered by moderately steeply sloping valley sides composed of gray-brown clay till. The valley floor is clayey silty soil, and logs of previous borings indicate it may be underlain by porous gravels and sand layers.

BORROW

Suitable material is probably available in sufficient quantity nearby for construction purposes. The materials should be tested to aid in the design.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings. Consideration should be given to possible early siltation of the reservoir. Also, all underlying permeable beds must be located as possible leakage avenues.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 18, 1964 County Putnam

Quadrangle Lacon Site No. 1

LOCATION

Crow Creek
SW¼ sec. 36, T 14 N, R 9 E

GENERAL GEOLOGY

Crow Creek is the major drainage course in the south part of Putnam County and drains a portion of the Normal moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial soil has been developed from loess which rests on glacial drift, primarily till. The depth to bedrock at the damsite is probably greater than 125 feet.

Putnam County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The damsite is situated over the valley of the Ancient Mississippi River, and the top of the Sankoty sand probably is but a few feet below the bottom of the valley. Both abutments slope moderately to the uplands and apparently consist largely of silty sandy clayey till with layers, lenses, and pockets of sand and gravel. The only outcrop observed was an orange-brown clayey silt exposed in the right abutment. Both abutments are largely covered with vegetation. The floodplain is approximately a quarter of a mile wide and lies 50 to 60 feet below the uplands. The stream flows in a channel 4 to 6 feet deep.

RESERVOIR

The floodplain alluvium consists of grayish-brown sandy silt. The reservoir walls slope gently to the uplands and, like the abutments, are largely covered with vegetation. The floodplain alluvium may possibly rest upon the Sankoty sand.

BORROW

A sufficient quantity of suitable borrow material can probably be obtained from the till on the uplands and in the reservoir sides. The alluvium in the valley probably would not be suitable for borrow.

OPINION

This site is considered probably not feasible subject to verification by an adequate program of test borings and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem. In 1945, the U. S. Army Corp of Engineers gave brief consideration to this damsite, but to date no developmental work has been undertaken.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 18, 1964 County Putnam

Quadrangle Lacon Site No. 2

LOCATION

Senachwine Creek
E½ sec. 13, T 14 N, R 9 E

GENERAL GEOLOGY

Senachwine Creek is the principal stream in the northwest part of Putnam County and drains a portion of the Normal moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial soil has been developed from loess which rests on glacial drift, primarily till. The depth to bedrock at the damsite is probably about 150 feet.

Putnam County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The damsite is situated over the valley of the Ancient Mississippi River, and the top of the Sankoty sand probably is but a few feet below the bottom of the valley. Both abutments are steep and apparently consist largely of silty sandy clayey till which probably contains layers, lenses, and pockets of sand and gravel. An outcrop in the lower portion of the left abutment consists of brown, sandy, silty, clay till. Brown silt, probably loess, overlies the till. Both abutments are largely covered with vegetation.

The floodplain at the damsite is approximately a quarter of a mile wide and lies 70 to 80 feet below the uplands. The stream flows in a notch 5 to 6 feet deep.

RESERVOIR

The floodplain alluvium both in the reservoir and at the damsite consists of brown, sandy silt and brownish-gray, gravelly, silty sand. The reservoir sides have moderate slopes and probably consist of till similar to that at the damsite. One outcrop in the reservoir sides revealed pinkish-brown, sandy clay till containing some stringers of gravel. The Sankoty sand probably underlies the valley bottom in the lower part of the reservoir area.

BORROW

A sufficient quantity of suitable borrow material can probably be obtained from the till on the uplands and in the reservoir sides. The alluvium in the valley probably would not be suitable for borrow.

OPINION

This site is considered probably not feasible subject to verification by an adequate program of test borings and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem. If the layers of sand and gravel in the till are continuous they could also present a leakage problem.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 18, 1964 County Putnam

Quadrangle Lacon Site No. 3

LOCATION

Clear Creek
NW¼ sec. 24, T 31 N, R 2 W

GENERAL GEOLOGY

Clear Creek is the principal stream in the south part of Putnam County on the east side of Illinois River and drains a portion of the Cropsey moraine. The uplands are gently rolling with relief of 20 to 30 feet. The surficial soil has been developed from loess which rests on glacial drift, primarily till. The depth to bedrock at the damsite is probably greater than 150 feet.

Putnam County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty Sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The damsite is situated over the valley of the Ancient Mississippi River, and the contact of the Sankoty sand with the overlying materials may be near or above floodplain level. The true relationships may be difficult to observe owing to downward creep of overlying materials along reservoir sides. Both abutments have moderate to steep slopes. The floodplain at the damsite is approximately half a mile wide and lies 80 to 90 feet below the uplands. The stream flows in a notch 6 to 8 feet deep. A tan to yellowish-brown, silty, fine sand is exposed in the right abutment overlying about 15 feet of reddish-brown, sandy, clay till.

RESERVOIR

The floodplain alluvium consists of brown, silty sand. The alluvium may be underlain by the Sankoty sand. The geology of the reservoir sides is similar to that of the abutments. The non-uniform character of the materials comprising the reservoir sides is illustrated by the following section composed from exposures in the reservoir sides.

	Approximately	
Till, sandy, clayey, reddish-brown	15	feet
Till, clayey, sandy, blue-gray	5	"
Till, silty, sandy, brown	3	"
Sand, fine-grained, silty, stratified, tan, some gravel near base	2	"
Till, silty, sandy, brown and gray	7	"

The reservoir sides have moderate to steep slopes and escarpments are common where the stream flows against the valley wall.

BORROW

A sufficient quantity of suitable borrow material can probably be obtained from the till on the uplands and in the reservoir sides. The alluvium in the valley probably would not be suitable for borrow.

OPINION

This site is considered probably not feasible subject to verification by an adequate program of test borings and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem. If the layers of sand and gravel in the till are continuous they could also present a leakage problem.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 19, 1964 County Putnam

Quadrangle Wenona Site No. 4

LOCATION

Clear Creek
SE¼ sec. 17, T 31 N, R 1 W

GENERAL GEOLOGY

Clear Creek is in the southeast part of Putnam County and drains a portion of the Cropsey moraine. The uplands are very gently rolling with local relief of 10 to 20 feet. The surficial soil has been developed from loess which rests on glacial drift of various kinds. Bedrock probably lies about 150 feet below the valley bottom.

Putnam County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley has been filled with sand and gravel, called the Sankoty sand. The Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of sand and gravel. For the most part the layers of till are impervious, but the intercalated deposits of porous sand and gravel may be continuous for considerable distances. The position of the top of the Sankoty sand in relation to the valley bottom is not known.

DAMSITE

The damsite is situated over the left side of the valley of the Ancient Mississippi River, and the Sankoty sand is probably present beneath the damsite. The floodplain is approximately a quarter of a mile wide and lies 50 to 60 feet below the uplands. The stream flows in a notch 4 to 5 feet deep in the floodplain alluvium. Both abutments have moderate slopes. The lower part of the left abutment consists of about 8 feet of pinkish-gray, sandy, clay till overlain by about 8 feet of tan to brown, sandy, silty till with a very sandy layer near the base. Gravel has been taken from a pit about a quarter of a mile south of the right abutment.

RESERVOIR

The floodplain alluvium consists of gray to brown, silty, clayey sand. The reservoir sides probably consist of materials similar to those in the abutments.

BORROW

Till suitable for borrow material can probably be obtained in sufficient quantities in the uplands nearby and in the reservoir sides. The floodplain alluvium probably would not be suitable for borrow.

OPINION

This damsite is probably not feasible, but this is subject to verification by an adequate program of test borings and materials testing. The sequence and character of the materials beneath the valley bottom and in the abutments would have to be determined. Also the thickness of till, if any, over the Sankoty sand in the valley section would have to be determined. If the layers of sand and gravel in the till are continuous they could present a serious problem also. The shape and extent of the gravel deposit downstream from the damsite would also have to be determined.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 19, 1964 County Putnam

Quadrangle Wenona Site No. 5

LOCATION

Little Sandy Creek
SW¼ sec. 26, T 31 N, R 1 W

GENERAL GEOLOGY

Little Sandy Creek is a tributary of Sandy Creek and drains part of the Cropsey moraine and its outwash apron. The uplands are very gently rolling with local relief of 10 to 20 feet. The surficial soil has been developed from loess which, in this area, rests upon a thin layer of sandy outwash. Bedrock probably lies about 150 feet below the valley bottom at the damsite.

Putnam County is bisected by the deep bedrock valley of the Ancient Mississippi River. This valley has been filled with sand and gravel, called the Sankoty sand. The Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of sand and gravel. In the area drained by the upper reaches of Little Sandy Creek and its tributaries, the till has been overspread with a thin layer of sandy outwash. For the most part the layers of till are impervious, but the deposits of sand and gravel are porous and some may be continuous for considerable distances. The position of the top of the Sankoty sand in relation to the valley bottom is not known; it is possible that the Sankoty sand is not present at this damsite.

DAMSITE

The damsite is situated over a bedrock valley that is tributary to the Ancient Mississippi Valley. The Sankoty sand may or may not fill this tributary valley and, therefore, may or may not be present beneath the damsite. The floodplain is 300- to 400-feet wide and lies 20 to 30 feet below the uplands. The stream flows in a notch 3 to 5-feet deep in the floodplain alluvium.

Both abutments have gentle to moderate slopes. The lower part of the abutments consists of mottled gray and brown, sandy, clay till which grades upward into about 4 feet of brown, sandy, pebbly, silty till. The till unit is capped by a thin layer of sandy gravel which, in turn, is overlain by 4 feet of brown, sandy silt, probably loess.

RESERVOIR

The floodplain alluvium consists of brown, sandy, silty clay. The reservoir sides have moderate to gentle slopes and probably consist of materials similar to those in the abutments.

BORROW

Till suitable for borrow material can probably be obtained in sufficient quantities in the reservoir sides and possibly in the uplands nearby. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The presence or absence of the Sankoty sand deposit below the damsite and the thickness of till covering it in the valley section would have to be determined. The presence of a sufficient thickness of impervious till between the base of the dam and the top of the Sankoty sand, if it is present, would prevent serious leakage through the Sankoty sand.

Bergstrom-DuMontelle

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-26-65 County Richland Watershed Sugar Creek

Quad Name and No. Olney - 55 Site No. LW-39-VI

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	441	
Elevation Emergency Spillway	459	
Elevation Top of Dam	469	

LOCATION

Sugar Creek
NW¼ SW¼ Sec. 1, T 3 N, R 9 E

GENERAL GEOLOGY

In the reach under consideration, Sugar Creek is an intermittent stream and drains an area west of Olney. The relief of the area is about 50 feet, and the rolling uplands merge gradually with valley slopes. The bedrock is largely composed of sandstone and shale. Mantling the bedrock is till and loess to a depth of about 30 feet. The Bedrock Surface Map of Illinois indicates the bedrock surface to be at about 450 feet elevation.

DAMSITE

The stream flows in a notch 7 feet deep and 30 feet wide. The floodplain is approximately 850 feet wide and is primarily composed of sand containing some pebbles and larger rock fragments. Both abutments have strong slopes and are underlain by bedrock covered by 20 to 30 feet of till and some loessial silt. Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The proposed reservoir area is a broad flat valley with gently sloping sides. The bedrock is covered and the till of the valley sides and loess on the uplands tend to weather to a light tan soil.

BORROW

There is ample till in the vicinity for borrow purposes.

OPINION

The damsite is considered probably feasible subject to verification by test boring and materials testing.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-26-65 County Richland Watershed Little Fox Creek

Quad Name and No. Olney - 55 Site No. LW-39-VIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	442	
Elevation Emergency Spillway	459	
Elevation Top of Dam	466	

LOCATION

Little Fox Creek
NW¼ NW¼ sec. 26, T 3 N, R 10 E

GENERAL GEOLOGY

Little Fox Creek is an intermittent stream and drains an area south of Olney. The area has relief of 50 to 70 feet. The area is one of broad shallow valleys separated by rolling uplands.

The Bedrock Surface Map of Illinois indicates the surface of bedrock lies at an elevation of about 450 feet, but the local relief of the bedrock surface may be as much as 30 feet. The bedrock, primarily of Pennsylvanian sandstones and shales, is largely covered by approximately 25 feet of clay till. The till, in turn, is mantled by 2 to 4 feet of loess.

DAMSITE

The stream occupies a notch 7 feet deep and 45 feet wide in the floodplain. The stream bed and left bank of the floodplain and valley wall expose bedrock of thin- to massive-bedded, fine-grained sandstone and some shale. The channel also indicates the floodplain alluvium is largely of silty sand. The bedrock along the left bank of floodplain is also covered by silty sand 2 feet thick.

The left abutment has a very steep slope and rises to a height of 30 feet above the floodplain. The right abutment is moderately sloping and covered.

Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The valley sides have moderate slopes. Clay till containing some gravel and pebbles underlies the valley slopes with irregular thickness. Pennsylvanian shales and sandstones crop out along the valley side about a mile upstream from the damsite.

BORROW

Ample borrow material for construction of an earth dam is available in the vicinity of the proposed project.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-27-65 County Richland Watershed Fox River and Coon Creek

Quad Name and No. Newton - 68 Site No. LW-39-IX

	Flodd Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	448	464
Elevation Emergency Spillway	464	472
Elevation Top of Dam	467	474

LOCATION

Fox River and Coon Creek
NW¼ NW¼ sec. 4, T 4 N, R 10 E

GENERAL GEOLOGY

Fox River and Coon Creek drain a part of northern Richland and southern Jasper counties, which here have relief of about 45 feet. The region is one of gentle slopes with rolling uplands interrupted by broad stream valleys.

The Bedrock Surface Map of Illinois indicates the surface of the bedrock to lie at an elevation of about 425 to 450 feet. The bedrock of Pennsylvanian sandstone and shale underlies the pinkish clay till, which ranges from 20 to 40 feet thick.

There is considerable oil company activity in the area.

DAMSITE

The damsite is located at the confluence of Fox River and Coon Creek. The streamsflow in a notch in the floodplain alluvium primarily composed of sand with some larger rock fragments. The channel of Fox River is 10 feet deep and 25 feet wide. Coon Creek has a channel about 5 feet deep and 25 feet wide. The floodplain, as measured from the topographic map, is approximately 2000 feet wide at the damsite. The right abutment has a very steep slope, while the left abutment has a moderately steep slope. Both abutments appear to be underlain by pinkish clay till that contains some gravel and larger rock fragments. Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The valley sides of both streams have moderate to gentle slopes. Exposures along the proposed reservoir sides indicate the materials underlying the upland areas are probably till.

BORROW

Ample borrow material for construction of an earth dam is available in the vicinity.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Rock Island

Quadrangle Edgington Site No. 1

LOCATION

Copperas Creek
SW¼ sec. 18, T 16 N, R 4 W

GENERAL GEOLOGY

Copperas Creek, located in western Rock Island County, is a major stream in this area and drains loess- and till-covered Pennsylvanian sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock is approximately 60 feet.

DAMSITE

The following section is exposed in a bluff in the left abutment:

Tan to light brown, silty, sandy clay (loess)	3 feet
Orange-brown, clayey, fine to medium sand	2 feet
Mottled gray and brown, sandy, clay till, base not exposed	7 feet

The right abutment is covered with a loessial soil and the subsurface materials are probably similar to those exposed in the left abutment. The right abutment slopes gently to the uplands.

The stream meanders in a 6 to 8 foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and is 30 to 40 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, sandy, clayey silt. The valley walls are composed of loess, sand, and sandy till as are the abutments. The valley walls are gently to moderately sloping.

BORROW

A sufficient quantity of till which will be suitable for borrow material can probably be obtained from the nearby uplands and reservoir walls. The floodplain alluvium will probably not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and extent of the sand bodies in the abutments and reservoir sides.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Rock Island

Quadrangle Edgington Site No. 2

LOCATION

Big Branch Creek
SW¼ sec. 27, T 17 N, R 4 W

A dam is presently under contruction at this site.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 13, 1964 County Rock Island

Quadrangle Milan Site No. 3

LOCATION

Fancy Creek
NW¼ sec. 35, T 17 N, R 3 W

GENERAL GEOLOGY

Fancy Creek, a minor stream in this area, is located in western Rock Island County and drains an area of loess- and drift-covered Pennsylvanian sediments. The uplands are very gently rolling with relief of 10 to 20 feet. Bedrock is near the surface, probably less than 20 feet in most places, according to exposures along the valley walls.

DAMSITE

The stream flows in a two-foot notch in the floodplain. The floodplain is approximately 100 to 150 feet wide and lies 30 to 40 feet below the uplands.

The upper portion of the right abutment is covered with vegetation. The following sequence of sediments is exposed in the lower part of the right abutment:

Tan to light brown, sandy, clayey silt (loess)	3 feet
Mottled rusty brown and gray, sandy, clay till	4 feet
Mottled gray and brown, clayey sand	1 foot
Covered	1 foot
Gray, calcareous, soft, thinly laminated, fine grained, sandstone, with some yellow bands. Base not exposed	3 feet

The left abutment is covered with vegetation, but it is probably similar in composition to the right abutment. Both abutments slope gently to the uplands.

RESERVOIR

The floodplain alluvium consists of tan to brown, sandy silt. The valley walls are composed of loess overlying brown, gravelly, sandy, clay till. The valley walls are gently to moderately sloping.

BORROW

A sufficient quantity of till which is suitable for borrow material can probably be obtained from the nearby uplands and reservoir sides. The floodplain alluvium is probably not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 14, 1964 County Rock Island

Quadrangle Milan Site No. 4

LOCATION

Mill Creek
W½ sec. 31, T 17 N, R 1 W

GENERAL GEOLOGY

Mill Creek, a major stream in this area, is located in central Rock Island County and drains an area of loess- and till- covered Pennsylvanian sediments. The uplands are very gently rolling with relief of 10 to 20 feet. The depth to bedrock is probably less than 25 feet in most places according to exposures along the valley walls.

DAMSITE

The stream meanders in a 4- to 6-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and lies 40 to 50 feet below the uplands.

Tan to light brown, sandy, clayey silt (loess) is the only sediment exposed in the gently sloping left abutment. The following section is exposed in the nearly vertical bluff which forms the right abutment.

	Feet	Inches
Loess -	6	
Stratified sand and fine gravel	2	
Gray, clayey, sandy, stratified silt	3	
Tan, silty, fine sand with interbedded silt layers	4	
Orange-brown, medium to coarse sand with some gravel	2	
Dark gray, soft clay	1	
Rusty brown, sandy gravel with interbedded layers of silty clay	1	
Dark gray, soft, thinly laminated shale	2	
Dark gray, soft siltstone		6
Dark gray, soft, thinly laminated shale, base not exposed	4	

RESERVOIR

The floodplain alluvium consists of dark brown, silty, fine to medium sand. Only loess and sand are exposed in the valley walls, but the subsurface materials are probably similar in nature and sequence to those

described in the right abutment. The valley walls slope moderately to the uplands.

BORROW

The clay and weathered shale present in the abutments may provide suitable borrow material. It is possible, however, that a borrow area will have to be developed elsewhere. The floodplain alluvium probably will not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program will be necessary in order to determine the nature and extent of the sand and silt bodies exposed in the abutments and reservoir sides.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 14, 1964 County Rock Island

Quadrangle Milan Site No. 5

LOCATION

Case Creek
NE¼ sec. 31, T 17 N, R 1 W

GENERAL GEOLOGY

Case Creek, located in central Rock Island County, is a major stream in this area and drains loess- and till-covered Pennsylvanian sediments. The uplands are flat to gently rolling with relief of 10 to 20 feet. The depth to bedrock is probably 25 feet or less according to exposures along the valley walls.

DAMSITE

The right abutment is gently sloping. About 4 feet of tan to light brown sandy, clayey silt (loess) is exposed overlying 8 feet of brown to gray, soft silty shale containing numerous iron-stone concretions. The left abutment slopes moderately to the uplands and in most places is covered with vegetation. The composition of the left abutment is probably similar to that of the right abutment.

The stream meanders in a 6 to 8 foot notch in the floodplain. The floodplain is approximately 200 to 300 feet wide and lies 40 to 50 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy silt. The following section is exposed in a roadcut about 2 miles southeast of the damsite and is probably typical of the materials which comprise the valley walls:

Loess	6 feet
Tan to light brown, sandy clay till containing sand stringers	10 feet
Silt, sand, and sandy gravel	2 feet
Coal	1.5 feet
Gray, soft underclay	3 feet

The valley walls slope moderately to the uplands.

BORROW

A sufficient quantity of till suitable for borrow material probably can be obtained from the uplands nearby and from the reservoir sides. The floodplain alluvium probably is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary in order to determine the nature and extent of the sand bodies present in the valley walls. Along county highway KK, which runs east-west about one mile south of the damsite, the headwaters of many small creeks have been successfully dammed. A mined-out area in section 33 near the head of the reservoir should be studied to determine any possible problems which may be caused by its presence.

M. T Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Rock Island

Quadrangle Orion Site No. 6

LOCATION

Coal Creek
SE¼ sec. 1, T 16 N, R 1 W

GENERAL GEOLOGY

Coal Creek, located in south-central Rock Island County, is a major stream in this area and drains loess- and till-covered Pennsylvanian sediments. The uplands are very gently rolling with local relief of 10 to 20 feet. The depth to bedrock is approximately 50 feet according to logs of previous borings in the area.

DAMSITE

The stream meanders in a 6 to 7 foot notch in the floodplain. The floodplain is approximately 400 to 500 feet wide and lies 30 to 40 feet below the uplands.

The right abutment slopes gently to the uplands; the left abutment is moderately to steeply sloping. The abutments are composed of 3 to 5 feet of tan to light brown sandy, clayey silt (loess) which overlies at least 15 feet of tan to light brown, sandy, silty, clay till.

RESERVOIR

The floodplain alluvium consists of dark brown, sandy silt. The valley walls, like the abutments, are composed of till overlain by loess and are gently to moderately sloping.

BORROW

A sufficient quantity of till suitable for borrow can be obtained from the reservoir walls and nearby uplands. The floodplain alluvium probably is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program will be necessary in order to determine the nature and sequence of the subsurface materials.

Illinois State Geological Survey
Urbana, Illinois

M. T. Lukert

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Rock Island

Quadrangle Port Byron Site No. 7

LOCATION

Tributary of Rock River
SW¼ sec. 13, T 18 N, R 1 E

GENERAL GEOLOGY

This minor tributary of Rock River is located in northern Rock Island County and drains an area of loess- and drift-covered Pennsylvanian sediments. The gently rolling uplands have relief of 20 to 30 feet. The depth to bedrock probably is less than 25 feet in most places according to exposures along the valley walls.

DAMSITE

The following section is exposed in the right abutment:

	Feet
Tan to light brown, sandy, clayey, silt (loess)	4
Covered	4
Yellow-brown, fine to medium grained, thick-bedded sandstone	2
Tan to yellow-brown, sandy, shaly siltstone, base not exposed	9

Only loess is exposed in the left abutment, but the subsurface materials are probably similar to those exposed in the right abutment. The right abutment is moderately to steeply sloping; the left abutment slopes moderately to the uplands.

The stream flows in a 6 to 8 foot notch in the floodplain. The floodplain is approximately 100 feet wide and is 25 to 30 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, silty sand. The base of the stream channel is cut in thick-bedded sandstone. The valley walls are covered in most places, but probably are composed of loess-mantled clastic sediments as in the right abutment. The valley walls are moderately to steeply sloping.

BORROW

Material suitable for borrow was not observed in the valley walls or uplands near the damsite. The floodplain alluvium is also unsuitable for borrow. Consequently, a borrow area will have to be developed elsewhere

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program will be necessary in order to determine the possiblity of leakage through the sandstone and to locate a satisfactory borrow area.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 15, 1964 County Rock Island

Quadrangle Port Byron Site No. 8

LOCATION

Zuma Creek'
S½ sec. 34, T 19 N, R 2 E

GENERAL GEOLOGY

Zuma Creek is a minor tributary of the Rock River in northeastern Rock Island County. The stream drains an area of loess- and drift-covered Pennsylvanian sediments. The uplands are gently rolling with relief of 20 to 30 feet. The depth to bedrock is approximately 50 feet as determined from the Bedrock Surface Map of Illinois.

DAMSITE

The stream flows in an 8 to 10 foot notch in the floodplain. The floodplain is approximately 200 to 250 feet wide and lies 20 to 30 feet below the uplands.

Both abutments slope gently to the uplands and in most places are covered with vegetation. Tan to light brown, silty, fine sand (loess) which becomes mottled with gray with depth is exposed in a few places.

RESERVOIR

The floodplain alluvium consists of brown, silty, clayey sand. The moderately sloping valley walls are covered with vegetation therefore making determination of their composition impossible.

BORROW

The lack of surface exposures makes it impossible to determine whether or not suitable borrow material is present in the area. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is imperative because of the nearly complete lack of surface exposures. It will be necessary to determine by borings, the nature, sequence, and extent of the subsurface materials, and the possible presence of suitable borrow material.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 17, 1964 County Sangamon

Quadrangle Springfield Site No. 1

LOCATION

Cantrall Creek
NE¼ SW¼ sec. 9, T 17 N, R 5 W

GENERAL GEOLOGY

Cantrall Creek is a major tributary of Sangamon River and drains the area around Cantrall, Illinois. The gently undulating uplands have a relief of 10 to 20 feet, which is typical of Illinoian glacial drift mantled by thick layers of loess. Logs of previous borings indicate the thickness of glacial materials to be approximately 50 feet near the proposed damsite.

DAMSITE

The stream flows in a notch 4 feet deep in silt. The valley has no distinct floodplain and the abutments maintain gentle slopes from the stream banks to the uplands. The width of the valley at the proposed site is about 700 feet. Large pieces of siltstone capped by silts and clays are exposed along the lower part of the left abutment. The upper 6 to 8 feet of this section consists of buff loess.

RESERVOIR

The sides of the reservoir have gentle slopes and an exposure in a road cut reveals dark,grayish-brown,clay till overlain by buff loess.

BORROW

Sufficient quantities of till and weathered loess, which can be used for borrow material, can be obtained from the uplands nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Shallow bedrock and considerable variation in depth to bedrock can be expected in this vicinity.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 17, 1964 County Sangamon

Quadrangle Springfield Site No. 2

LOCATION

Tributary of Wolf Creek
SW¼ SE¼ sec. 23, T 17 N, R 4 W

GENERAL GEOLOGY

The stream is a tributary of Wolf Creek and drains a part of the Jacksonville drift plain. The drift is mantled by thick loess deposits and as a result the topography of the uplands is very gently rolling. Logs of previous borings indicate the thickness of silt, probably largely loess, is approximately 20 feet and the underlying thickness of glacial materials, primarily till, is 100 feet.

DAMSITE

Reddish-brown till crops out in the lower part of the gently sloping abutments. The stream flows in a notch cut 4 feet deep in silt covering a broad valley with gently sloping sides.

RESERVOIR

The valley sides are covered with loess and the proposed reservoir is long and narrow. Impervious till probably underliesthe loess at a depth of 10 to 20 feet.

BORROW

Suitable materials for the construction of an earth dam can be obtained from weathered loess and from underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 17, 1964 County Sangamon

Quadrangle Springfield Site No. 3

LOCATION

Tributary of Wolf Creek
SW¼ NW¼ sec. 33, T 17 N, R 4 W

GENERAL GEOLOGY

The stream is a short tributary of Wolf Creek and drains a part of the very gently rolling Jacksonville drift plain. Surficial topography and soils are developed in the thick loess deposits overlying the moraine. The relief of the uplands is about 10 feet.

DAMSITE

The stream flows in a shallow notch in an alluvial silt floodplain about 800 feet wide bounded by moderately sloping abutments. Light brown loess 8 to 10feet thick is exposed on the right abutment. The loess rests on a dark brown till.

RESERVOIR

The valley sides have moderate to gentle slopes and there is no distinct floodplain. The geology of the reservoir area is (probably) similar to that at the proposed damsite. Logs of previous borings in the area indicate that the depth to bedrock may vary from 50 to 100 feet.

BORROW

A suitable supply of borrow material can be obtained from the till and weatheredloess nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATIONOOF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Tadlula Site No. 4

LOCATION

Tributary of Richland Creek
NW¼ NE¼ sec. 5, T 16 N, R 7 W

GENERAL GEOLOGY

The damsite is on an intermittent tributary of Richland Creek located southeast of Pleasant Plains, Illinois. Logs of previous borings indicate that loess deposits greater than 25 feet thick are present in the vicinity of the damsite. The very gently rolling upland topography has a relief of about 10 feet; stream courses are sharply incised into the upland plain.

DAMSITE

The stream flows in a 4-foot silt notch and the abutments have moderate slopes. The material underlying the 2-4 feet of loess cover as observed in small erosional cuts is brown clay till.

RESERVOIR

The valley sides are moderately to gently sloping and are composed of a dark, grayish-brown, clayey till mantled with loess. The difference in loess thickness between the observed outcrops and the boring logs indicated an irregular surface exists on the till in the reservoir area.

BORROW

An adequate supply of suitable borrow material can be obtained in the nearby clay till or weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Tallula Site No. 5

LOCATION

Tributary of Prairie Creek
NE¼ SE¼ sec. 8, T 16 N, R 6 W

GENERAL GEOLOGY

The stream is a short intermittent tributary of Prairie Creek and drains the nearly flat upland topography. Surficial soils are developed in the loess deposits that mantle the till. Logs of nearby wells indicate loess as much as 24 feet thick.

DAMSITE

The abutments are composed of loess and are covered with vegetation. The slopes are gentle from the uplands to the banks of the stream. The stream flows in a shallow silt notch.

RESERVOIR

The proposed reservoir is narrow and the sides slope gently to the uplands. Outcrops are limited to the loess exposed in small cuts in the sides of the valley.

BORROW

It may be necessary to utilize the nearby weathered loess material for borrow owing to the depth to the more suitable till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Springfield Site No. 6

LOCATION

Willow Branch
SE¼ SE¼ sec. 11, T 16 N, R 6 W

GENERAL GEOLOGY

Willow Branch is a short intermittent tributary of Sangamon River and drains the nearly flat topography of the loess-mantled Jacksonville drift plain. Logs of previous borings indicate that the bedrock surface is about 60 feet below the uplands.

DAMSITE

The abutments have moderate slopes and are covered with vegetation. The following section was observed on the right abutment about 2000 feet downstream from the proposed damsite:

	feet
soil	2
loess and clayey silt	8
till	10
light gray, thin bedded siltstone and shale	40

The stream flows in a 4-foot notch composed of silt and may bottom on bedrock.

RESERVOIR

The valley sides have moderate slopes and the geology is probably similar to that at the damsite. The floodplain area is narrow and the alluvium may be underlain by bedrock.

BORROW

Suitable borrow material may be obtained from weathered loess or clayey till. The alluvial silts are not suitable for use as borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Sangamon

Quadrangle Mechanicsburg Site No. 7

LOCATION

Tributary of North Fork
SW¼ SW¼ sec. 16, T 16 N, R 3 W

GENERAL GEOLOGY

The stream is a short tributary of North Fork and drains the Illinoian loess-covered glacial topography southwest of Buffalo, Illinois. Surficial soils are developed in the loess, and the relief of the uplands is about 10 to 20 feet. Previous borings nearby indicate the depth to bedrock is about 80 feet and that the thickness of loess is approximately 24 feet.

DAMSITE

The stream flowsin a silt notch 4 feet deep, and the abutments maintain a moderate slope to the uplands. The slopes are covered with vegetation except for local exposures of loess 6 to 8 feet thick.

RESERVOIR

The reservoir is small and the valley has moderate slopes, Owing to the thickness of the loess mantle the slopes of the underlying deposits were not observed.

BORROW

The weathered loess may be sufficiently clayey for use as borrow material in an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Sangamon

Quadrangle Mechanicsburg Site No. 8

LOCATION

Tributary of Griffith Creek
SE¼ NW¼ sec. 34, T 16 N, R 3 W

GENERAL GEOLOGY

The stream is a short tributary of Griffith Creek southwest of Mechanicsburg, Illinois, and drains the gently rolling loess-covered Illinoian glacial deposits. The relief of the uplands is about 10 to 20 feet. Surficial soils are developed in the loess. The depth to bedrock is approximately 100 to 150 feet, according to logs of previous borings in the area.

DAMSITE

The abutments have moderate slopes and are covered with vegetation. The stream flows in a 4-foot silt notch. Light brown loess is exposed in small erosional cuts on both abutments.

RESERVOIR

The reservoir is narrow with moderate to gently sloping sides. The sides are composed of loess as observed in small cuts. A successful stock dam is located about half a mile upstream from the damsite in a small tributary valley.

BORROW

Weathered loess is available nearby and may be the most suitable material for construction of the dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Springfield Site No. 9

LOCATION

Spring Creek
NE¼ NE¼ sec. 25, T 16 N, R 6 W

GENERAL GEOLOGY

Spring Creek is a tributary of Sangamon River northwest of Springfield, Illinois. The uplands have relief of about 10 feet. A report of this site was prepared by George E. Ekblaw, August 22, 1945, and preliminary borings were made in October of 1945 by the U. S. Corps of Engineers. The report and boring logs are on file at the Illinois State Geological Survey. Part of the results of this previous investigation are summarized on the accompanying cross-section. Available information indicates that coal has been mined from beneath part of the reservoir and the damsite.

DAMSITE

The stream flows in a sand and silt notch 6 feet deep in a floodplain about 500 feet wide. The left abutment is covered with loess-covered drift and has a moderate slope. The right abutment has a steep slope and the exposure consists of about 15 to 20 feet of light brown loess overlying 30 to 40 feet of bedrock, primarily medium gray shales and siltstones.

RESERVOIR

The stream meanders in a broad, flat, alluvial floodplain upstream from the proposed damsite. The sides have moderate to steep slopes and the geology is probably similar to that in the abutments.

BORROW

The nearby till is suitable for construction of an earth dam. However, it may be necessary to utilize some of the clayey loess to provide a sufficient quantity of material for the structure.

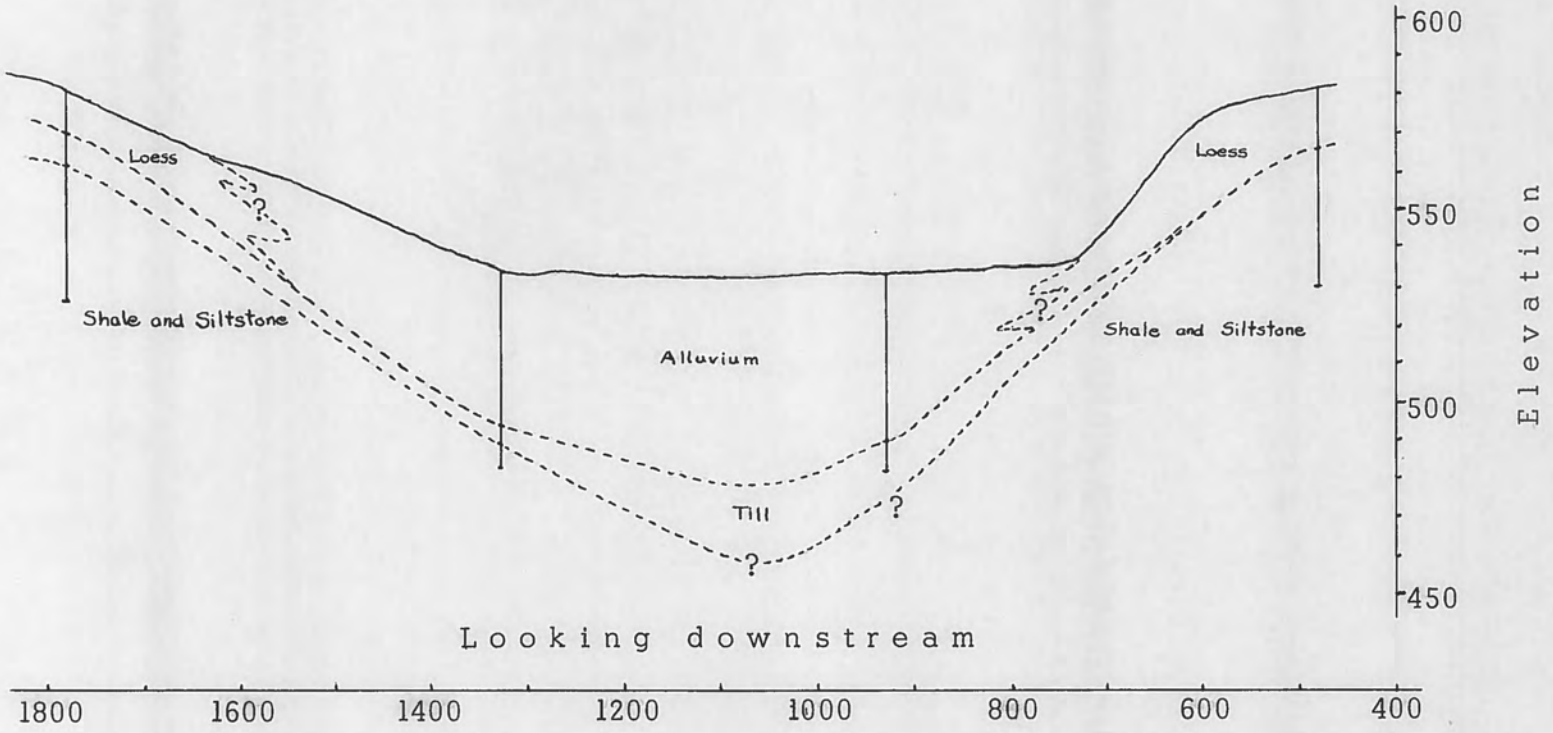
OPINION

The site is considered probably feasible subject to verification by additonal test boring and materials testing.

Diagrammatic Cross Section

Sangamon County Damsite No. 9

(State Water Survey)



P. B. DuMontelle

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Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Tallula Site No. 10

LOCATION

Little Spring Creek
Center SW¼ sec. 4, T 15 N, R 6 W

GENERAL GEOLOGY

Little Spring Creek is a tributary of Spring Creek and drains a part ~~of part~~ of the nearly flat loess covered Jacksonville moraine. The bedrock surface is approximately 70 to 100 feet below the surface of the uplands and is known to crop out along Spring Creek.

DAMSITE

The abutments are composed of loess covered drift, primarily till, and have moderate to gentle slopes. The streamflows inaa 4-foot notch of silt and sand alluvium. Small exposures of till or colluvium were observed along the banks of the creek.

RESERVOIR

The valley has moderate to gentle slopes and the following section was observed in a road cut on the right side of the abutment:

	Feet
Loess, buff to reddish brown	2-4
Till, clayey, dark gray-brown	10
Sand, coarse, gravelly	2
Clay,and shale pieces, gray brown	8+

The slopes are covered with vegetation and the valley does not have a definite floodplain.

BORROW

Suitable material for the construction of an earth dam is available in the nearby glacial deposits.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Sangamon

Quadrangle Waverly Site No. 11

LOCATION

Tributary of Spring Creek
NW¼ SW¼ sec. 15, T 15 N, R 7 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Spring Creek about 2 miles east of New Berlin. Logs of previous borings indicate that the thickness of the Illinoian drift, primarily till, is approximately 70 feet. The topography of the uplands is very gently undulating. Surficial soils are developed in loess that mantles the area.

DAMSITE

The stream flows in a silt and coarse sand notch 3 to 4 feet deep. The abutments are covered with vegetation except for a 6- to 8-foot exposure of clayey loess on the right abutment.

RESERVOIR

The valley is broad and gently sloping, the loess blankets the underlying drift.

BORROW

Suitable material for the construction of an earth dam is available in the nearby clayey loess and underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Sangamon

Quadrangle Waverly Site No. 12

LOCATION

Lick Creek
NE¼ NW¼ sec. 15, T 14 N, R 7 W

GENERAL GEOLOGY

Lick Creek is a major tributary of Sugar Creek and drains the very gently undulating Illinoian Jacksonville Drift plain. The drift is covered with loess and surficial soils are are developed in the loess which ranges in thickness from 5 to 20 feet. Logs of nearby borings indicate the thickness of glacial materaials to be about 65 feet.

DAMSITE

The stream flows in a silt notch 4 to 6 feet deep. The width of the floodplain at the proposed site is about 700 feet, and the abutments have moderate slopes. A part of the right abutment is exposed and consists of 8 to 10 feet of clayey, gravelly till capped by 5 feet of medium brown loess.

RESERVOIR

The walls of the proposed reservoir as observed in a road cut about one mile upstream consists of loess resting on gravelly, clayey till. The valley sides have moderate slopes and the stream meanders in a narrow floodplain composed of alluvial silts. Coal has been mined from beneath part of the reservoir area.

BORROW

The nearby clayey loess and the underlying till can be utilized in the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Sangamon

Quadrangle Waverly Site No. 13

LOCATION

Tributary of Lick Creek
NE¼ SE¼ sec. 6, T 14 N, R 6 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Lick Creek and drains a small area of the very gently undulating loess-covered Jacksonville drift plain. The log of a previous boring about a mile upstream from the proposed site indicates that 21 feet of clayey loess rests on glacial drift, primarily till. The depth to bedrock in this hole is 130 feet. A successful reservoir is located 2 miles north of the proposed site.

DAMSITE

The abutments have moderate slopes and are covered with vegetation. The stream has no floodplain and flows in a 3- to 4-foot notch. Loess was observed in small erosional cuts along both abutments.

RESERVOIR

The valley has moderate to gently sloping sides and the relief is about 30 to 40 feet. Vegetation and loess blanket the underlying materials.

BORROW

Clayey loess and the underlying till are available and can be utilized for the construction of an earth dam.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Sangamon

Quadrangle Divernon Site No. 14

LOCATION

Tributary of Sugar Creek
SW¼ SW¼ sec. 8, T 14 N, R 5 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Sugar Creek and drains a part of the Illinoian drift plain. Surficial soils are developed in loess that mantles the very gently rolling topography. A previous boring at Chatham about 1 mile northwest indicates that the thickness of loess is about 30 feet. Coal has been mined from beneath part of the proposed reservoir.

DAMSITE

The stream flows in a silt notch 2 to 3 feet deep. The abutments are vegetation and loess covered and have moderate slopes. The material at the base of the right abutment is slightly gravelly.

RESERVOIR

The valley sides have gentle slopes and the local relief is approximately 30 feet. Loess extends to the bottom of the creek. The loess is probably sufficiently clayey to prevent serious leakage in the reservoir area.

BORROW

The nearby clayey loess is probably suitable for the construction of a small embankment.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Sangamon

Quadrangle Divernon Site No. 15

LOCATION

Tributary of Sangamon River
NE¼ NW¼ sec. 10, T 14 N, R 4 W

GENERAL GEOLOGY

The stream is an intermittent tributary of Sangamon River and drains the area north and east of New City. The thickness of glacial materials, primarily loess and till, is 50 to 100 feet. The relief of the uplands is from 10 to 20 feet. Producing oil wells exist within and near the proposed reservoir.

DAMSITE

The moderately sloping abutments are partly covered by vegetation and loess. An exposure of gravelly, clayey, brown till is present along the lower part of the right abutment. A dry stream bed 2 to 3 feet deep composed of alluvial silt trends along the valley bottom.

RESERVOIR

The sides of the valley slope gently and consist of loess resting on till. The stream has no floodplain.

BORROW

Material suitable for the construction of an earth dam is available in the till and weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Before development of this site takes place, problems arising from the presence of oil wells in the reservoir area should be considered.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 26, 1964 County Sangamon

Quadrangle Divernon Site No. 16

LOCATION

Tributary of Sangamon River
NE¼ NW¼ sec. 23, T 14 N, R 4 W

GENERAL GEOLOGY

The stream is a tributary of Sangamon River and drains the very gently rolling loess-covered Illinoian glacial drift plain. The depth of the glacial deposits is estimated to be about 100 feet. A producing oil well is located approximately a mile upstream from the damsite and west of the proposed reservoir.

DAMSITE

The stream flows in a 2- to 3-foot notch composed of alluvial silt. The abutments are moderately sloping. A thick layer of light brown loess covers the underlying materials.

RESERVOIR

The valley sides have gentle slopes. Loess and vegetation blanket the uplands and the proposed reservoir.

BORROW

The weathered loess may be utilized for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. A study of local oil activity should precede development of the project.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 25, 1964 County Sangamon

Quadrangle Divernon Site No. 18

LOCATION

Henkle Branch
SE¼ SW¼ sec. 7, T 13 N, R 4 W

GENERAL GEOLOGY

Henkle Branch is an intermittent tributary of Horse Creek and drains the area southwest of Pawnee. The upland topography is very gently undulating with relief of 10 to 20 feet. Logs of previous borings indicate that the bedrock is overlain by 40 to 50 feet of Illinoian glacial deposits. The upper 15 to 20 feet of material is surficial soil and loess.

DAMSITE

The abutments slope moderately and are covered with vegetation and loess. The stream flows in a 3- to 4-foot notch.

RESERVOIR

The valley is broadly v-shaped, and the sides have gentle slopes. The underlying materials are hidden by a thick cover of loess and by vegetation.

BORROW

Weathered loess can probably be utilized for the construction of an earth dam.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Sangamon

Quadrangle Tallula Site No. 19

LOCATION

Richland Creek
NE¼ SE¼ sec. 36, T 17 N, R 7 W

GENERAL GEOLOGY

Richland Creek drains the very gently undulating loess-covered Illinoian glacial drift plain near Pleasant Plains. Logs of previous borings indicate that about 75 feet of till is capped by 20 to 25 feet of loess. Relief of the uplands is 10 to 20 feet.

DAMSITE

The stream flows in a silt notch 6 feet deep. The width of the floodplain is about 700 feet and consists of silt and sand alluvium. The abutments are moderately to steeply sloping and are partly covered with loess and vegetation. A dark gray-brown till is exposed in small erosional cuts near the upper part of the abutments.

RESERVOIR

The valley has moderate to steep sides and has a floodplain in the lower part of the proposed reservoir. The uplands are probably underlain by loess-covered till as recorded in previous borings.

BORROW

Material suitable for the construction of an earth dam is available in the nearby clayey till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Meredosia Site No. 1

LOCATION

Eagle Run
E½ SE¼ sec. 3, T 15 N, R 13 W

GENERAL GEOLOGY

Eagle Run is a short tributary of Coon Run and drains a part of the east bluff of the Illinois River valley north of the Village of Bluffs. The upland areas have relief of 10 to 20 feet, and the valleys are as much as 100 feet deep. The thickness of loess may be as much as 10 to 20 feet in the vicinity of the proposed reservoir. The underlying glacial drift materials consist of the Illinoian Payson ground moraine, primarily till, which may be overlain by outwash materials from the Illinoian Jacksonville moraine.

DAMSITE

The stream flows in a notch 4 to 6 feet deep composed of silt, sand, and gravel. At the time of examination the flow of the stream was very small and in places was not flowing at all. The abutments have moderately steep slopes and are covered with loess. The tan loess is probably draped over the underlying glacial materials. Bedrock may occur at a shallow depth beneath the stream valley.

RESERVOIR

The stream does not have a floodplain and the valleysides have moderately steep slopes. Tan loess and vegetation cover the reservoir area. The stream is in part dry, not having a consistent flow.

BORROW

Material suitable for the construction of an earth dam may be available in the more clayey loess or possibly in the till occurring below the loess layer.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Scott

Quadrangle Winchester Site No. 2

LOCATION

Tributary of Mauvaise Terre Creek
NE¼ NW¼ sec. 22, T 15 N, R 12 W

GENERAL GEOLOGY

The stream is a short tributary of Mauvaise Terre Creek and drains a part of the very gently undulating Illinoian drift plain. The upland areas have relief of about 10 to 20 feet. Loess mantles parts of this area to depths of as much as 10 to 15 feet. The proposed reservoir is located north of Merritt. The thickness of glacial material underlying the upland areas is about 80 feet. Bedrock crops out along Mauvaise Terre Creek. Strippable coal underlies the proposed reservoir.

DAMSITE

The abutments have moderately steep slopes and 15- to 20-foot beds of tan loess is exposed. At one location a two-foot layer of coarse gravel and brown sand was observed at the base of the abutment, and at another location a three-foot layer of dark brown till was exposed. The stream was flowing in a notch 2 to 4 feet deep composed of alluvial sand and silt.

RESERVOIR

The valley sides have moderate to moderately steep slopes. About 10 to 20 feet of loess is exposed in the upper part of the valley sides. In most places the loess is draped into the valley covering the underlying materials.

BORROW

Till or weathered loess may provide material suitable for the construction of an earth dam; This material is available nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 30, 1964 County Scott

Quadrangle Winchester Site No. 3

LOCATION

Walnut Creek
NW¼ NW¼ sec. 11, T 14 N, R 12 W

GENERAL GEOLOGY

Walnut Creek is a tributary of Illinois River and drains a part of the Illinoian drift plain north of Winchester. The proposed reservoir area is located near Linnville in the upper headwaters of the stream. The topography of the uplands in this area is nearly flat to very gently undulating and has relief of about 10 to 20 feet. The stream drains a part of the front slope of the Illinoian Jacksonville moraine. The depth to bedrock in the vicinity of the reservoir is 50 to 75 feet. As much as 10 to 20 feet of loess covers parts of the upland areas. Strippable coal underlies the proposed reservoir and damsite.

DAMSITE

The stream flows in a notch 6 to 8 feet deep composed of alluvial sand and silt. The abutments have moderate slopes and are covered with loess and vegetation.

RESERVOIR

The valley sides have moderate to gentle slopes and are covered with loess. Bedrock is known to occur at a shallow depth but was not observed at the time of examination.

BORROW

Material suitable for the construction of an earth dam may be available in the nearby weathered loess or underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Griggsville Site No. 4

LOCATION

Plum Creek
NE¼ NW¼ sec. 16, T 14 N, R 13 W

GENERAL GEOLOGY

Plum Creek is a tributary of Walnut Creek and drains a part of the east bluff of Illinois River valley. The uplands have relief of 10 to 20 feet, but the valley bottom is as much as 100 feet below the elevation of the uplands. The bedrock lies at a shallow depth below the elevation of the stream bottom.

DAMSITE

The stream channel is a notch 4 to 6 feet deep. At the time of examination the water was standing in pools and had no flow. Bedrock crops out in the bottom of the stream. The abutments have moderate slopes and are covered with loess.

RESERVOIR

The valley sides have moderate slopes that are covered with a thick layer of loess, but they may be underlain in part by till or bedrock. The floodplain is composed of silt and valley alluvium. The surface of the bedrock is about at the elevation of the stream bottom.

BORROW

Material suitable for the construction of an earth dam may be available in the underlying weathered loess or till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Winchester Site No. 5

LOCATION

Sandy Creek
NE¼ NE¼ sec. 26, T 14 N, R 12 W

GENERAL GEOLOGY

Sandy Creek is a tributary of Illinois River and drains a part of the gently undulating Illinoian drift plain near Winchester. The relief of the upland areas is about 20 to 30 feet. Surficial soils are developed in the thick loess layer which covers the drift to a depth of as much as 10 to 20 feet. The surface of the bedrock lies at a shallow depth below the elevation of the stream bottom and probably underlies the upland drift areas at a depth of about 50 to 75 feet. Parts of the proposed reservoir area are underlain by strippable coal.

DAMSITE

The stream flows in a notch 6 feet deep composed of valley silt and alluvium. Bedrock crops out in the stream valley and probably underlies the abutments. The abutments have moderate slopes and are covered by loess which is draped into the valley.

RESERVOIR

The valley sides have moderate slopes and show relief of 60 to 80 feet. Loess covers the underlying materials and may in places rest directly on bedrock.

BORROW

Material suitable for the construction of an earth dam may be available in the underlying clayey loess or till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Winchester Site No. 6

LOCATION

Tributary of Sandy Creek
NE¼ NW¼ sec. 35, T 14 N, R 12 W

GENERAL GEOLOGY

The stream is a tributary of Sandy Creek and drains a part of the gently undulating Illinoian drift plain. The uplands are mantled by a loess layer which may be as thick as 10 feet. The uplands have relief of about 10 to 20 feet while the valleys may be cut to depth of 60 to 100 feet. The bedrock surface underlies the valley bottom at a shallow depth and occurs beneath the uplands at depth of 50 to 75 feet. Parts of the proposed reservoir may be underlain by strippable coal.

DAMSITE

The abutments have moderate slopes and are covered with vegetation and loess. The loess is draped into the valley and appears to rest upon the bedrock surface. The stream flows in a notch about 4 feet deep composed of alluvial sand and silt.

RESERVOIR

The valley sides have moderate slopes and are composed of loess which is draped into the valley bottom. Bedrock crops out at various locations along the valley. Till may occur between the bedrock surface and the loess at various locations.

BORROW

Material suitable for the construction of an earth dam may be available in the underlying weathered loess or, if present, in the underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Winchester Site No. 7

LOCATION

Little Sandy Creek
SE¼ SE¼ sec. 10, T 13 N, R 12 W

GENERAL GEOLOGY

Little Sandy Creek is a tributary of Sandy Creek and drains a part of the gently undulating drift plain near the Village of Alsey. The upland topography has relief of about 10 to 20 feet. Loess covers parts of the area to depths of as much as 10 feet. Underclay is being mined from beds exposed along one of the arms of the proposed reservoir about half a mile south of the damsite. The succession of materials at this location is as follows:

Materials	Thickness in feet
Loess, tan	10
Siltstone, shale	25
Coal or black coaly shale	3
Underclay	8
Bottom of stream	

DAMSITE

At the time of examination there was no flow of water in the streambed. The channel is a 4-foot notch composed of alluvial silt. The narrow floodplain is bounded by abutments which have moderately steep slopes and are covered by loess. The loess may rest directly on the bedrock surface, and the geology is probably similar to that of the section described above.

RESERVOIR

The valley has a narrow floodplain,and the sides have moderately steep slopes. Loess mantles the area and is draped into the valley covering the underlying materials. Glacial materials may occur between the loess and the bedrock surface.

BORROW

The underlying weathered loess may be suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the mining interests located nearby is necessary before this site is considered seriously.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Winchester Site No. 8

LOCATION

Tributary of Sandy Creek
SE¼ NW¼ sec. 7, T 13 N, R 12 W

GENERAL GEOLOGY

The stream is a small intermittent tributary of Sandy Creek and drains a part of the gently rolling Illinoian till plain. The relief of the upland areas is about 20 to 30 feet. Loess covers the upland areas and parts of the valleys to depths of as much as 10 feet. Bedrock crops out at many locations along Big Sandy Creek and in the upland areas is probably overlain by as much as 50 feet of glacial material.

DAMSITE

The abutments have moderate slopes, and the loess, which drapes into the valley, covers the underlying materials. The stream had a very small flow at the time of examination, and the channel consisted of a bedrock bottom and sides of alluvial and silt. Bedrock probably underlies the abutment areas at a shallow depth.

RESERVOIR

The sides of the valley have moderate slopes and consist of a thick loess layer which covers the underlying materials.

BORROW

Material suitable for the construction of an earth dam is probably available in the underlying, weathered, clayey loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 29, 1964 County Scott

Quadrangle Winchester Site No. 9

LOCATION

Little Sandy Creek
NE¼ NW¼ sec. 31, T 13 N, R 12 W

GENERAL GEOLOGY

Little Sandy Creek is a tributary of Sandy Creek and drains a part of the very gently rolling Illinoian till plain south of the Village of Alsey. The relief of the uplands is about 10 to 20 feet. About 10 feet of loess covers the drift materials in this area. According to previous reports, bedrock crops out at various locations along the stream valley. Parts of the valley are underlain by strippable coals.

DAMSITE

The stream flows in a notch 6 to 8 feet deep, and shaly siltstone is exposed in the bottom. The floodplain consists of alluvial materials and is broad and nearly flat. The bedrock is exposed at various locations along the valley walls to heights of as much as 20 to 25 feet. Tan loess rests on the bedrock and in places is draped into the valley.

RESERVOIR

The valley sides have moderate to moderately steep slopes, and the valley floodplain is nearly flat. Alluvium makes up most of the valley floodplain materials except at places where the bedrock surface is exposed. Loess is draped into some parts of the valley covering the bedrock surface.

BORROW

Material suitable for the construction of an earth dam is probably available in the underlying clayey loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 31, 1964 County Scott

Quadrangle Winchester Site No. 10

LOCATION

Marks Creek
SW¼ SE¼ sec. 34, T 13 N, R 11 W

GENERAL GEOLOGY

The stream is a tributary of Coal Creek and drains a part of the gently undulating Illinoian till plain. The relief of the uplands is about 10 to 20 feet. The depth of the glacial materials resting on the bedrock surface is about 50 to 100 feet. Strippable coals underlie the proposed reservoir area.

DAMSITE

The channel is 4 to 6 feet deep and consists of silt and sand alluvium. At the time of examination the stream bed was dry. The abutments have relief of 40 to 60 feet and consist of about 15 to 20 feet of bedrock capped by 8 to 10 feet of loess. A zone of weathered bedrock about 5 feet thick mantles the bedrock surface in this vicinity.

RESERVOIR

The sides of the valley have moderate to steep slopes, and shaly siltstone is exposed at many locations. There is some valley alluvium in the central part of the valley but bedrock probably underlies these deposits at a shallow depth.

BORROW

Materials suitable for the construction of an earth dam is probably available in the nearby weathered loess.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 6/14/65 County Shelby Watershed Rattlesnake Creek

Quad Name and No. Effingham - 83 Site No. LW-52-IX

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		604
Elevation Top of Dam		608

LOCATION

Rattlesnake Creek
SE¼ NW¼ sec. 18, T 9 N, R 6 E

GENERAL GEOLOGY

Rattlesnake Creek drains an area of Illinoian till, in places mantled by 2 to 6 feet of loess, which lies on Pennsylvanian bedrock of varied lithology. Well logs and the Bedrock Surface Map of Illinois indicate the till to be generally 30 to 40 feet thick.

DAMSITE

The stream has cut a notch 11 feet deep and 40 feet wide in the flood plain. The flood plain here is about 450 feet wide, and the alluvium consists of sand, silt, scattered and thin lenses of pebbles, and a very minor amount of larger rock fragments. Both abutments are of moderate slopes largely developed on till. The Bedrock Surface Map of Illinois indicates that bedrock may be encountered a few feet above the level of the proposed emergency spillway.

RESERVOIR

The geology of the reservoir is probably similar to that at the damsite. The valley sides have moderate slopes, and the width of the flood plain is about the same along the length of the proposed reservoir.

BORROW

Ample material of suitable quality is probably available from the nearby uplands and upper valley walls for construction of an earth dam. Some small areas of the upland appear to have material too high in concentration of cobble- and boulder-sized rock fragments for use as borrow.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey

J. R. Bergstrom

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined June 15, 1965 County Shelby Watershed Hog Creek

Quad Name and No. Effingham - 83 Site No. LW - 52 - VIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		600
Elevation Top of Dam		609

LOCATION

Hog Creek
SW¼ SE¼ sec. 6, T 9 N, R 6 E

GENERAL GEOLOGY

Hog Creek is a small tributary of Little Wabash River and drains an area of Pennsylvanian bedrock largely covered by 15 to 25 feet of pre-Wisconsinan till. According to previous reports, the bedrock is of varied lithology. Bedded sandstones are exposed locally.

DAMSITE

The stream flows in a channel 6 feet deep and 30 feet wide exposing sand with included rock fragments as long as 9 inches. The flood plain is about 450 feet wide. Sand and gravel crop out in the very steep right abutment. The moderately sloping left abutment probably consists of the same material. The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

The valley walls have moderate to gentle slopes. Local sand and gravel concentrations were observed in the watershed. An interpretation of these local deposits is that some Wisconsinan outwash, probably derived from the Shelbyville moraine lying 10 miles to the north, was irregularly deposited upon the earlier tills.

BORROW

An adequate supply of borrow material suitable for an earth dam may be difficult to obtain in the vicinity of the site.

OPINION

Because of the uncertainty of an adequate supply of suitable borrow material and because of the possible presence of a large amount of sand and gravel in the right abutment, the damsite is considered probably not feasible. This opinion is subject to verification by an adequate program of test boring and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/8/65 County Shelby Watershed Copperas Creek

Quad Name and No. Stewardson - 96 Site No. LW-52-III

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		629
Elevation Top of Dam		

LOCATION

Copperas Creek
NW¼ NW¼ sec. 23, T 10 N, R 6 E

GENERAL GEOLOGY

Copperas Creek is a tributary of Little Wabash River and drains a part of the gently rolling Illinoian till plain in the vicinity of Neoga. The glacial materials, primarily till, range in thickness from 10 to 30 feet and rest on Pennsylvanian bedrock of varied lithology.

DAMSITE

The stream is entrenched in its floodplain to a depth of about 6 feet, and the channel is generally about 50 to 75 feet wide. The floodplain is at least 400 feet wide. Fine-grained sandstone beds of irregular thickness are exposed in the stream bed and banks, but are largely covered by sandy, gravelly alluvium. The right and left abutments have moderate to gentle slopes. Some pinkish-orange till containing about 10 percent pebbles and some rock fragments of larger size crops out along the abutments.

As indicated by the Bedrock Surface Map of Illinois and by observations, bedrock is not likely to be encountered above the level of the proposed emergency spillway.

RESERVOIR

The geology of the proposed reservoir is similar to that of the damsite. The sides of the reservoir have moderate to gentle slopes and are covered by surficial materials and vegetation.

BORROW

There is an adequate supply of till in the vicinity of the site for use as borrow material for construction of an earth dam.

OPINION

The damsite is probably feasible subject to verification by an adequate program of test drilling and materials testing.

J. R. Bergstrom

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7/8/65 County Shelby Watershed West Branch Little Wabash Cree

Quad Name and No. Stewardson - 96 Site No. LW-52-IV

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool		
Elevation Emergency Spillway		615
Elevation Top of Dam		618

LOCATION

West Branch Little Wabash Creek
SW¼ NW¼ sec. 9, T 10 N, R 6 E

GENERAL GEOLOGY

The West Branch of Little Wabash Creek and its tributaries drain an area of nearly flat topography south of the Shelbyville moraine. Some Wisconsinan outwash and about 30 feet of pre-Wisconsinan till lie on a Pennsylvanian bedrock surface.

DAMSITE

The damsite is located a short distance downstream from the junction of West Branch of Little Wabash River and Drake Creek. The stream flows in a notch approximately 7 feet deep and 70 feet wide in a floodplain estimated to be 500 to 600 feet wide. The sediments exposed in the stream bed and in the banks indicate the valley alluvium contains much sand, pebbles, and some silt and clay. The stream flows in places on bedrock of grayish, shaly siltstone which is also visible in the left abutment to a height a few feet above the floodplain. The right and left abutments have a gentle slope, and exposures of pebbly till indicate a covering of the bedrock by at least 20 feet of till. The loess-mantled upland is flat where not incised by the permanent stream parts of the valleys.

As indicated by field observations and by the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered above the bed of the proposed emergency spillway.

RESERVOIR

The sides of the reservoir have moderate to gentle slopes and are composed primarily of till mantled in some areas by a few feet of loess. Although till was observed in nearby outcrops, some gravel lenses of considerable size may be present in the vicinity of the valley.

BORROW

Adequate and suitable borrow material is available in the vicinity for construction of an earth dam.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 4, 1964 County Stephenson

Quadrangle Lena Site No. 1

LOCATION

Tributary of Waddams Creek
Center sec. 34, T 28 N, R 6 E

GENERAL GEOLOGY

This stream is a tributary of Waddams Creek in northwestern Stephenson County. The uplands are Ordovician bedrock hills covered with approximately 20 feet of loess and till. Relief in the area is between 30 and 40 feet.

DAMSITE

The stream meanders in a 5-foot notch in the floodplain. The floodplain is approximately 350 to 400 feet wide and lies 30 to 40 feet below the uplands.

The moderately sloping abutments are composed primarily of tan to buff, thinly bedded, sandy, vuggy dolomite of the Galena formation. The dolomite is capped by tan to light brown, sandy loess.

RESERVOIR

The floodplain alluvium is dark brown, slightly sandy silt. The reservoir sides are composed of reddish-brown, sandy clay till which is underlain by Galena dolomite and overlain by loess.

BORROW

Sufficient quantities of borrow probably can be obtained from the till present along the valley sides and in the uplands nearby. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of materials testing and test borings. Special attention should be given to the possible presence of solution channels in the dolomite which could permit leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 4, 1964 County Stephenson

Quadrangle Freeport Site No. 2

LOCATION

Cedar Creek
Center sec. 31, T 28 N, R 8 E

GENERAL GEOLOGY

Cedar Creek is a major stream in north-central Stephenson County. The uplands are Ordovician bedrock hills covered with approximately 10 feet of loess and till. Relief in the area is from 30 to 40 feet.

DAMSITE

The steeply sloping abutments are composed largely of tan to buff, thinly bedded, cherty, vuggy, Galena dolomite. Joints and crevices are present in the dolomite. At least a foot of reddish-brown, sandy, clay till overlies the dolomite. Tan to light brown, sandy loess is present above the till.

The stream flows in a 6-foot notch in the floodplain. The floodplain is approximately 75 feet wide and is 30 to 40 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown to dark brown, clayey, sandy silt. The gently sloping valley sides are covered with vegetation in most places, but they are probably similar in composition to the abutments.

BORROW

A sufficient quantity of till suitable for borrow material probably can be obtained from the valley sides and the nearby uplands. The floodplain alluvium is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Investigation of the discontinuities in the dolomite should be carried out to determine whether or not serious leakage problems will arise.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 5, 1964 County Stephenson

Quadrangle Pecatonica Site No. 4

LOCATION

Rock Run
SE¼ sec. 15, T 28 N, R 9 E

GENERAL GEOLOGY

Rock Run is a major stream in eastern Stephenson County. The uplands are Ordovician bedrock hills covered with approximately 10 feet of loess and till. Relief in the area is between 30 and 40 feet.

DAMSITE

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 200 feet wide and lies 30 to 40 feet below the uplands.

The steeply sloping abutments are composed largely of tan to buff, thinly bedded, sandy, vuggy, Galena dolomite which is overlain by 2 to 3 feet of brown, sandy, clay till. The till is capped by loess.

RESERVOIR

The floodplain alluvium consists of brown, silty, clayey sand. The valley sides slope gently to the uplands and like the abutments are composed of Galena dolomite, till, and loess.

BORROW

A sufficient quantity of till suitable for borrow material can probably be obtained from the valley sides and from the uplands nearby. The floodplain alluvium is not suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Special attention should be given to investigation of solution channels in the dolomite which could permit serious leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 6, 1964 County Stephenson

Quadrangle Pecatonica Site No. 5

LOCATION

Rock Run
NW¼ sec. 35, T 28 N, R 9 E

GENERAL GEOLOGY

Rock Run is a major stream in eastern Stephenson County. The uplands are Ordovician bedrock hills covered with approximately 10 feet of loess and till. Relief in the area is between 30 and 40 feet.

DAMSITE

The abutments are composed largely of tan to buff, thinly bedded, sandy, vuggy dolomite of the Galena formation. The dolomite is overlain by 2 to 3 feet of light brown, sandy, silt till. The right abutment has a gentle slope, and the left abutment has a moderately gentle slope.

The stream flows in a 6-foot notch in the floodplain. The floodplain is approximately 250 to 300 feet wide and lies 20 to 30 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, silty, fine to medium sand. The following section is exposed in a road cut about a quarter of a mile northeast of the damsite and is probably typical of the materials found in the valley sides:

Tan to light brown, sandy loess	2 feet
Brown, sandy, clay till	2 feet
Tan to buff, thinly bedded, vuggy dolomite; base not exposed	8 feet

Several springs issue from the Galena dolomite along the valley walls. The valley sides have gentle to moderate slopes.

BORROW

A sufficient quantity of till suitable for borrow can probably be obtained from the reservoir sides and from the nearby uplands. The floodplain alluvium would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The springs present in the valley sides indicate that solution channels are present in the dolomite. Special attention should be given to this possibility, as such channels could permit serious leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 5, 1964 County Stephenson

Quadrangle Pecatonica Site No. 7

LOCATION

Rock Run
NE¼ sec. 15, T 27 N, R 9 E

GENERAL GEOLOGY

Rock Run is a major stream in eastern Stephenson County. The uplands are Ordovician bedrock hills covered with approximately 10 feet of loess and till. Relief in the area is between 30 and 40 feet.

DAMSITE

The stream flows in a 10- to 12-foot notch in the floodplain. The floodplain is approximately half a mile wide and lies 30 to 40 feet below the uplands.

The abutments have gentle slopes which are covered with vegetation in most places. Light reddish-brown, sandy loess is the only sediment exposed in the abutments. The composition of the remainder of the abutments is probably similar to that of the valley sides.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The composition of the valley sides is probably similar to the following section which is exposed in a quarry about a mile northwest of the damsite:

Tan to light brown, sandy loess	4 feet
Tan to buff, thinly bedded, sandy dolomite with some jointing	15 feet
Tan to buff, thickly bedded, vuggy, cherty, thickly bedded, crystalline dolomite;	5 feet
Blue-gray, cherty, thickly bedded, crystalline dolomite; base not exposed	4 feet

The reservoir sides slope gently to the uplands.

BORROW

No suitable borrow material for an earth dam was observed in the area. The floodplain alluvium would not be suitable for borrow. The practicability of a rock-fill or other type of dam should be studied.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Borings are especially necessary in the vicinity of the damsite where there are no exposures of the subsurface materials. If dolomite is present, it may contain solution channels which would permit excessive leakage.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Tazewell

Quadrangle Peoria Site No. 2

LOCATION

Tributary of Farm Creek
SE¼ SE¼ sec. 4, T 25 N, R 4 W

GENERAL GEOLOGY

The stream is a tributary of Farm Creek and drains a part of the very gently rolling Wisconsinan upland till plain. The proposed reservoir lies between the Bloomington and the Shelbyville-LeRoy moraines. Loess covers parts of the glacial materials to depth of as much as 10 feet. Outwash material may occur beneath the loess. About 200 feet of glacial material covers the bedrock surface.

DAMSITE

At the time of the examination no water was flowing in the stream channel, which is a shallow notch eroded in silt and sand. Both abutments have steep slopes and are covered with loess and vegetation.

RESERVOIR

Till probably underlies the lower parts of the reservoir. The V-shaped valley has steep to moderately steep sides. Loess is draped into the valleys covering the underlying till.

BORROW

Material suitable for the construction of an earth dam is probably available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Tazewell

Quadrangle Mackinaw Site No. 4

LOCATION

Tributary of Mud Creek
Center N½ sec. 10, T 24 N, R 3 W

GENERAL GEOLOGY

The stream is a tributary of Mud Creek and drains a part of the front slope of the Wisconsinan Bloomington moraine near Allentown. The relief of the upland areas is about 10 to 20 feet. Outwash materials from the Bloomington moraine may occur in the vicinity of the proposed site. Surficial soils are developed in loess which mantles the upland areas. The log of a previous boring nearby is as follows:

Materials	Depth in feet
Clay, yellow	4
Till, sandy, brown	15
Till, calcareous, sandy, gravelly, brown	49
Till, calcareous, sandy, gravelly, yellow-gray	85
Silt, sandy	135
Gravel, fine to coarse	148
Bottom of boring	

DAMSITE

The abutments have steep slopes and are composed of loess underlain by till. 15 to 20 feet of chocolate-brown till is exposed on the left abutment. The stream flows in a narrow, flat floodplain in a 6-foot notch composed of alluvial silt and sand.

RESERVOIR

The valley sides have a moderately steep slopes. A section one mile north of the proposed site consists of 5 to 6 feet of buff loess resting on 1 to 2 feet of sand and gravel. This in turn, overlies 20 feet of till.

BORROW

Suitable material for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Tazewell

Quadrangle Mackinaw Site No. 5

LOCATION

Alloway Creek
SE¼ NW¼ sec. 34, T 25 N, R 2 W

GENERAL GEOLOGY

Alloway Creek is a tributary of Mackinaw River and drains a part of the front slope of the Bloomington moraine. Surficial soils are developed in loess which mantles the upland areas. The relief of the uplands is about 20 feet. The present course of the stream is located over an ancient bedrock valley and may be underlain by as much as 400 feet of glacial material.

DAMSITE

The stream flows in a notch 5 to 7 feet deep eroded in silt and alluvial materials. The abutments are strongly sloped and in most places 4 to 6 feet of loess rests on a chocloate-brown, clayey till. 15 to 25 feet of coarse sand and gravel are exposed in a projection on the right abutment.

RESERVOIR

The valley has a flat bottom and sides that have moderate slopes. A clay till underlies the upland areas and can be observed near the proposed damsite.

BORROW

Suitable material for the construction of an earth dam is available in the nearby chocloate-brown, clayey till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. It may be necessary to relocate the site a short distance upstream to avoid the porous sand and gravel materials located near the right abutment.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Tazewell

Quadrangle Peoria Site No. 6

LOCATION

Tributary of Lost Creek
SW¼ SW¼ sec. 19, T 24 N, R 4 W

GENERAL GEOLOGY

The stream is a tributary of Lost Creek and drains a part of the east bluff of the Illinois River valley. The loess that mantles the upland areas is about 10 feet thick.in the vicinity of the proposed damsite. Strippable coal may underlie parts of the proposed reservoir. The glacial materials, primarily till, are about 100 to 120 feet thick.

DAMSITE

The stream flows in a 6- to 8-foot notch composed of silt and sand alluvium. At the time of examinationthe stream had a very small flow. The abutments have moderate slopes and are covered by vegetation and loess which is draped over the valley sides.

RESERVOIR

Loess covers the sides of the valley and hides the underlying materials. The valley has no distinct floodplain; the sides have moderate to gentle slopes which rise from the stream channel.

BORROW

Weathered loess or possibly the underlying till materials may be suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Tazewell

Quadrangle Delavan Site No. 7

LOCATION

Lost Creek
SE¼ SW¼ sec. 30, T 24 N, R 4 W

GENERAL GEOLOGY

Lost Creek is a tributary of Illinois River and drains a part of the bluffs along the east slope of the Illinois River valley east of South Pekin. The bluffs are covered with loess and have upland relief of 20 to 30 feet. Logs of previous borings indicate that the depth of glacial material, primarily till, is as much as 175 feet.

DAMSITE

The stream channel is about 4 feet deep and is composed of sand and silt. At the time of examination the waterwas standing in pools. Both abutments have moderately steep slopes, and silty till, 20 to 25 feet thick, is exposed with a mantle of about 15 feet of loess.

RESERVOIR

The geology of the reservoir is assumed to be similar to that of the abutments. The valley has a narrow floodplain area and the sides have moderate slopes.

BORROW

Suitable material for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGICAINVESTIGATION OF DAMSITES

Date examined August 17, 1964 County Tazewell

Quadrangle Delavan Site No. 8

LOCATION

Dillon Creek
NW¼ SW¼ sec. 4, T 23 N, R 4 W

GENERAL GEOLOGY

Dillon Creek is a tributary of Mackinaw River and drains a part of the front slope of the Shelbyville-LeRoy moraine. The uplands are mantled by a layer of loess about 10 feet thick and have relief of 20 to 30 feet. The log of a previous boring about two miles west of the proposed damsite is as follows:

Materials	Depth in feet
Clay, blue	60
Sand, fine	170
Gravel, coarse	174
End of boring	

DAMSITE

The stream channel is about 5 feet deep and is composed of gravel and sand. The stream had no flow at the time of examination. Till was exposed in the steep abutments, but according to the nearby drill hole and as indicated by the coarse materials observed in the floodplain area, more porous materials may underlie the till.

RESERVOIR

The valley sides are steep to moderately steep, and the stream has a narrow floodplain. The valley sides are capped with loess, and till is exposed at various places.

BORROW

Till is probably available nearby and is probably suitable for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Porous materials located at the damsite may make it difficult to provide a suitable cutoff. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Tazewell

Quadrangle Delavan Site No. 9

LOCATION

Tributary of Mackinaw River
SE¼ SW¼ sec. 2, T 23 N, R 4 W

GENERAL GEOLOGY

The stream is a short intermittent tributary of Mackinaw River and drains a part of the Shelbyville-LeRoy morainal deposits east of Dillon. The gently rolling topography has relief of about 20 to 30 feet. Surficial loess deposits have a thickness of about 10 feet. Previous borings indicate as much as 240 feet of drift, primarily till, overlies the bedrock surface.

DAMSITE

At the time of examination the stream was dry. The stream channel is a 6-foot notch composed of silty sand. At the damsite the stream channel is narrow and steep sided. Till is exposed in the abutments and is capped by loess.

RESERVOIR

The sides of the narrow V-shaped valley consist of till mantled by loess. The sides have steep to moderate slopes.

BORROW

Material suitable for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Porous materials may underlie the till in this area and may present a problem to the construction of a proper cutoff.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Tazewell

Quadrangle Minier Site No. 10

LOCATION

Indian Creek
SW¼ NW¼ sec. 28, T 23 N, R 3 W

GENERAL GEOLOGY

Indian Creek is a tributary of Mackinaw River and drains a part of the area between the LeRoy and Bloomington moraines near Hopedale. The topography is very gently undulating, and surficial soils are developed in loess which mantles the area. A log of the Hopedale city well is as follows:

Materials	Depth in feet
Fill	6
Top soil	10
Clay, sandy, blue	35
Clay, brown	42
Clay, blue, sand and gravel	137
Sand, very fine	145
Sand, fine	165
Sand and gravel	176½
Sand, fine	180½
Sand and some gravel	194
Sand	222
End of boring	

DAMSITE

The stream channel, although dry at the time of examination, is about 6 to 8 feet deep and is composed of alluvial sand and gravel. The abutments have moderately steep slopes, and till underlies about 8 to 10 feet of loess.

RESERVOIR

The valley divides into two nearly equal branches about half a mile upstream from the damsite. The sides of the valley have moderate slopes and are generally covered with loess, The stream has a narrow floodplain in the proposed reservoir area.

BORROW

Material suutable for the construction of an earth dam is probably available in the underlying till materials.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 18, 1964 County Tazewell

Quadrangle Minier Site No. 11

LOCATION

Tributary of West Fork Sugar Creek
SE¼ NW¼ sec. 20, T 22 N, R 2 W

GENERAL GEOLOGY

The stream is an intermittent tributary of West Fork Sugar Creek and drains a part of the backslope of the LeRoy moraine. The topography is gently rolling and has relief of about 10 to 20 feet. 5 to 10 feet of loess probably mantles the underlying glacial material in this area. The glacial materials, primarily till, may be as thick as 300 feet, as an ancient bedrock valley is shown on the bedrock surface map to pass beneath the proposed site.

DAMSITE

The abutments have moderate to steep slopes, are covered with loess and vegetation, and are somewhat gravelly at the base. Although till was not observed, it may be assumed to underlie parts of the abutments. The 4-foot stream channel was dry at the time of examination.

RESERVOIR

The valley sides are gentle to very gentle, and loess and surficial soils cover most of the area. Till probably underlies the proposed reservoir.

BORROW

Weathered loess or underlying till are probably suitable material for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

W. C. Smith & A. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 11, 1965 County Vermilion

Quadrangle Fithian Site Glenburn Project

Report prepared for
Department of Recreation and Municipal Park Administration
University of Illinois

LOCATION

Tributary of Glenburn Creek
NE SW sec. 1, T 19 N, R 13 W

GENERAL GEOLOGY

The project site is located within the till plain just south of the front of the Bloomington moraine. The moraine is characterized by rolling topography and is composed mostly of till. The flat till plain is mostly underlain by till; however, a few scattered pockets of outwash sand and gravel are present on the surface of the till. Relief in the area ranges between 40 and 60 feet. Logs of wells drilled previously in the area indicate that the shale bedrock is overlain by 40 to 60 feet of glacial materials.

INITIAL DAMSITE

The damsite as initially proposed, see Figure 1, attached, is just west of the present one-lane concrete north-south road through the center of section 1. At the time of the examination, the alignment and size of the proposed dam had not been determined.

At the site the creek flows in a notch 5 to 10 feet wide and 4 to 5 feet deep. Some water was flowing in the creek at the time of the examination. Numerous exposures along the creek show that the floodplain, which is approximately 300 feet wide at the site is underlain by the following materials:

Material	Thickness in feet
Black silty clay	2 to 3
Coarse gravel	0.5 to 1
Gray stony and clayey till	2 +

The moderately steep valley sides are underlain by stony, clayey till similar to that exposed along the creek. Several small, apparently unconnected sand and gravel pockets are present in the till.

INITIAL RESERVOIR AREA

Geologic conditions very similar to those at the proposed damsite prevail upstream along the creek. The floodplain becomes progressively narrower upstream.

SPECIAL NOTE

To produce a suitable and desirable lake or pond, a dam at the initially proposed site would have to rise at least 10 to 15 feet above the elevation of the

floodplain. The resulting lake would extend upstream and would be about 80 percent on the adjoining property. This situation would appear to be beyond the desires of the owner of the damsite property. Because of this development, two alternate schemes of reservoir development were considered.

FIRST ALTERNATE DAMSITE AND RESERVOIR AREA

In this scheme a small dam would be built at the site of the initially proposed dam. However, this alternate dam would be considerably smaller both in height and length. The reservoir would consist of a pond occupying an excavated area in the floodplain behind the small dam.

The black silty clay and gravel deposits underlying the floodplain should be removed in order to establish an impervious cut-off beneath the dam. This excavation should be carried a short distance into the underlying till, on which material the dam should be founded. The reservoir or pond area can be excavated to some desired depth. It is advisable that, if the water level in the pond is likely to come in contact with the exposed gravel deposit, an impervious blanket of clayey till be placed around the edge of the pond to prevent excessive leakage.

SECOND ALTERNATE DAMSITE

The second alternate scheme of development would use a damsite located on a tributary which occupies a small ravine west of the initial damsite, see Figure 1, attached. The tributary enters the main valley through a narrow valley approximately 20 feet deep and less than 10 feet wide at its base. The valley sides have steep slopes and are underlain by stony, clayey till.

SECOND ALTERNATE RESERVOIR

As there is no floodplain along the main ravine or its smaller tributary gullies, the reservoir would occupy only the steep-sided and narrow valleys. Till, very similar to that at the second alternate damsite, underlies the entire reservoir area. Pockets of water-bearing sand and gravel are present in the till, and, where the surface of the valley sides has intercepted these zones, springs have developed. The resulting reservoir, or pond, would be quite small, but would have a low proportion of shallow water.

BORROW

Sufficient quantities of the stony, clayey till, which is probably suitable for use as impervious borrow, or fill material, in the construction of a dam, are available adjacent to either damsite.

OPINION

The initial damsite is considered infeasible because, as stated in the Special Note, the lake created by a dam of suitable size at this location would be about 80 percent on adjoining property.

Both of the alternate schemes of development appear equally feasible geologically, but an adequate supply of water the year round would probably be more likely in the lake developed by excavation of the floodplain in conjunction with a low dam at the site of the initial damsite, i.e., if the first alternate scheme were used. Prior to a decision to develop the project in accordance with

the first alternate scheme, a few preliminary borings should be made in order to make sure there is no deposit of permeable sand and gravel at shallow depth beneath the till that underlies the alluvium of the floodplain.

The second alternate scheme, i.e., a small reservoir in the tributary ravine, is probably not feasible because of the possible deficiency of water. A careful study of the hydrology of this site should be made if consideration is given to its development.

Before proceeding with construction at either of the two alternate sites, an adequate program of test boring and materials testing should be undertaken.

Legend

Scale: approximately 1:24000

Contour interval: 10 feet

Initially proposed damsite

Alternately proposed damsite
(second alternate site)

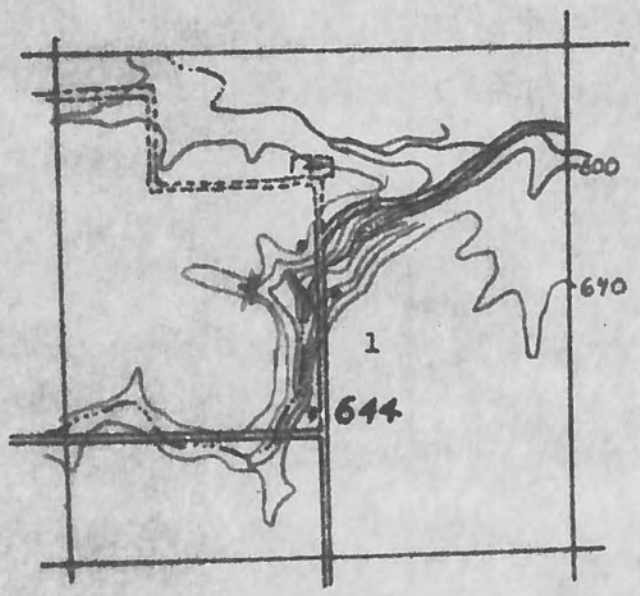

Figure 1

Detail of Sec 1, T 19 N, R 13 W

(From topographic map of the 15-minute Fithian quadrangle)

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 16, 1964 County Vermilion

Quadrangle Fithian Site No. 2

LOCATION

Salt Fork
SE¼ NW¼ sec. 25, T 19 N, R 13 W

GENERAL GEOLOGY

Salt Fork is a meandering stream in a very narrow floodplain draining a part of the area behind the Champaign-Urbana moraine. The upland topography is mantled by surficial loess deposits and is very gently rolling. The stream is cutting a series of Pennsylvanian sediments which underlies the glacial drift.

DAMSITE

The valley is about 800 feet broad and the stream flows in a 6- to 8-foot notch. The bottom of the stream is composed of alluvial sand, cobbles, and silt, and the banks consist of a coarse limestone conglomerate of Pennsylvanian age. A 30- to 40-foot section of Pennsylvanian sandstones, siltstones, and limestones is capped by a weathered light gray and reddish purple shale 5 to 8 feet thick. The glacial deposits overlying the bedrock surface are composed of clayey, pebbly till. Jointing is present in the more massive Pennsylvanian beds, but it is not a prominent feature. As the contact between the glacial materials and the bedrock surface is irregular, it should be determined if this site is given serious consideration. No leakage problems were evident either through the joint system or at the contact of the bedrock surface and the glacial material.

RESERVOIR

The reservoir is confined to the meandering, narrow floodplain of Salt Fork. Logs of previous borings in the upland area indicate the depth to bedrock is about 30 to 50 feet, and that the overlying glacial deposits consist of clayey till. The lower parts of the stream flow on bedrock, however, the upper headwaters drain the more silty glacial deposits.

BORROW

Suitable materials for the construction of an earth dam can be located in the nearby clayey till.

OPINION

The damsite is considered to be probably feasible subject to verification by an adequate program of test borings and materials testing. The life of the reservoir may be shortened owing to the drainage from the more silty upland glacial deposits. The site is located in an area of proven and probable coal reserves, and the probability of coal existing beneath the reservoir may affect its selection or rejection.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 4, 1964 County Vermilion

Quadrangle Danville NW Site No. 4

LOCATION

Tributary of Vermilion River
SW¼ NW¼ sec. 21, T 20 N, R 12 W

GENERAL GEOLOGY

The stream is a short tributary to Vermilion River and has cut its valley into the outwash deposits and underlying tills in front of the Bloomington-Normal moraine. The valley has been cut 60 feet or more below the level of the very gently rolling uplands.

Logs of previous borings indicate that bedrock lies about 50 feet below the bottom of the valley. The logs also indicate silts and gravels interbedded with tills.

DAMSITE

Though relatively steep and fairly well covered, both abutments apparently consist of silty, clayey, pebbly tills alternating with beds of silt or sand. The alluvium in the floodplain consists of sand, gravel, and cobbles. The location and areal extent of beds of sand and silt must be ascertained in order to assess the likelihood of serious leakage through these deposits.

RESERVOIR

The reservoir sides are steep, and the floodplain is covered with alluvium consisting of silt, sand, and gravel. A 20 foot exposure at one location reveals silt, sand, and silty till. The seriousness of leakage through the permeable beds making up part of the reservoir sides would depend upon whether or not the permeable beds are discontinuous or not. This must be determined.

BORROW

Owing to the coarse and silty nature of the surface materials nearby, borrow areas must be selected with care. The characteristics of available borrow materials should be considered in developing the design of the dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Coal has been mined by stripping from nearby areas, and the possibility of strippable reserves existing beneath the reservoir area may affect the selection or rejection of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 4, 1964 County Vermilion

Quadrangle Danville NW Site No. 6

LOCATION

Tributary of Lake Vermilion on North (not West) Vermilion River
NE¼ SW¼ sec. 19, T 20 N, R 11 W

GENERAL GEOLOGY

The stream is a short tributary of Lake Vermilion draining a part of the Normal moraine. Surficial soils are developed in loess that mantles the gently rolling topography. Logs of previous borings indicate that the bedrock surface lies from 50 to 60 feet below the level of the creek.

DAMSITE

The stream flows in a 1- to 2-foot notch in a bed of sand and gravel. Both abutments have moderately steep slopes and consist of till. The upper half of the right abutment is light brown, silty till and the lower half is dark gray-brown, silty till. The floodplain materials are composed of sand and gravel.

RESERVOIR

The sides of the reservoir have moderately steep slopes and the valley has very little floodplain area. The valley is filled with sand and gravel and the sides are probably silty till as observed in nearby small exposures. The extent of the sand and gravel in the valley bottom was not determined.

BORROW

The nearby till beds are silty and may not be suitable for the construction of an earth dam. Logs of previous borings indicate more clayey beds may be found in the vicinity.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The site is located in an area of proven coal reserves, and the selection or rejection of this reservoir may depend upon the existence of coal beneath the site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 16, 1964 County Vermilion

Quadrangle Ridge Farm Site No. 8

LOCATION

Yankee Branch
NW¼ NW¼ sec. 14, T 17 N, R 11 W

GENERAL GEOLOGY

Yankee Branch is a short tributary of Little Vermilion River draining the backslope of the Champaign-Urbana moraine. The very gently rolling topography is mantled by soils developed in the surficial loess deposits. At the damsite, the stream is flowing on bedrock which is overlain by about 50 feet of glacial material, predominantly till.

DAMSITE

Yankee Branch flows in a broad floodplain in about an 8-foot notch. Pennsylvanian sediments crop out in the bottom of the creek, and the banks of the creek are composed of silt and alluvial sands. The abutments slope gently and are composed of silty, clayey till.

RESERVOIR

The valley floor consists of silty, sandy alluvium and branches into two nearly equal parts about 2000 feet upstream from the damsite. According to smallcuts observed along the moderately sloping sides, silty,clayey till overlies the bedrock. Sand and gravel horizons near the bedrock contact as noted in logs of previous wells may be possible avenues of leakage. However, no sand and gravel zones were noted at the till-bedrock contact at the damsite.

BORROW

Suitable material for the construction of an earth dam is available from the nearby till uplands.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 16, 1964 County Vermilion

Quadrangle Ridge Farm Site No. 9

LOCATION

Tributary of Little Vermilion River
Center SE¼ sec. 11, T 17 N, R 12 W

GENERAL GEOLOGY

The stream is a small tributary of Little Vermilion River draining a part of the gently rolling till plain behind the Middle Champaign moraine. Most of the soils are developed in surficial loess deposits that blanket the area. Bedrock was not observed, but according to logs of previous borings it is probable that the surface of the bedrock lies just below the level of the stream bottom.

DAMSITE

The stream flows in about a 5-foot notch in banks of silt and sand alluvium.. The flat floodplain is about 750 feet broad and is bounded by moderately steeply sloping abutments. A silty,clayey till was observed along the left abutment at a place where the stream has undercut the bank. Avenues of leakage may be present at the contact between the glacial material and the bedrock surface which probably lies only a few feet below the bottom of the stream.

RESERVOIR

The floor of the reservoir is composed of alluvial sands and silts,and the reservoir sides slope moderately steeply to the uplands. The glacial deposits forming the sides of the reservoir appear to consist of silty, clayey till.

BORROW

An adequate supply of suitable borrow material is available in the nearby silty, clayey till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The site is located in an area of proved reserves of coal, however, because of the small size of the proposed project is is doubtful that this would be a factor of acception of rejection to the site.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATIONS OF DAMSITES

Date examined April 17, 1964 County Vermilion

Quadrangle Newman Site No. 10

LOCATION

Dillon Branch
NW¼ NW¼ sec. 36, T 17 N, R 13 W

GENERAL GEOLOGY

Dillon Branch is a tributary of Little Vermilion River draining the backslope of the Middle Champaign moraine. Most of the surficial soils are developed in loess deposits that mantle the gently rolling topography. The bedrock surface is covered by a 40- to 60-foot layer of glacial till according to previous borings in the vicinity of the damsite.

DAMSITE

Dillon Branch has a very small floodplain and the abutments slope gently to the uplands. The stream bed consists of alluvial silts and sands, and the abutments are composed of silty clayey till.

RESERVOIR

The reservoir has gently sloping sides and almost no floodplain. Small cuts observed in the reservoir area show silty sandy till. Previous bore holes in the area indicate the water table level to be within 5 feet of the upland surface.

BORROW

An adequate supply of silty till is available nearby; however, owing to the nature of the material, special consideration may be necessary in the selection and use of these materials in construction of the dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 17, 1964 County Vermilion

Quadrangle Danville SE Site No. 11

LOCATION

White Branch
NW¼ SW¼ sec. 18, T 18 N, R 10 W

GENERAL GEOLOGY

White Branch is an intermittent tributary of Vermilion River which drains the area behind the Champaign-Urbana moraine. The stream is flowing in a section of Pennsylvanian sediments overlain by glacial deposits. The valley is flat-bottomed and steep-sided and shows relief of about 60 feet.

DAMSITE

The stream flows in a shallow notch in floodplain deposits composed of alluvial sands and silts. Slumpage of the right abutment has exposed a 15- to 20-foot section of medium gray, thin-bedded, silty, Pennsylvanian shales. A springline occurs at the contact between the shale beds and the overlying clay till.

RESERVOIR

The floor of the reservoir is narrow and flat-bottomed and consists of alluvial sands and an accumulation of softened shale fragments. The reservoir is steep-sided, and the shale beds that crop out at the damsite are covered with glacial till upstream.

BORROW

An adequate supply of suitable material for the construction of an earth dam is available in the nearby clayey till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. Because of the size of the proposed project it is unlikely that leakage would occur through the more porous horizon found at the contact between the bedrock surface and the glacial materials; however, a suitable cutoff should be provided at the damsite.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined April 16, 1964 County Vermilion

Quadrangle Fithian Site No. 12

LOCATION

Tributary of Salt Fork
SW¼ NE¼ sec. 31, T 19 N, R 13 W

GENERAL GEOLOGY

The stream is a short intermittent tributary of Salt Fork flowing in a steep-sided, narrow, flat-bottomed valley. Pennsylvanian sediments crop out in the stream valley near the damsite. Bedrock beneath the uplands is covered by approximately 40 feet of glacial drift. Most of the surficial soils are developed in loess which blankets the gently rolling topography of the back-slope of the Champaign-Urbana moraine.

DAMSITE

The stream flows in a 1- to 2-foot notch in a narrow flat-bottomed floodplain composed of silt, sand, and gravel observed in places to be lying on bedrock. The left abutment is steep and covered, while the right abutment is nearly vertical and exposes a section of thin-bedded siltstone, limestone, and shale. Jointing is present in the more massive sections of this rock section, but is not a prominent feature. A well being drilled on the right abutment on April 16, 1964, had encountered bedrock at a depth of 39 feet, according to the well driller.

RESERVOIR

The reservoir area is a narrow, flat-bottomed stream valley bounded by steeply sloping sides. Bedrock crops out about half a mile upstream from the damsite exposing a 22-foot section of Pennsylvanian sediments. The proposed reservoir elevation probably is lower than most of the surrounding bedrock surface.

BORROW

An adequate supply of suitable borrow material is available in the nearby upland clayey till.

OPINION

The site is considered feasible subject to verification by an adequate program of test borings and materials testing.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-27-65 County Wayne Watershed Pond Creek

Quad Name and No. Fairfield - 43 Site No. LW-28-I

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	399	414
Elevation Emergency Spillway	407	417
Elevation Top of Dam	411	419

LOCATION

Pond Creek
NE¼ SE¼ sec. 12, T 3 S., R 8 E.

GENERAL GEOLOGY

Pond Creek is an intermittent stream tributary to Little Wabash River in south part of Wayne County. The area is underlain by till-covered sandstones and shale. The bedrock surface, as interpreted from the Bedrock Surface Map of Illinois, is at an elevation of about 450 feet.

DAMSITE

The stream channel is about 10 feet wide and 4 feet deep in a flood-plain at least 1200 feet wide. The steepest part of the right abutment is strongly sloping and that of the left abutment is moderately sloping. Outcrops near the damsite provide evidence that the bedrock surface is irregular and differs markedly in elevation from place to place within short distances. Half a mile to the south and a quarter of a mile to the northeast thinly bedded sandstone crops out at about elevation 455 feet. The surface materials are sandy and silty. Some of the silt is pinkish in color suggesting admixture or derivation from the pink clay till. As the emergency spillway elevation is proposed for elevation 407 feet and bedrock has been observed in the vicinity at about elevation 460 feet, it may be that bedrock would be encountered at the proposed emergency spillway level.

RESERVOIR

The valley slopes are moderately sloping to gently sloping. Exposures in the area tend to be very sandy. The geology of adjacent areas indicates that the subsurface conditions should not be greatly different. There is probably about 30 feet of till and some loess covering the bedrock in the reservoir area.

BORROW

Enough clayey material and material which can be compacted sufficiently to provide suitable earth fill for construction purposes is available in the vicinity.

OPINION

This damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-27-65 County Wayne Watershed Deer Creek

Quad Name and No. Fairfield - 43 Site No. LW-34-XII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	404	
Elevation Emergency Spillway	416	
Elevation Top of Dam	420	

LOCATION

Deer Creek
SE¼ NE¼ sec. 31, T 1 N, R 8 E

GENERAL GEOLOGY

Deer Creek drains an area north of Fairfield. The terrain of rolling uplands and broad shallow valleys has relief of 30 to 40 feet. As interpreted from the Bedrock Surface Map of Illinois, the bedrock surface in the vicinity of Deer Creek ranges between elevations 350 to 400 feet. The sandstones and shales of Pennsylvanian age are generally covered by as much as 75 feet of clay till; the till in turn is mantled by 2 to 4 feet of loessial silt.

DAMSITE

The stream flows in a channel 10 feet deep and 30 feet wide in the floodplain. The floodplain is estimated to be over 1000 feet wide, and the alluvium consists primarily of sand with a minor amount of silt and pebbles. The right abutment has a moderate slope, and the left abutment has a moderately steep slope. Both abutments are probably underlain by clay till such as that observed in nearby scattered outcrops.

Bedrock is not likely to be encountered in construction of the emergency spillway.

RESERVOIR

The valley slopes are generally very gentle to moderate and are underlain by clay till mantled with loess. There is a considerable amount of coil producing activity in the upper reservoir a few miles from the damsite.

BORROW

Clay till which can be used for borrow purposes is readily obtainable from the upper valley slopes and from the adjacent uplands.

OPINION

The damsite is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The very gentle slopes of the proposed reservoir sides may result in a fluctuating shoreline and in large areas of shallow water.

Illinois State Geological Survey

WABASH RIVER BASIN

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined 7-27-65 County Wayne Watershed Martin Creek

Quad Name and No. Fairfield - 43 Site No. LW-34-XIII

	Flood Prevention Single-Purpose	Maximum Multiple-Purpose
Elevation Permanent Pool	403	
Elevation Emergency Spillway	414	
Elevation Top of Dam	419	

LOCATION

Martin Creek
NW¼ NE¼ sec. 7, T 1 S, R 8 E

GENERAL GEOLOGY

Martin Creek drains an area of broad rolling upland slopes and shallow valleys north of Fairfield. The relief of the area is about 60 feet. The Bedrock Surface Map of Illinois indicates the surface of the bedrock is at an elevation of 400 feet. Bedrock consists largely of shaly sandstone and shale. Lying on the bedrock is about 30 feet of pinkish clay till, mantled by a few feet of loessial silt. Petroleum producing activity in this area is intense.

DAMSITE

The stream occupies a notch 15 feet deep and 20 feet wide in the floodplain, which is approximately 1000 feet wideand lies about 30 feet below the adjacent uplands. The slopes of both abutments are very gentle and apparently are underlain by several feet of clay till. Bedrock is not likely to be encountered at the level of the emergency spillway.

RESERVOIR

The sides of the reservoir have very gently slopes. Large areas of the reservoir will be shallow with strong fluctuations of the shoreline occurring as the water level changes. Oil wells, service roads, and attendant installations are scattered throughout the area.

BORROW

Ample clay till is available in the vicinity for use as borrow material in the construction of an earth dam.

OPINION

The site is considered geologically feasible subject to verification by an adequate program of test boring and materials testing. The existence of large areas of shallow water in the proposed reservoir may prove to be a detriment to the establishment of the project. The overall feasibility of the proposed site is also subject to the results of an economic study of the petroleum activities inthe reservoir area.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Whiteside

Quadrangle Clinton Site No. 1

LOCATION

Otter Creek
NW¼ sec. 17, T 22 N, R 4 E

GENERAL GEOLOGY

Otter Creek drains an area of loess-mantled Ordovician bedrock in northwestern Whiteside County. The rolling uplands have relief of 30 to 40 feet. Bedrock is less than 20 feet below the surface in most places according to exposures along the valley walls.

DAMSITE

The stream meanders in a broad notch 3 feet below the floodplain. The floodplain is a little less than half a mile wide and is 40 to 50 feet below the uplands.

The right abutment is a nearly vertical bluff composed almost entirely of tan to buff, cherty, vuggy, medium to thin bedded, fossiliferous, jointed dolomite belonging to the Galena formation. The moderately sloping left abutment is covered with tan to light reddish-brown, silty, fine sand.

RESERVOIR

The floodplain alluvium consists of brown, silty, fine to medium sand. The composition of the valley walls is similar to that of the abutments. Dolomite crops out continuously along the north side of the valley; sand and loess covers the south side. The valley sides have moderate to steep slopes.

BORROW

Earth materials suitable for borrow are not present in the vicinity of the damsite. Consequently, sources of borrow will have to be located if an earth dam is considered.

OPINION

Geologically, the site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Particular attention should be given to the occurrence of sand in the left abutment, as this could create a leakage problem.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 17, 1964 County Whiteside

Quadrangle Morrison Site No. 2

LOCATION

Tributary of Little Rock Creek
SE¼ sec. 8, T 22 N, R 5 E

GENERAL GEOLOGY

This tributary is a minor stream in north-central Whiteside County and drains an area of loess and drift-covered Ordovician sediments. The gently rolling uplands have relief of 20 to 30 feet. The depth to bedrock is probably less than 25 feet in most places according to exposures along the valley walls.

DAMSITE

The stream meanders in a 4- to 6-foot notch in the floodplain. The floodplain is approximately 250 to 300 feet wide and lies 20 to 30 feet below the uplands.

Tan to light brown, sandy silt is present in the left abutment. The right abutment is covered with vegetation. Exposures in the stream channel and in the valley walls downstream from the damsite indicate that both abutments are probably underlain by dolomite. Both abutments slope moderately to the uplands.

RESERVOIR

The floodplain alluvium consists of brown, silty, fine sand. Orange-brown, sandy, thin-bedded dolomite is exposed in the base of the stream channel. The moderately sloping valley walls are mostly covered with vegetation.

BORROW

Material suitable for borrow was not observed in the vicinity of the damsite. The floodplain alluvium would not be suitable for borrow. A source of borrow would have to be developed elsewhere.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. Such a program is necessary owing to the fack of good surface exposures and will be required not only to determine the nature and sequence of the subsurface materials but also to locate an area from which suitable borrow material can be obtained. The dolomite should be examined for solution channels which could be avenues of leakage.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 16, 1964 County Whiteside

Quadrangle Clinton Site No. 6

LOCATION

Lynn Creek
NW¼ sec. 5, T 20 N, R 4 E

GENERAL GEOLOGY

Lynn Creek is a significant drainage course in southwestern Whiteside County and drains the loess plains in this area. The rolling uplands have relief of 30 to 40 feet. The depth to bedrock was not determined but is probably less than 50 feet according to logs of borings made previously in this area.

DAMSITE

The stream meanders in an 8 to 10 foot notch in the floodplain, which is 200 to 250 feet wide and lies 20 to 30 feet below the uplands.

Light brown to brown, sandy, clayey silt (loess) is exposed in both abutments. The silt grades downward to fine silty sand. Both abutments slope moderately to the uplands and are mostly covered with vegetation.

RESERVOIR

The floodplain alluvium consists of dark brown to gray, sandy, clayey silt. The valley walls have gentle to moderate slopes. While the valley walls are largely covered with vegetation, a few exposures indicate that their composition is similar to that of the abutments.

BORROW

There are no exposures which might indicate the presence of a sufficient quantity of suitable borrow material in the vicinity of the damsite. The floodplain alluvium would probably not be suitable for borrow. Consequently, it would probably be necessary to locate a source of borrow elsewhere if an earth dam is considered.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The sparsity of surface exposures makes such a program necessary in order to determine the nature and sequence of the subsurface materials. Special attention should be given to ascertaining the nature and extent of the sand in the abutments.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1965 County Will

Quadrangles Mokena and Joliet 7.5-minute Site No. 4

LOCATION

Spring Creek
NW¼ sec. 5, T 35 N, R 11 E

GENERAL GEOLOGY

Spring Creek drains a part of the Valparaiso moraine east of Joliet. The gently rolling topography of the moraine is underlain mostly by till; logs of previous borings in the area suggest that 78 to 131 feet of unconsolidated glacial material overlies the Niagaran dolomite bedrock. Spring Creek carried large quantities of outwash material during glacial times; as a result considerable sand and gravel deposits underlie Spring Creek Valley. Relief in the area ranges from 50 to 100 feet.

DAMSITE

Both abutments are underlain by stony, sandy, clayey till and have moderate slopes. Several test wells have been drilled on the right abutment for water for the City of Joliet. A pump for one of these water wells was operating at the foot of the right abutment. The log of a test well, which is probably the one being pumped, indicates a succession of sand and gravel units 110 feet thick overlying dolomite bedrock. The following is a log of a test boring higher up on the right abutment:

Material	Depth in feet
Till, clayey, dark yellowish orange	14
Till, calcareous, silty, yellowish gray	70
Sand and gravel, calcareous, yellowish gray	90
Till, calcareous, silty, gray	105
Gravel, yellowish gray	112
Niagaran dolomite	145

Spring Creek flows in a notch 4 to 6 feet deep and 8 to 10 feet wide. At the time of observation, the creek did not have any water flow. The floodplain is approximately 1400 feet wide, and the crest of the dam would probably be about 2100 feet long compared with the 1150 foot length described in the Water Survey Materials. As indicated on the Bedrock Surface Map of Illinois, bedrock is not likely to be encountered at the level of the proposed emergency spillway.

Alan G. Goodfield

Will County
Site No. 4

RESERVOIR

Valley sides having gentle to moderate slopes surround the reservoir area. Till, very similar to that at the damsite, underlies most of the area bordering the reservoir; a gravelly kame deposit is located, above the reservoir edge, along the east border of sec. 33, T 36 N, R 11 E. The width of the floodplain in the reservoir area ranges from 350 to almost 1400 feet.

BORROW

Sufficient quantities of till, which is probably a suitable impervious borrow material, are available in the uplands adjacent to the damsite.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. The presence of abundant sand and gravel deposits, which are probably quite permeable, beneath the floodplain at the damsite could result in serious leakage from the reservoir. However, these conditions might prove to be useful if the project were re-evaluated for artificial recharge of groundwater. The abutment conditions are geologically suitable; however, the dam axis might be shifted upstream in order to avoid the water-supply well located at the base of the right abutment.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 9, 1965 County Will

Quadrangles Mokena and Tinley Park Site No. 5

LOCATION

Hickory Creek
SW¼ SE¼ sec. 17, T 35 N, R 12 E

GENERAL GEOLOGY

Hickory Creek drains a part of the Valparaiso moraine. The gently rolling uplands are largely underlain by till; logs of previous borings in the area show between 88 and 115 feet of unconsolidated glacial materials overlying the Niagaran dolomite bedrock. There are some scattered gravel deposits, representing small kames and eskers, along the creek. Relief in the area ranges from 50 to 75 feet.

DAMSITE

The right abutment is on a small promotory which has strong slopes rising approximately 35 feet and is underlain by stony, sandy, clayey till. This abutment is heavily wooded. The left abutment has moderate slopes which rise about 45 feet. Till, very similar to that at the right abutment, and scattered pockets of coarse gravel underlie the left abutment. The creek flows in a notch 30 to 50 feet wide and 3 to 8 feet deep. The 400-foot-wide floodplain is underlain by sandy, silty, clayey alluvium and gravel. As indicated by the Bedrock Surface Map of Illinois, it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

The valley sides surrounding the reservoir area have gentle to steep slopes and are largely underlain by till very similar to that at the damsite. Some scattered gravel deposits in small kames and eskers are also present along Hickory Creek in the reservoir area. These deposits appear to be local and to have limited extent. The width of the floodplain ranges from 350 to 1100 feet.

BORROW

Sufficient quantities of sandy, clayey till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

SPECIAL NOTES

Two roads, which may be the initial development of a housing subdivision, have been constructed on the left abutment. Also, about two miles upstream, at the Convent of the Franciscan Sisters, a building is being constructed at the approximate elevation of the proposed reservoir.

Alan G. Goodfield

Will County
Site No. 5

OPINION

This site is considered geologically feasible subject to verification by an adequate program of test boring and materials testing. The extent and nature of gravels, which may be quite permeable, beneath the floodplain at the damsite should be determined. The gravel deposits in the reservoir area are believed to be local and do not appear to present any serious leakage problems.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 8, 1965 County Will

Quadrangle Steger Site No. 6

LOCATION

Thorn Creek
Center N½ sec. 11, T 34 N, R 13 E

GENERAL GEOLOGY

Thorn Creek is an intermittent stream and drains a part of the Valparaiso moraine which has a rolling topography. Logs of previous borings in the area show 84 to 130 feet of unconsolidated glacial materials overlying the Niagaran dolomite bedrock. Relief in the area ranges from 40 to 70 feet.

DAMSITE

The left abutment has steep slopes rising about 50 feet, while the right abutment has strong slopes rising to the same height. Both abutments are underlain by sandy, clayey till. The creek flows in a notch 2 to 4 feet deep and 4 to 6 feet wide. The floodplain is between 150 and 200 feet wide and is underlain by sandy clay alluvium. There is some gravel in the creek bed. The damsite is heavily wooded. The Bedrock Surface Map of Illinois indicates that it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

Till, very similar to that exposed at the damsite, underlies most of the reservoir area, which is surrounded by valley sides having gentle to moderate slopes.

BORROW

Sufficient quantities of till, which is probably a suitable impervious borrow material, are available in the uplands adjacent to the damsite.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1965 County Will

Quadrangle Elwood Site No. 7

LOCATION

Jackson Creek
SW¼ SE¼ sec. 17, T 34 N, R 10 E.

GENERAL GEOLOGY

Jackson Creek lies at the border of the area formerly occuped by glacial Lake Wauponsee and a part of the Manhattan moraine. The topography of the morainal area, to the south, is slightly more rolling than the flatter lakeplain to the north. Logs of previous borings in the area suggest that between 37 and 65 feet of unconsolidated glacial materials overlie the Niagaran dolomite bedrock. Relief in the area ranges from 35 to 85 feet.

DAMSITE

Both abutments are underlain by stony, sandy, clayey till. The right abutment has moderately steep slopes rising 30 feet to the upland, while the left abutment has very gentle to gentle slopes rising the same height. The creek flows in a notch 20 to 30 feet wide and 2 to 4 feet deep. The width of the floodplain is approximately 150 feet. The nature of the deposits underlying the floodplain was not determined. As indicated by the Bedrock Surface Map of Illinois, it is unlikely that bedrock will be encountered at the level of the proposed emergency spillway.

RESERVOIR

Till, similar to that at the damsite, appears to underlie most of the valley sides of the reservoir area. However, the dolomite crops out within the reservoir area in the NW¼ of sec. 21. The valley sides of the proposed reservoir have very gentle to moderately steep slopes. The width of the floodplain ranges from 500 to 700 feet.

BORROW

Sufficient quantities of till, which is probably a suitable impervious borrow material, are available in the area adjacent to the damsite.

CONCLUSION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. The centerline of the proposed dam is approximately 100 feet upstream from the Gulf, Mobile, and Ohio Railroad bridge over Jackson Creek. The surface of the shallow bedrock is probably irregular and solution channels may be present which could cause leakage. An investigation of the rate of siltation of the proposed reservoir area would be helpful in the consideration of the feasibility of this site.

Alan G. Goodfield

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 9, 1965 County Will

Quadrangle Channahon Site No. 8

LOCATION

Cedar Creek
SW¼ SW¼ sec. 1, T 34 N, R 9 E

GENERAL GEOLOGY

Cedar Creek drains a part of the gently rolling plain formerly occupied by glacial Lake Wauponsee. Till appears to underlie the area; no lake sediments were observed. A short distance downstream from the damsite, the creek enters the broad valley of the Des Plaines River. The relief in the area ranges from 60 to 100 feet.

DAMSITE

Figure 1 is a cross section of conditions about 100 feet upstream from the centerline of the proposed damsite. The stony, sandy, gravelly till has small local pockets of gravel. The dolomite is thin-bedded with beds ranging in thickness from 1 to 3 inches. The dolomite is cut by two major sets of joints, one striking northwest-southeast and the other striking northeast-southwest. No solution features were observed in the bedrock. A gravel road with a steel bridge over the creek has been constructed parallel to and approximately 100 to 300 feet east of the damsite. The Bedrock Surface Map of Illinois indicates that bedrock is not likely to be encountered at the level of the proposed emergency spillway.

RESERVOIR

The valley sides of the reservoir area are largely underlain by sandy, clayey till. Much of the creek bed in the lower part of the reservoir area is in the dolomite bedrock, and this rock crops out at many locations along the creek. The valley sides have gentle to strong slopes. The thin alluvium along the creek is sandy and gravelly.

BORROW

Sufficient quantities of sandy, clayey till, which is probably a suitable impervious borrow material, are available in the adjacent uplands.

OPINION

The site is probably feasible subject to verification by an adequate program of test boring and materials testing. No evidence of solution channels or cavities was observed in the shallow bedrock. Jointing in the dolomite appeared to be relatively tight. The till is probably impermeable.

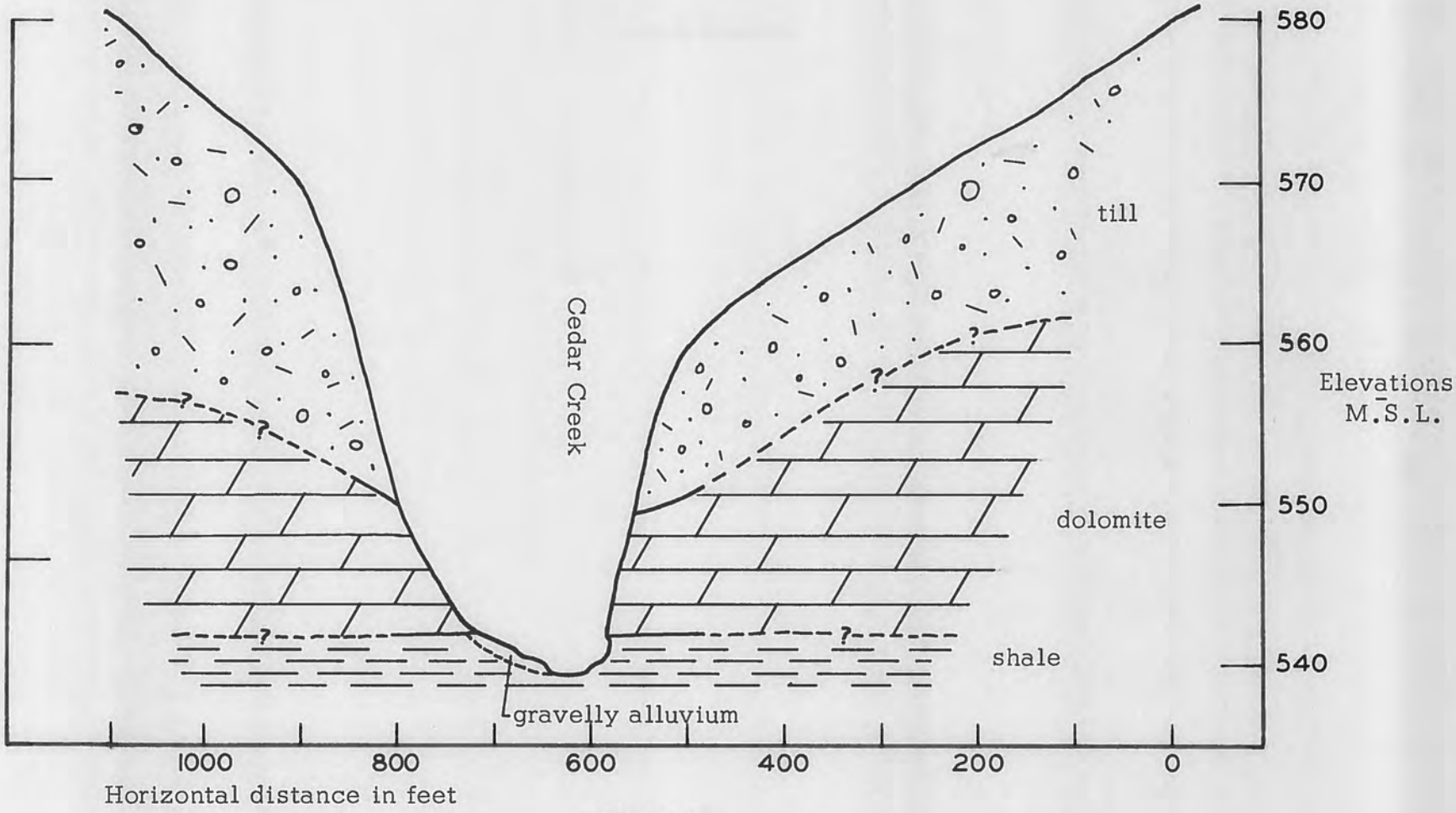

Figure 1

GEOLOGIC CROSS SECTION AT WILL COUNTY DAMSITE NO. 8

(line of section approximately 100 feet upstream from damsite)

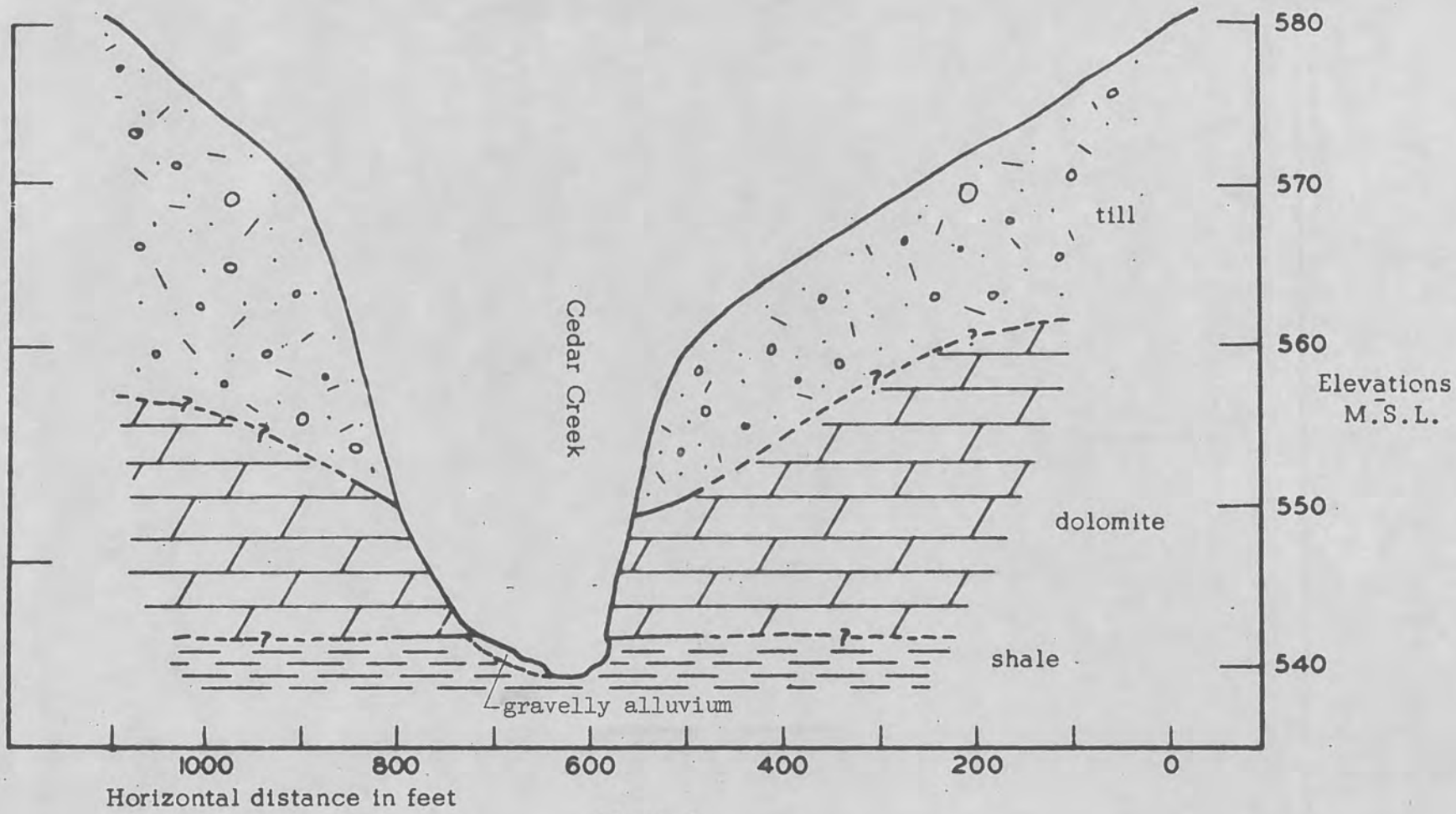

Figure 1

GEOLOGIC CROSS SECTION AT WILL COUNTY DAMSITE NO. 8

(line of section approximately 100 feet upstream from damsite)

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 6, 1964 County Winnebago

Quadrangle Pecatonica Site No. 1

LOCATION

North Branch Otter Creek
NE¼ sec. 31, T 29 N, R 10 E

GENERAL GEOLOGY

The North Branch of Otter Creek is a major stream in northwestern Winnebago County and drains an area of loess-covered bedrock hills, which have relief of 30 to 40 feet. The depth to bedrock is less than 10 feet in most places, according to exposures along the valley sides and to the logs of borings made previously in the area.

DAMSITE

The stream flows in a 4-foot notch in the floodplain. The floodplain is approximately 800 to 1000 feet wide and lies 30 to 40 feet below the uplands.

The right abutment is composed of tan to buff, sandy, vuggy, thinly bedded dolomite belonging to the Galena formation. The dolomite is overlain by light brown, sandy loess. In the left abutment, only loess is exposed, but dolomite probably underlies the loess. Both abutments slope gently to the uplands.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The valley sides are composed largely of Galena dolomite which is overlain by loess. Several springs issue from the dolomite along the reservoir sides.

BORROW

No borrow material which would be suitable for construction of an earth dam was observed in the area. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing. The springs present in the area may be an indication that solution channels are present in the dolomite. Two small stock ponds have been built successfully downstream from the damsite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined July 2, 1964 County Winnebago

Quadrangle Belvidere Site No. 2

LOCATION

North Kinnikinnick Creek
E½ sec. 26, T 46 N, R 2 E

GENERAL GEOLOGY

North Kinnikinnick Creek is a minor stream in this area and drains an area of till-covered bedrock hills which have relief of 30 to 40 feet. The depth to bedrock is less than 25 feet according to exposures along the valley walls.

DAMSITE

The stream flows in a 3-foot notch in the floodplain. The floodplain is approximately 50 to 75 feet wide and lies 50 to 60 feet below the uplands.

The abutments are composed of 10 to 15 feet of gray, medium bedded, crystalline limestone and dolomite. There is some jointing and some bedding planes are open; small solution pits are present in the outcrops. The carbonate rocks are overlain by brown, sandy, clay till of variable thickness. The abutments have moderate to steep slopes and are vertical at many places where the carbonates crop out.

RESERVOIR

The floodplain is covered with gray to dark gray, silty, alluvial sand. The valley walls are composed of till-mantled limestone and dolomite as in the abutments. The valley walls are moderately to steeply sloping.

BORROW

Till which can be used as borrow material can be obtained from the nearby uplands. It is possible, however, that an insufficient quantity is available, in which case, an earth-fill dam might not be practicable.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing with special attention being given to possible presence of solution openings in the carbonate rocks. The reservoir will cover a portion of an exclusive subdivision called "The Ledges." It is possible that the presence of this subdivision may also render this site impracticable.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 10, 1964 County Winnebago

Quadrangle Belvidere Site No. 3

LOCATION

Tributary of South Kinnikinnick Creek
Center sec. 35, T 46 N, R 2 E

GENERAL GEOLOGY

The stream is a minor drainage channel in northeastern Winnebago County and drains an area of loess and till-mantled bedrock hills which have relief of 40 to 50 feet. The depth to bedrock is less than 10 feet in most places according to exposures in the valley sides.

DAMSITE

The abutments have steep to vertical slopes and are composed entirely of tan to buff, thinly bedded, sandy, vuggy dolomite belonging to the Galena formation. Some brown, sandy loess is present near the top of the abutments.

The stream flows in a 3-foot notch in the floodplain. The floodplain is approximately 25 feet wide and lies 40 to 50 feet below the uplands. Dolomite crops out in the stream channel.

RESERVOIR

The floddplain alluvim consists of brown, silty sand. The valley sides are composed largely of dolomite as in the abutments. At some places the dolomite is overlain by tan, gravelly, silty, sand till. The valley sides slope steeply to the uplands.

BORROW

No suitable borrow material for construction of an earth dam was observed in the area. The floodplain alluvium probably would not be suitable for borrow. A rock-fill or other type of dam might be considered.

OPINION

The site is considered feasible subject to verification by an adequate program of test boring and materials testing.. Special attention should be given to the possible presence of solution channels in the dolomite.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 10, 1964 County Winnebago

Quadrangle Pecatonica Site No. 5

LOCATION

Coolidge Creek
NW¼ sec. 31, T 27 N, R 11 E

GENERAL GEOLOGY

Coolidge Creek is a minor stream in west-central Winnebago County and drains an area of till-covered Ordovician dolomite hills which have relief of 30 to 40 feet. The depth to bedrock is probably less than 25 feet in most places according to logs of borings made previously in the area.

DAMSITE

The abutments have gentle slopes, and are covered with vegetation. The stream meanders in a 5- to 6-foot notch in the floodplain. The floodplain is approximately a quarter of a mile wide and lies 20 to 30 feet below the uplands.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The gently sloping valley sides are mostly covered with vegetation. However, reddish-brown, sandy, clay till is exposed near the top of the reservoir sides.

BORROW

A sufficient quantity of till suitable for borrow material can probably be obtained from the valley sides and from the nearby uplands. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The lack of good surface exposures in the area makes such a program imperative in order to determine the nature and sequence of the subsurface materials.

M. T. Lukert

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined August 10, 1964 County Winnebago

Quadrangle Kings Site No. 6

LOCATION

Tributary of Rock River
NW¼ sec. 20, T 43 N, R 1 E

GENERAL GEOLOGY

This small tributary of Rock River is a minor stream in south-central Winnebago County and drains an area of till-covered Ordovician dolomite hills which have relief of 30 to 40 feet. The depth to bedrock is probably less than 50 feet.

DAMSITE

The stream meanders in a 4-foot notch in the floodplain. The floodplain is approximately 300 to 400 feet wide and lies 30 to 40 feet below the uplands. The gently sloping abutments are covered with vegetation.

RESERVOIR

The floodplain alluvium consists of brown, sandy silt. The valley sides slope gently to the uplands and are largely covered with vegetation. However, brown, very sandy, clay till is exposed in some places.

BORROW

A sufficient quantity of till which may be suitable for borrow can probably be obtained from the valley sides and from the nearby uplands. It is possible, however, that the till may not possess the engineering properties required for its successful use as borrow material. The floodplain alluvium probably would not be suitable for borrow.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing. The lack of exposures in the area makes such a program imperative in order to determine the nature and sequence of the subsurface materials.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County ~~McLean~~ Woodford

Quadrangle Danvers Site No. 3

LOCATION

Sixmile Creek
SE¼ SW¼ sec. 1, T 25 N, R 1 E
(the site is in Woodford County)

GENERAL GEOLOGY

Sixmile Creek is a tributary of Mackinaw River and drains the back slope of the Normal moraine. Surficial soils have developed in loess deposits which blanket the gently rolling topography. Logs of previous borings indicate that bedrock is covered by a thick layer of clay till, sand, and gravel.

DAMSITE

The stream flows in an 8- to 10-foot meandering notch cutting into alluvial sands and silts. At the proposed damsite the floodplain narrows. Brown, clayey till persists in the steeply sloping abutments. The sequence and character of the deposits in the abutments and beneath the valley floor will have to be determined in order to locate any permeable horizons that might become avenues of leakage.

RESERVOIR

The reservoir area is steep-sided and has a broad flat bottom covered with sands and silts. Brown clay till was observed along both sides of the reservoir except in the SE¼ SW¼ of sec. 7 where a brown, clayey silt overlies a bed of clayey, silty, coarse gravel.

BORROW

Suitable material for construction of an earth dam can be located in the nearby clay till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test borings and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date Examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 1

LOCATION

Snag Creek
Center NW¼ sec. 1, T 28 N, R 3 W

GENERAL GEOLOGY

Snag Creek is a tributary of Douglas Lake and drains a part of Illinois River valley bluff east of Chillicothe. About 10 feet of loess mantles the upland areas. The log of a previous boring about half a mile east of the damsite indicates that about 60 feet of clayey till overlie as much as 100 feet of sand and gravel. The stream drains a part of the Normal moraine.

The west part of Woodford County is underlain by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, nameddthe Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The stream channel is a 6- to 8-foot notch in coarse sand and gravel. The broad, flat floodplain is bounded by steep abutments. Borings nearby indicate the mantle of loess and silty brown till is underlain by porous, sandy gravel.

RESERVOIR

The steep sides of the valleys consist primarily of till and are covered by loess. The flat floodplain is composed of alluvial silt, sand, and gravel.

BORROW

Suitable material for the construction of an earth dam is available in deposits of till nearby.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

Illinois State Geological Survey
Urbana, Illinois

P. B. DuMontelle

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date Examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 2

LOCATION

Dry Creek
NW¼ SE¼ sec. 11, T 28 N, R 3 W

GENERAL GEOLOGY

Dry Creek is a tributary of Goose Lake and drains a part of the east valley slope of Illinois River east of Chillicothe. As much as 10 feet of loess mantles the gently rolling upland. The bedrock surface is overlain by about 200 feet of glacial drift.

The west part of Woodford County is underlain by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The stream was dry at the time of examination. The channel is 6 to 8 feet deep in coarse sand and gravel in the flat, alluvial floodplain. The abutments are steep to moderately steep and consist of reddish-brown, silty till capped by about 4 feet of loess.

RESERVOIR

The valley has a flat, alluvial floodplain consisting of sand, and silt bounded by steep to moderately steep sides. Exposures indicate that the sides are primarily composed of reddish-brown, silty till as observed in the abutments.

BORROW

Suitable material for the construction of an earth dam is available in deposits of till nearby.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 3

LOCATION

Richland Creek
NW¼ SE¼ sec. 23, T 28 N, R 3 W

GENERAL GEOLOGY

Richland Creek is an intermittent tributary of Goose Lake and drains a part of the Illinois River bluff area southeast of Chillicothe. The stream rises in the gently rolling upland of the Bloomington moraine and flows west down the Illinois River bluff. Previous borings in the vicinity of the damsite indicate that in the upland areas about 120 feet of glacial drift, primarily till, overlie about a 100 feet of coarse sand and gravel.

The west part of Woodford County is underlain by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The abutments are steep and consist of a reddish-brown, silty till capped by 6 to 8 feet of loess. The valley is broad and flat and is covered with alluvial sand and gravel. The stream was dry at the time of examination, and the shallow channel is composed of coarse sand and gravel.

RESERVOIR

The valley has a broad, flat bottom, and the sides are steep to moderately steep. Reddish-brown, silty till is exposed at many locations along the valley sides, but the valley bottom materials are coarse sand and silt. As much as 12 feet of loess caps the till.

BORROW

Suitable material for the construction of an earth dam is available in nearby till deposits.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 4

LOCATION

Partridge Creek
Center N½ sec. 33, T 28 N, R 3 W

GENERAL GEOLOGY

Partridge Creek is a tributary of Illinois River valley south of Chillicothe. The stream rises in the Normal moraine northeast of Metamora and flows west, incised in the Illinois River valley bluffs to depths of as much as 150 feet. The relief of the upland area is about 20 to 30 feet.

The west part of Woodford County is underlain by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

The log of a previous boring located about half a mile south of the damsite is as follows:

Materials	Depth in feet
Till with the upper 5 to 10 feet brick-red	4
Gravel	45
Till	122
Sand and Gravel	128
End of boring	

DAMSITE

The abutments have steep to moderately steep slopes and are probably composed of till. An exposure about 10 feet thick consisting of laminated, dark gray silt, sand, and gravel is located in a road cut northeast of the damsite. It was not determined whether the porous material was continuous or discontinuous. The floodplain is broad and flat and is underlain by coarse sand and silt. The stream channel is about 6 to 8 feet deep.

RESERVOIR

The valley sides have steep to moderately steep slopes and presumably consist of till capped by loess. The broad, flat floodplain is composed of alluvial sand and silt. An attempt to develop a stock pond in one of the valleys tributary to Partridge Creek was not successful, presumably owing to excessive leakage.

BORROW

Suitable material for the construction of an earth dam is available in the nearby till. The alluvial materials are probably not suitable for construction purposes.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 5

LOCATION

Blalock Creek
NE¼ SW¼ sec. 31, T 28 N, R 3 W

GENERAL GEOLOGY

Blalock Creek is an intermittent tributary of Illinois River and drains a part of the Illinois River bluffs north of Spring Bay. The stream dissects the nearly flat watershed. Loess mantles the bluffs to depths of 10 feet or more. As much as 200 to 300 feet of glacial drift overlie the bedrock surface.

The west part of Woodford County is underlain by the deep bedrock valley of the Ancient Mississippi River. This valley is filled with sand and gravel, named the Sankoty sand, to about elevation 520 feet. This Sankoty sand and gravel deposit is overlain by glacial till with some intercalated lenses and layers of pervious material. For the most part the till is believed to be impervious, but the possibility exists that some of the lenses and layers of sand and gravel may be continuous for a considerable distance.

DAMSITE

The stream flows in a shallow notch composed of alluvial sand and gravel. The abutments are loess covered and have steep slopes. Exposures along the Illinois River bluffs indicate that the composition of the abutments may be either sand, gravel, or till.

RESERVOIR

The valley is generally V-shaped and has the configuration of a stream in late youth. The stream bed and the alluvial material in the valley are composed of porous sand. Tills underlie parts of the surrounding upland areas.

BORROW

Nearby tills are suitable for the construction of an earth dam. The underlying porous sand and gravel materials are probably not suitable for borrow.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Owing to the presence of the Sankoty sand beneath the valley bottom at the damsite and in at least part of the reservoir area, leakage from the reservoir probably would be a serious problem.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined October 6, 1964 County Woodford

Quadrangle Metamora Site No. 6

LOCATION

Tributary of Partridge Creek
NE¼ NE¼ sec. 11, T 27 N, R 3 W

GENERAL GEOLOGY

The stream is a tributary of Partridge Creek near Metamora. The uplands are covered with as much as 10 feet of loess and are gently rolling, having relief of 20 to 30 feet. The bedrock surface is covered by about 150 feet of glacial drift. Logs of previous borings indicate that the lower part of this drift consists of porous sand and gravel.

DAMSITE

The stream flows in a shallow notch of porous sand and gravel. The abutments have moderately steep slopes. An exposure on the right abutment is described as follows:

Materials	Thickness in feet
Loess, buff	3 - 8
Silt, sand and gravel	4
Till, silty, reddish brown	8
Till, clayey, reddish brown	8
Till, dark brown, hard, clayey, some silt	8
Bottom covered	

RESERVOIR

The reservoir sides have moderately steep slopes, and the geology is probably similar to that at the damsite. Floodplain areas occur only in the downstream part of the proposed reservoir.

BORROW

The nearby till is suitable for the construction of an earth dam.

OPINION

The site is considered probably not feasible subject to verification by an adequate program of test boring and materials testing. Serious leakage could occur through the underlying porous materials.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County Woodford

Quadrangle Minonk Site No. 7

LOCATION

Tributary of Panther Creek
NE¼ SE¼ sec. 14, T 27 N, R 1 E

GENERAL GEOLOGY

The stream is a tributary of Panther Creek and drains a part of the front slope of the Outer Cropsey moraine. The uplands are covered by about 10 feet of loess. The relief of the upland areas is 10 to 20 feet. Logs of previous borings in the area indicate that the uplands are underlain by till and that the stream valleys are underlain by varying depths of porous sand and gravel.

DAMSITE

The abutments have gentle slopes and are composed of medium gray till. The stream flows in a notch 4 to 6 feet deep consisting of alluvium. There is no definite floodplain area.

RESERVOIR

The stream valley branches into two nearly equal, broad, very gently sloping valleys a few hundred feet upstream from the damsite. There is no floodplain, and the sides of the valleys are probably underlain by till.

BORROW

Materials suitable for the construction of an earth dam are probably available in the underlying till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County Woodford

Quadrangle Minonk Site No. S

LOCATION

West Branch Panther Creek
NW¼ SE¼ sec. 33, T 27 N, R 1 E

GENERAL GEOLOGY

West Branch Panther Creek is a tributary of Panther Creek and drains a part of the front slope of the Outer Cropsey moraine. The topography is gently rolling and has relief of 20 to 30 feet. Surficial soils are developed in loess which mantles parts of this area to depths of as much as 10 feet. Logs of previous borings in the vicinity of the site indicate that glacial materials, primarily till, underlie the proposed site to depths greater than 100 feet.

DAMSITE

The stream meanders in a silt notch about 4 feet deep in a broad floodplain and had a very small flow at the time of examination. The abutments have moderately steep slopes that consist of brown, gravelly, clay till mantled by 2 to 4 feet of loess.

RESERVOIR

The valley has a broad, flat floodplain of alluvial silt. The valley sides are composed primarily of till and have moderately steep slopes.

BORROW

The nearby till is probably suitable for the construction of a rolled earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 22, 1964 County Woodford

Quadrangle Mackinaw Site No. 9

LOCATION

Walnut Creek
NE¼ NW¼ sec. 12, T 26 N, R 2 W

GENERAL GEOLOGY

Walnut Creek is a tributary of Mackinaw River and drains part of the front slope of the Normal moraine and part of the gently rolling Bloomington till plain. The relief of the upland areas is about 20 to 30 feet. As much as 10 feet of loess was deposited in this area. Previous borings near Eureka indicate that more than 200 feet of glacial material, primarily till, overlie the bedrock surface. Some coal was mined in the vicinity of Eureka prior to 1900.

DAMSITE

The abutments have moderate slopes, and brown clayey till is exposed on the right abutment. The floodplain consists primarily of alluvial silt. The stream flows in a 5-foot notch, and colluvium was observed in the lower part of this notch.

RESERVOIR

The loess-covered valley sides have moderate to gentle slopes and are primarily underlain by a gravelly, brown till. The stream meanders in a flat floodplain.

BORROW

Material suitable for borrow is available from till deposits nearby.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Danvers Site No. 11

LOCATION

Walnut Creek
NE¼ SE¼ sec. 5, T 25 N, R 1 W

GENERAL GEOLOGY

Walnut Creek is a tributary of Mackinaw River and drains part of the front slope of the Normal moraine and part of the gently rolling Bloomington till plain. The relief of the upland areas is about 20 to 30 feet. As much as 10 feet of loess was deposited in this area. Previous borings near Eureka indicate that more than 200 feet of glacial material, primarily till, overlie the bedrock surface. Some coal was mined in the vicinity of Eureka prior to 1900. Gravel deposits occur along Mackinaw River.

DAMSITE

The stream flows in a silt notch 5 feet deep in a flat floodplain bounded by abutments composed of medium brown, silty till. The abutments have strong slopes and are capped at most places by about 4 to 6 feet of buff loess.

RESERVOIR

The valley has a broad, flat floodplain and in places the meandering stream has developed steep sides and terraces. In the vicinity of Eureka the sides have moderate to gentle slopes. The geology of the valley is probably similar to that at the damsite.

BORROW

The nearby till is suitable material for the construction of a rolled earth dam. The alluvial materials are probably not suitable for construction purposes.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Danvers Site No. 12

LOCATION

Mackinaw River and Panther Creek
NE corner sec. 3, T 25 N, R. 1 W

GENERAL GEOLOGY

The damsite is located at the confluence of Panther Creek and Mackinaw River, which, together, drain an area of the Outer Cropsey moraine and the Normal till plain. The gently rolling topography has relief of 20 to 30 feet. A similar site located at the line between secs. 4 and 9, T. 25 N., R. 1 W., was studied by George E. Ekblaw in 1944. A detailed section of an exposure along Mackinaw River valley in the northwest corner of sec. 3 about half a mile downstream from the present damsite is as follows:

Materials	Thickness in feet
Wisconsinan	
Normal	
Soil, sandy	2
Till, sandy, buff-gray	4
Bloomington	
Sand, oxidized red	
Gravel and coarse sand, oxidized at top; contains many balls of red till	6
Shelbyville ?	
Silt with bands of fine sand, irregularly bedded, contorted, oxidized	4
Illinoian	
Till, sandy, very stony, hard, blue-gray, with a weathered zone 8 feet thick at top	40
Concealed, to river bed	20

Logs of previous borings in the upland areas indicate that as much as 100 to 150 feet of glacial material, primarily till, overlie the bedrock surface.

DAMSITE

The abutments have moderately steep slopes and consist of brown, silty till capped by about 4 feet of loess. Panther Creek joins Mackinaw River a few hundred feet downstream from the damsite. At the damsite the two streams flow in silt and sand notches about 6 to 10 feet deep in the same broad flat floodplain.

RESERVOIR

The damsite is just downstream from the confluence of two branches. The configuration of both stream valleys is that of maturity. Exposures along both valleys indicate that till underlies the upland areas. Local deposits of laminated sands and gravels occur along Mackinaw River and Panther Creek. Early reports from this area indicate that limestone has been mined in the Mackinaw River area, however, rock outcrops at these localities have not been verified in recent years, and more recent reports suggest that these workings may have been in large, glacially transported masses of limestone.

BORROW

The nearby till is probably suitable material for the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Danvers Site No. 13

LOCATION

Panther Creek
Center SW¼ sec. 35, T 26 N, R 1 W

GENERAL GEOLOGY

Panther Creek is a tributary of Mackinaw River and drains an area of the Outer Cropsey moraine and the Normal till plain. The relief of the upland areas is about 20 to 30 feet. The configuration of the stream valley is that of maturity. A detailed section of the drift measured in 1930 in the northwest quarter of Section 3 about one mile downstream from the damsite along the Mackinaw River is as follows:

Materials	Thickness in feet
Wisconsinan	
Normal	
Soil, sandy	2
Till, sandy, buff-gray	4
Bloomington	
Sand, oxidized red	
Gravel, and coarse sand, oxidized at top; contains many balls of red till	6
Shelbyville ?	
Silt with bands of fine sand, irregularly bedded, contorted, oxidized	4
Illinoian	
Till, sandy, very stony, hard, blue-gray, with a weathered zone 8 feet thick at top	40
Concealed, to river bed	20

This section appears to be relatively constant throughout this area. About 50 to 100 feet of drift overlies the bedrock surface.

DAMSITE

The stream channel is a silt and sand notch about 6 to 8 feet deep in a broad, flat, alluvial floodplain. Both abutments have steep to moderately steep slopes. An exposure of brown till was observed on the left abutment a few hundred feet upstream from the damsite. The right abutment was covered, but laminated gravel and sand is exposed in a road cut upstream along the right side of the valley. The thickness of loess on the abutments is about 4 feet.

RESERVOIR

The valley is floored with alluvial silt and sand. The valley sides have moderately steep slopes and are composed primarily of till except for local deposits of sand and gravel.

BORROW

The nearby till is probably suitable for construction of an earth dam. The alluvial material in the valley is probably not suitable for embankment fill.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Danvers Site No. 14

LOCATION

Tributary of Mackinaw River
NW¼ SW¼ sec. 33, T 26 N, R 1 E

GENERAL GEOLOGY

The stream is a tributary of Mackinaw River and drains a part of the gently rolling topography of the Normal moraine. Surficial soil is developed in loess which mantles the area. Logs of nearby borings indicate that as much as 200 to 250 feet of glacial material, primarily till, overlie the bedrock surface.

DAMSITE

The stream flows in a shallow notch in a narrow floodplain. The abutments have moderately steep slopes and are covered with vegetation. The underlying material as observed in nearby exposures is probably reddish-brown till.

RESERVOIR

The valley is generally V-shaped, and the sides have moderately steep to moderate slopes. Vegetation and loess cover the underlying materials in most parts of the proposed reservoir. Nearby exposures indicated that the underlying materials are probably till.

BORROW

Material suitable for the construction of an earth dam is available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Danvers Site No. 15

LOCATION

Tributary Mackinaw River
SE¼ SW¼ sec. 36, T 26 N, R 1 E

GENERAL GEOLOGY

The stream is a short intermittent tributary of Mackinaw River and drains a part of the gently rolling topography between the Normal and Outer Cropsey moraines. As much as 5 to 10 feet of loess and outwash material may be present in parts of this area. Glacial drift, primarily till and approximately 200 to 250 feet thick, overlies the bedrock surface. The relief of the upland areas is about 20 to 30 feet.

DAMSITE

The abutments have moderately steep to strong slopes. Exposures on the left abutment consist of a medium brown till. A small gravel pit is located near the left abutment. These gravel lenses are probably local deposits. The stream flows in a shallow notch composed of alluvial silts.

RESERVOIR

The valley sides are predominantly covered by vegetation and loess. Nearby exposures of a coarse, gravelly, clayey till are probably similar to materials underlying the upland areas. The valley has a youthful configuration.

BORROW

Suitable material for the construction of an earth dam is probably available in the nearby till.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined September 24, 1964 County Woodford

Quadrangle Normal Site No. 16

LOCATION

Wolf Creek
SE¼ SW¼ sec. 33, T 26 N, R 2 E

GENERAL GEOLOGY

Wolf Creek is a tributary of Mackinaw River and drains a part of the area in front of the Outer Cropsey moraine. The gently rolling topography is covered by a layer of loess about 4 feet thick and has relief of about 20 to 30 feet. The log of a previous boring in the upland area is as follows:

Materials	Depth in feet
Soil and clay	19
Clay, blue	102
Driftwood	105
Clay, green	110
Clay, gray	133
Clay, sandy	140
Hard sand, gray	158
Sand, dirty	160
Hard sand, gray	185
Clay, greenish	188
Hard sand, yellow	195
Clay, green	212
Sand and gravel	214

DAMSITE

The stream channel is a 4- to 6-foot notch composed of silt and alluvium in a floodplain about 700 feet wide. The abutments have steep to moderately steep slopes and consist primarily of brown clay till capped by loess. About 15 to 20 feet of dark brown, clayey till underlying 1 to 2 feet of loess is exposed on the right abutment.

RESERVOIR

The stream valley has the configuration of early maturity, as some parts exhibit a well-defined floodplain area. The valley is floored with silt and other alluvial materials and is bounded by sides whose slopes vary from steep to gentle. The materials underlying the upland areas are probably till as indicated by the exposures near the right abutment.

BORROW

Suitable materials for the construction of an earth dam are probably available in the nearby till. The valley alluvium is probably not suitable for embankment fill.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of this site.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County Woodford

Quadrangle Danvers Site No. 17

LOCATION

Denman Creek
NE¼ NE¼ sec. 7, T 25 N, R 1 E

GENERAL GEOLOGY

Denman Creek is a tributary of Mackinaw River and drains a part of the back-slope on the Normal moraine. Surficial soils are developed in loess which blankets the gently rolling topography. The relief of the upland areas is about 20 to 30 feet. Logs of previous borings indicate that more than 200 feet of glacial material, primarily, till, overlie the bedrock surface.

DAMSITE

The abutments have moderately steep slopes and are composed of gravelly brown till as indicated by nearby exposures. The stream channel is a silt and sand notch in a very gently sloping floodplain.

RESERVOIR

The valley has the configuration of early maturity. Parts of the stream have well-defined floodplain areas. The sides of the valley have moderate to gentle slopes, and about 8 feet of loess and gravelly till is exposed about 1 mile upstream from the damsite. Local deposits of gravel and silt are known to occur in the vicinity of the proposed reservoir.

BORROW

The nearby gravelly till is probably suitable for the construction of an earth dam. Alluvial materials from Mackinaw River and Denman Creek probably are not suitable for embankment construction.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing.

P. B. DuMontelle

Illinois State Geological Survey
Urbana, Illinois

PRELIMINARY GEOLOGIC INVESTIGATION OF DAMSITES

Date examined May 28, 1964 County Woodford

Quadrangle Danvers Site No. 19

LOCATION

Rock Creek
NE¼ NE¼ sec. 28, T 25 N, R 1 W

GENERAL GEOLOGY

Rock Creek is a tributary of Mackinaw River and drains a part of the area between the Normal and Bloomington moraines near Congerville. The relief of the upland areas is about 20 to 30 feet. A previous boring located west of Congerville is as follows:

Materials	Depth in feet
Dirt, black	2
Clay, yellow	10
Clay, blue	80
Hard sand	200
Bedrock surface	

DAMSITE

The stream flows in a shallow notch composed of alluvial silt and sand. The abutments have steeptto moderate slopes, and the underlying material is probably till capped by loess.

RESERVOIR

The upper part of the valley has gentle slopes composed of loess and alluvium. The lower part of the valley has the configuration of a stream in maturity. Both sides of the valley have moderate to steep slopes and exposures indicate that the material underlying the loess is primarily till.

BORROW

The nearby till is probably suitable for use as borrow material in the construction of an earth dam.

OPINION

The site is considered probably feasible subject to verification by an adequate program of test boring and materials testing. An investigation of the rate of siltation would be helpful in the determination of the feasibility of the site.