OPEN MATERIALS SITES; SAMPLED

LEGEND

[Diagram with symbols and labels:
- Trail or lane
- Road
- Railroad
- Hedge or trees
- Major streams
- Intermittent streams
- Pond or lake
- Open materials sites; sampled
- Open materials sites; not sampled
- Prospective materials sites; sampled
- Prospective materials sites; not sampled
- Center of section
- Dwelling
- Cemetery
- School
- Church
- Town or city]
**MATERIAL SITE DATA FORM**

**LS + 1**  
Pwc

**Site No.**  
Limestone  
**County**  
Cowley  

**Location**  
W 3/4, NE 3/4  
Sec. 1  
Twp. 31S  
Range 3E  

**Owner**  
Paul W. Winter  
Box 18, Peace Valley, Missouri 65788  

**Nature of Deposit**  
Dry  
**Accessibility**  
Good  
**Site Located on Plate**  
I  

**Status of Site**  
Open Materials Site: Sampled

### EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material of Bottom of Hole</th>
<th>Depth of Overburden</th>
<th>Depth of Material</th>
<th>Wash 200</th>
<th>G.F.</th>
<th>LL</th>
<th>P.I.</th>
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### CORRELATION DATA

**Geological Age**  
Permian

**Geological Source**  
Winfield Limestone - Cresswell Limestone MBR.

**Material Similar To**  
SHC Lab No. 78374

**Specific Gravity (Sat.)**  
2.44  
(Dry)

**Los Angeles Wear**  
26.5

**Absorption**  
4.74  
**Soundness**  
0.91

**Wt. Cu. Ft.**  
Str. Ratio

**Remarks**  
Materials Department No. 18-17

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

CG - 2
Qtk

Site No. Date Nov. 2, 1977

Chert Gravel Cowley

Material County

Location

Elbert Olson 904 Shadyway, Wichita, Kansas 67203

Owner Name

Nature of Deposit Accessibility Site Located on Plate

Dry Good 1

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

<table>
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<tr>
<th>Test Hole</th>
<th>Material of Bottom of Hole</th>
<th>Depth of Overburden</th>
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<th>Wash 200</th>
<th>G.F.</th>
<th>L.T.</th>
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</table>

CORRELATION DATA

Geological Age

Quaternary

Geological Source

Kansan Terrace

Material Similar To

SHC Lab No. 81625

Specific Gravity (Sat) 2.37
(Dry)

Los Angeles Wear 32.6

Absorption 5.94

Soundness 0.90

Wt. Cu. Ft. Str. Ratio

Remarks Materials Department No. 18-14

Scale: 1 inch = 1/2 mile
MATERIAL SITE DATA FORM

LS+2
Pwc

Site No. ____________________________ Date ____________________________

Limestone

Material: ________________ County: Cowley

Location: NE ¼, NW ½ Sec. __________ Twp. __________ Range __________

Owner: ________________ Address: 904 Shadyway, Wichita, Kansas 67203

Nature of Deposit: Dry Accessibility: Good Site Located on Plate: __________

Status of Site: Open Materials Site; Sampled

EXPLORATION DATA

<table>
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<th>Test</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Over.</th>
<th>Depth of Material</th>
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Wash: 200  G.F. __________  LL __________  P.I.

CORRELATION DATA

Geological Age: Permian

Geological Source: Winfield Limestone - Creswell Limestone MBR.

Material Similar To: SHC Lab No. 81625

Specific Gravity (Sat.) 2.37 (Dry)

Los Angeles Wear 32.6

Absorption 5.94  Soundness 0.90

Wt. Cu. Ft. __________  Str. Ratio

Remarks: Materials Department No. 18-14

Scale: 1 inch = ¼ mile
### MATERIAL SITE DATA FORM

**SG+3**

**Qal**

**Site No.**

**Date** Nov. 2, 1977

**Material** Sand & Gravel

**County** Cowley

**Location** SW ¼ Sec. 7 Twp. 32S Range 3E

**Owner** Feaster Bros. Inc. Box 266, Oxford, Kansas 67119

**Nature of Deposit** Wet

**Accessibility** Good

Site Located on Plate IV

**Status of Site** Open Materials Site; Sampled

### EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
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</table>

### CORRELATION DATA

**Geological Age** Quaternary

**Geological Source** Alluvium

**Material Similar To** SHC Lab No. 10001

**Specific Gravity (Sat.)** 2.61 (Dry)

**Los Angeles Wear** 31.2

**Absorption** 0.50

**Soundness** 0.97

**Wt. Cu. Ft.** 112.2

**Str. Ratio** 1.54

**Remarks** Materials Department No. 18-33

Scale: 1 Inch = ¼ Mile
MATERIAL SITE DATA FORM

LS+4  
Pb

Site No. ___________________________ Date Nov. 2, 1977  

Limestone  
County Cowley

Location NE ¼, SE ¼  
Sec. 28  
Twp. 32S  
Range 5E

Owner Howard E. Snyder  
Rt. 5, Winfield, Kansas 67156

Nature of Deposit Dry  
Accessibility Good  
Site Located on Plate __________

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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</table>

CORRELATION DATA

Geological Age Permian

Geological Source Barneson Formation — Fort R. Ley Limestone MBR.

Material Similar To SHC Lab No. 81592

Specific Gravity (Sat.) 2.44  
(Dry)

Los Angeles Wear 4.06

Absorption 5.00  
Soundness 0.92

Wt. Cu. Ft. ___________________________

Remarks Materials Department Site No. 18-7

Scale: 1 inch = ¾ mile
MATERIAL SITE DATA FORM

LS+5  
Pb

Site No.  
Date  Nov. 2, 1977

Material  Limestone  County  Cowley

Location  SW ¼, SE ¼, SE ¼  Sec. 33  Twp. 31S  Range 6E

Owner  Blanche M. Lawson  Rt. 1, Burden, Kansas

Nature of Deposit  Dry  Accessibility  Good

Status of Site  Open Materials Site; Sampled

EXPLORATION DATA

<table>
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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overburden</th>
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<th>Wash 200</th>
<th>G.F.</th>
<th>L.L.</th>
<th>P.I.</th>
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</table>

CORRELATION DATA

Geological Age  Permian

Geological Source  Barneson Formation - Fort Riley Limestone MBR.

Material Similar To  SHC No. 81611

Specific Gravity (Sat.)  2.30  (Dry)

Los Angeles Wear  35.1

Absorption  8.99  Soundness  0.96

Wt. Cu. Ft.  

Remarks  Materials Department No. 18-36

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

LS+6  
Pc

Site No.       Date          November 2, 1977

Material      Limestone  County     Cowley

Location      NE ¼, SW ¼  Sec.  27  Twp.  31S  Range  7E

Owner         Flora A. McClure  R. #3, Winfield, Kansas

Nature of Deposit    Dry  Accessibility    Good

Status of Site       Open Materials Site; Sampled

EXPLORATION DATA

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<th>Depth of Material</th>
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CORRELATION DATA

Geological Age     Permian

Geological Source   Crouse Limestone Formation

Material Similar To  SHC No. 100372

Specific Gravity (Sat)  2.30  (Dry)

Los Angeles Wear     33.2

Absorption            4.73  Soundness  0.97

Wt. Cu. Ft.  

Str. Ratio

Remarks  Materials Department No. 18-4
MATERIAL SITE DATA FORM

SG+7

Qal

Site No. Date Nov. 2, 1977

Sand & Gravel Cowley

Material County

NE ¾, SW ¼ Sec. 5 Twp. 34S Range 3E

Location

Max E. Abrams R. 2, Arkansas City, Kansas 67005

Owner Name

Nature of Deposit Accessibility Site Located on Plate Wet Good VII

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
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CORRELATION DATA

Geological Age Quaternary

Alluvium

Geological Source

Material Similar To SHC Lab. No. 71-3039

Specific Gravity (Sat.) 2.63 (Dry)

Los Angeles Wear 31

Absorption 1.15 Soundness 0.97

Wt. Cu. Ft. 1.56 Str. Ratio

Remarks Materials Department No. 18-45

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

LS+8
Pwc

Site No.                  Date       Nov. 2, 1977

Material       Limestone

County       Cowley

Location       NW 3/4

Sec. 32       Twp. 32S

Range 4E

Owner       C. L. Daniels

R. 3, Winfield, Kansas

Nature of Deposit       Dry

Accessibility       Good

Site Located on Plate VIII

Status of Site       Open Materials Site; Sampled

EXPLORATION DATA

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<th>Test Hole</th>
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CORRELATION DATA

Geological Age       Permian

Geological Source        Winfield Limestone - Cresswell Limestone MBR.

Material Similar To       SHC Lab. No. 71-1188

Specific Gravity (Sat.)       2.43 (Dry) 2.28

Los Angeles Wear       33

Absorption       6.22

Soundness       0.78

Wt. Cu. Ft.       

Str. Ratio       

Remarks       Materials Department Site No. 18-46

Scale: 1 inch = 1/4 Mile
MATERIAL SITE DATA FORM

LS+9
Pb

Site No. Date Nov. 2, 1977

Material Limestone
County Cowley

Location E 1/4, SE 1/4 Sec. 11
Twp. 33S Range 4E

Owner H. J. Born
Box 53, Silverdale, Kansas

Nature of Deposit Dry
Accessibility Good

Status of Site Open Materials Site: Sampled

EXPLORATION DATA

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</table>

CORRELATION DATA

Geological Age Permian

Geological Source Barneston Formation - Fort Riley Limestone Member

Material Similar To SHC Lab No. 81614

Specific Gravity (Sat.) 2.19 (Dry)

Los Angeles Wear 50.0

Absorption 11.36 Soundness 0.84

Wt. Cu. Ft. Sh. Ratio

Remarks Materials Department Site No. 18-39

Scale: 1 inch = 1/4 mile
MATERIAL SITE DATA FORM

CG+10

Date Nov. 2, 1977

Site No. Qtw

Gravel (Chert & Limestone) County Cowley

Location NE ¼, SE ¼ Sec. 23 Twp. 33S Range 4E

Owner Howard G. Birdzell, etux R. #3, Winfield, Kansas 67156

Nature of Deposit Wet Accessibility Good Site Located on Plate VII

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overburden</th>
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<th>Wash</th>
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CORRELATION DATA

Geological Age Quaternary

Geological Source Wisconsinan Terrace

Material Similar To SHC No. 81630

Specific Gravity (Sat.) 2.51 (Dry)

Los Angeles Wear 23.2

Absorption Soundness 0.99

Wt. Cu. Ft. 120.1 Str. Ratio 1.74

Remarks Materials Department No. 18-37
MATERIAL SITE DATA FORM

LS+11
Pwc

Date: Nov. 2, 1977

Site No. Material
Limestone County Cowley

Location
SE ¼, NE ¼ Sec. 3 Twp. 34S Range 4E

Owner
Robert W. Dowler
R. 3, Winfield, Kansas 67156

Nature of Deposit
Dry

Accessibility
Good

Site Located on Plate VII

Status of Site Open Materials Site; sampled

EXPLORATION DATA

| Test Hole | Material at Bottom of Hole | Depth of Overburden | Depth of Material | 1/2 | 3/8 | 4 | 8 | 16 | 30 | 50 | 100 | Wash 200 | G.F. | L.L. | P.I. |
|-----------|---------------------------|---------------------|------------------|-----|-----|---|---|----|----|----|----|------|------|-----|------|------|

CORRELATION DATA

Geological Age
Permian

Geological Source
Winfield Limestone - Cresswell Limestone MBR.

SHC Lab No. 75-268

Material Similar To

Specific Gravity (Sat.)
2.41

(Dry) 2.29

Los Angeles Wear
34

Absorption
5.1

Soundness
0.90

Wt. Cu. Ft.

Str. Ratio

Remarks
Materials Department Site No. 18-49

Scale: 1 inch = ½ Mile
MATERIAL SITE DATA FORM

LS+12

Site No. Pw

Date Nov. 2, 1977

Material Limestone

County Cowley

Location SE ¼, SE ¼ Sec. 36 Twp. 33S Range 6E

Owner Charles R. Brazle

Address Dexter, Kansas 67038

Nature of Deposit Dry

Accessibility Good

Site Located on Plate IX

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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<th>Test Hole</th>
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CORRELATION DATA

Geological Age Permian

Geological Source Worford Limestone Fm - Three mile Ls. MBR.

Material Similar To SHC No. 81623

Specific Gravity (Sat.) 2.51 (Dry)

Los Angeles Wear 214

Absorption 2.78 Soundness 0.95

Wt. Cu. Ft. Str. Ratio

Remarks Materials Department No. 18-10

Scale: 1 Inch = 1/4 Mile
MATERIAL SITE DATA FORM

SG+13
Qal

Site No. Date Nov. 2, 1977

Sand & Gravel County Cowley

Material Location W 1/2, NE 1/4 Sec. 26 Twp. 34S Range 3E

Owner Andrews Sand & Gravel Inc. 728 S. 8th, Arkansas City, Kansas

Nature of Deposit Wet Accessibility Good Site Located on Plate X

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
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<th>Depth of Overburden</th>
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<th>100</th>
<th>Wash 200</th>
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<th>L.L.</th>
<th>P.I.</th>
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CORRELATION DATA

Geological Age Quaternary

Geological Source Alluvium

Material Similar To SHC Lab No. 21808

Specific Gravity (Sat.) 2.62 (Dry)

Los Angeles Wear

Absorption 0.7 Soundness

Wt. Cu. Ft. 115.94 Str. Ratio 1.21

Remarks Materials Department No. 18-41

Scale: 1 inch = 1/4 Mile
MATERIAL SITE DATA FORM

SG+14
Qal

Date Nov. 2, 1977

Site No. _______________ Material Sand & Gravel County Cowley

Location NE ¼ Sec. 35 Twp. 34S Range 3E

Owner Andrews Sand & Gravel Inc., 728 S. 8th, Arkansas City, Kansas 67005

Nature of Deposit Wet Accessibility Good Site Located on Plate X

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
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<th>G.F.</th>
<th>L.L.</th>
<th>P.I.</th>
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</table>

CORRELATION DATA

Geological Age Quaternary

Geological Source Alluvium

Material Similar To SHC Lab. No. 72-1178

Specific Gravity (Sat.) 2.57 (Dry)

Los Angeles Wear 33

Absorption .30 Soundness

Wt. Cu. Ft. _______________ Str. Ratio 1.66

Remarks Materials Department Site No. 18-47

Scale: 1 Inch = ¼ Mile
MATERIAL SITE DATA FORM

SG+15  
Qal  

Date  
Nov. 2, 1977  

Material  
Sand & Gravel  

County  
Cowley  

Location  
NW 3/4, SW 1/4  
Sec. 36  
Twp. 34S  
Range 3E  

Owner  
Geo. Myers  

Box 911, Eldorado, Kansas  

Nature of Deposit  
Wet  

Accessibility  
Good  

Site Located on Plate X  

Status of Site  
Open Materials Site: Sampled  

EXPLORATION DATA

| Test Hole | Material at Bottom of Hole | Depth of Material | Depth of Overburden | 1/2 | 1/4 | 3/8 | 4 | 8 | 16 | 30 | 50 | 100 | Wash | 200 | G.F. | L.L. | P.I. |
|-----------|---------------------------|-------------------|---------------------|-----|-----|-----|---|---|----|----|----|-----|------|-----|-----|-----|-----|-----|
|           |                           |                   |                     |     |     |     |   |   |    |    |    |     |      |     |     |     |     |     |

CORRELATION DATA

Geological Age  
Quaternary  

Geological Source  
Alluvium  

Material Similar To  
SHC No. 9992  

Specific Gravity (Sat)  
2.62  

(Dry)  

Los Angeles Wear  
30.1  

Absorption  
0.60  

Soundness  
0.98  

Wt. Cu. Ft.  
116.3  

Str. Ratio  
1.42  

Remarks  

Scale: 1 inch = 1/4 mile
MATERIAL SITE DATA FORM

CG+16
Qtw

Site No. Date Nov. 2, 1977

Chert Gravel

Material County Cowley

NE ¼, NW ¼ Sec. 17 Twp. 34S Range 4E

Location

Beulah McFarland R.R. 2, Arkansas City, Kansas 67005

Owner name address

Wet Good Site Located on Plate X

Nature of Deposit Accessibility

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Over-Burden</th>
<th>Depth of Material</th>
<th>1½</th>
<th>¾</th>
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<th>30</th>
<th>50</th>
<th>100</th>
<th>Wash</th>
<th>200</th>
<th>G.F.</th>
<th>LL</th>
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</table>

CORRELATION DATA

Geological Age Quaternary

Geological Source Wisconsin Terrace

Material Similar To SHC Lab No. 21810

Specific Gravity (Sat.) 2.45 (Dry) 2.46

Los Angeles Wear 20.6

Absorption 3.92 Soundness 0.98

Wt. Cu. Ft. 114.05 Str. Ratio 1.23

Remarks Materials Department No. 1844

Scale: 1 inch = ½ Mile
**MATERIAL SITE DATA FORM**

**CG-17**

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<td>Chert Gravel</td>
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<tr>
<td>County</td>
<td>Cowley</td>
</tr>
<tr>
<td>Location</td>
<td>NW ¼ Sec. 20 Twp. 34S Range 4E</td>
</tr>
<tr>
<td>Owner</td>
<td>Gilbert Eddie</td>
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<tr>
<td>Name</td>
<td>R#2 Arkansas City, Kansas</td>
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<tr>
<td>Address</td>
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<td>Accessibility</td>
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<td>Status of Site</td>
<td>Open Materials Site; Sampled</td>
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**EXPLORATION DATA**

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<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overburden</th>
<th>Depth of Material</th>
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<th>1/4</th>
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<th>Wash 200</th>
<th>G.F.</th>
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**CORRELATION DATA**

- Geological Age: Quaternary
- Geological Source: Wisconsinan Terrace
- Material Similar To: SHC Lab No. 21365

- Specific Gravity (Sat.) 2.55 (Dry)
- Los Angeles Wear 20.7
- Absorption 1.79
- Soundness 0.99
- Wt. Cu. Ft. 102.52
- Str. Ratio 1.39

**Remarks** Materials Department Site No. 18-43
**MATERIAL SITE DATA FORM**

**CG+18**  
**Qtw**

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<table>
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<th>Material</th>
<th>County</th>
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<tbody>
<tr>
<td>Chert Gravel</td>
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<tr>
<th>Location</th>
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<tr>
<td>SW ¼ Sec.</td>
<td>Hazel Shrope R#2</td>
<td>Arkansas City, Kansas</td>
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<table>
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<tr>
<th>Nature of Deposit</th>
<th>Accessibility</th>
<th>Site Located on Plate</th>
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<tbody>
<tr>
<td>Wet</td>
<td>Good</td>
<td>X</td>
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<tr>
<th>Status of Site</th>
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<td>Open Material Site; Sampled</td>
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**EXPLORATION DATA**

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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overseen Burden</th>
<th>Depth of Material</th>
<th>1½</th>
<th>3/8</th>
<th>4</th>
<th>8</th>
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<th>50</th>
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<th>Wash</th>
<th>200</th>
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**CORRELATION DATA**

<table>
<thead>
<tr>
<th>Geological Age</th>
<th>Geological Source</th>
<th>Material Similar To</th>
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<tr>
<td>Quaternary</td>
<td>Wisconsinan Terrace</td>
<td>SHC Lab No. 74-1578</td>
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<table>
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<tr>
<th>Specific Gravity (Sat.)</th>
<th>(Dry)</th>
<th>Los Angeles Wear</th>
<th>Absorption</th>
<th>Soundness</th>
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<tbody>
<tr>
<td>2.63</td>
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<th>Str. Ratio</th>
<th>Remarks</th>
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<td>Materials Department No. 18-48</td>
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</table>

Scale: 1 inch = ¼ mile
MATERIAL SITE DATA FORM

CG +19
QtK

Site No. Date Nov. 2, 1977

Chert Gravel County Cowley

Material Location SE ¼, SE ¼ Sec. 17 Twp. 34S Range 5E

Owner Name Harry A. Shuteley Address 419 No. C Arkansas City, Kansas 67005

Nature of Deposit Accessibility Site Located on Plate XI

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overburden</th>
<th>Depth of Material</th>
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CORRELATION DATA

Geological Age Quaternary

Geological Source Kansas Terrace

Material Similar To SHC Lab No. 81631

Specific Gravity (Sat.) 19.4 (Dry)

Los Angeles Wear 0.98

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks Abandoned

Scale: 1 inch = 1/4 mile
MATERIAL SITE DATA FORM

CG+20
Qtk

Site No. ___________________________ Date Nov. 2, 1977

Chert Gravel ___________________________ County Cowley

Location E2 1/2, NE1/4 Sec. 20 Twp. 24S Range 5E

Owner Harry A. Shutler 419 No. "C" Arkansas City, Kansas 67005

Nature of Deposit Dry Accessibility Good Site Located on Plate XI

Status of Site Open Materials Site: Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Over-Burden</th>
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CORRELATION DATA

Geological Age Quaternary

Geological Source Kansas Terrace

Material Similar To SHC Lab No. 81631

Specific Gravity (Sat.) (Dry)

Los Angeles Wear 19.4

Absorption Soundness 0.98

Wt. Cu. Ft. Str. Ratio

Remarks Abandoned

Materials Department Site No. 18-5
MATERIAL SITE DATA FORM

LS+21 Pb

Site No. __________________________ Date Nov. 2, 1977

Limestone

Material __________________________ County Cowley

NE ½, SE ¼ Sec. 29 Twp. 34S Range 5E

Location __________________________

C. H. Hockenbury R. 3, Box 230 Arkansas City, Kansas 67005

Owner __________________________

Nature of Deposit Dry Accessibility Good Site Located on Plate XI

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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<th>Wash 200</th>
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<th>P.I.</th>
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</table>

Correlation Data

Geological Age Permian

Geological Source Barnston Formation - Fort Riley Limestone MBR

Material Similar To SHC Lab No. 81597

Specific Gravity (Sat) 2.39 (Dry)

Los Angeles Wear 39.4

Absorption 6.67 Soundness 0.91

Wt. Cu. Ft. Str. Ratio

Remarks Materials Department Site No. 18-30

Scale: 1 inch = 1/4 mile
MATERIAL SITE DATA FORM

CG+22 Qtk
Site No. ___________________________ Date Nov. 2, 1977

Chert Gravel Cowley
Material ___________________________ County ___________________________

Location S ½, NW ¼ Sec. 21 Twp. 34S Range 5E

Forrest L. Williamson, R#3 Arkansas City, Kansas 67005
Owner name address

Nature of Deposit Dry Accessibility Good Site Located on Plate XI
Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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CORRELATION DATA

Geological Age Quaternary

Geological Source Kansan Terrace

Material Similar To SHC Lab No. 81631

Specific Gravity (Sat.) (Dry)

Los Angeles Wear 19.4

Absorption Soundness 0.98

Wt. Cu. Ft. Str. Ratio

Remarks Abandoned

Materials Department Site No. 18-5
MATERIAL SITE DATA FORM

Limestone

Beatrice DeVore

201 C Lakeview Vlg., Lenexa, Kansas

Pb

Cowley

S 1/2, NW 1/4

Sec. 22

Twp. 34S

Range 5E

Dry

Good

Site Located on Plate XI

Open Materials Site; Sampled

EXPLORATION DATA

<table>
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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
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<th>Wash 200</th>
<th>G.F.</th>
<th>L.L.</th>
<th>P.I.</th>
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</table>

CORRELATION DATA

Geological Age

Permian

Geological Source

Barneaston Formation - Fort Riley Limestone MBR.

Material Similar To

SHC Lab No. 81587

Specific Gravity (Sat.) 2.38 (Dry)

Los Angeles Wear 39.7

Absorption 6.56

Soundness 0.93

Wt. Cu. Ft.

Abandoned

Materials Department Site No. 18-29

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

LS+24
Pr

Date Nov. 2, 1977

Material Limestone

County Cowley

Location E 7/2 Sec. 7
W 1/2 Twp. 34 S

Owner 1st National Bank

Name Winfield, Kansas

Address

Nature of Deposit Dry

Accessibility Good

Site Located on Plate XII

Status of Site Open Materials Site; Sampled

EXPLORATION DATA

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<th>Wash</th>
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CORRELATION DATA

Geological Age Permian

Geological Source Red Eagle Limestone Formation

Material Similar To SHC Lab No. 81605

Specific Gravity (Sat.) 2.46 (Dry)

Los Angeles Wear 38.1

Absorption 4.44 Soundness 0.93

Wt. Cu. Ft. Str. Ratio

Remarks Materials Department Site No. 18-35

Scale: 1 inch = 1/2 mile
OPEN MATERIALS SITES; NOT SAMPLED

LEGEND

======== Trail or lane

Road

Railroad

Hedge or trees

Major streams

Intermittent streams

Pond or lake

Open materials sites; sampled

Open materials sites; not sampled

Prospective materials sites; sampled

Prospective materials sites; not sampled

Center of section

Dwelling

Cemetery

School

Church

Town or city
MATERIAL SITE DATA FORM

LS+25
Pnh

Site No. Date Nov. 2, 1977

Limestone

Material Cowley

County

NE ¾, NW ¾ Sec. 3

Location Twp. 31S Range 3E

Irene Ferguson Udall, Kansas 67146

Owner

name

direct address

Nature of Deposit Dry

Accessibility Good

Site Located on Plate I

Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Overburden</th>
<th>Depth of Material</th>
<th>1/2</th>
<th>¾</th>
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<th>Wash 200</th>
<th>G.F.</th>
<th>L.L.</th>
<th>P.I.</th>
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CORRELATION DATA

Permian

Geological Age

Nolans Limestone - Herington Limestone MBR.

Geological Source

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption

Soundness

WT. Cu. Ft.

Str. Ratio

Remarks

Scale: 1 inch = 1/4 Mile
MATERIAL SITE DATA FORM

LS+26
Pwc

Site No. Date Nov. 2, 1977

Material Limestone
County Cowley

Location SE ¼, NE ¼ Sec. 2
Twp. 31S Range 3E

Owner John B. Story R. #1 Udall, Kansas

Nature of Deposit Dry
Accessibility Good
Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

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<thead>
<tr>
<th>Test Hole</th>
<th>Material Depth</th>
<th>Depth of Overburden</th>
<th>Wash 200</th>
<th>G.F.</th>
<th>L.L.</th>
<th>P.L.</th>
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<td>¾</td>
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CORRELATION DATA

Geological Age Permian

Geological Source Winfield Limestone - Cresswell Limestone MBR.

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks
MATERIAL SITE DATA FORM

LS+27
Pwc

Site No. Limestone
Date Nov. 2, 1977
County Cowley

Material: W ½, NW ¼ Sec. 1 Twp. 31S Range 3E
Location

Owner Joseph K. Brown
name
2326 Menlo
address
Wichita, Kansas

Nature of Deposit Dry
Accessibility Good
Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

<table>
<thead>
<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Over-Burden</th>
<th>Material</th>
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<tbody>
<tr>
<td></td>
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<td>1 1/2 3 3/8 4 8 16 30 50 100</td>
<td>Wash 200 G.F. LL P.I.</td>
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CORRELATION DATA

Geological Age Permian

Geological Source Winfield Limestone - Cresswell Limestone MBR.

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks

Scale: 1 inch = 1/4 mile
MATERIAL SITE DATA FORM

CG-28
Qtg

Site No. Date Nov. 2, 1977

Chert Gravel County Cowley

Location NE ¼, SW ¼ Sec. 13 Twp. 31S Range 3E

Owner Elbert Olson 904 Shadyway Wichita, Kansas 67203

Nature of Deposit Accessibility Good Site Located on Plate

Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

<table>
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<tr>
<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
<th>Depth of Over-Burden</th>
<th>Depth of Material</th>
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<th>50</th>
<th>100</th>
<th>Wash</th>
<th>G.F.</th>
<th>L.L.</th>
<th>P.I.</th>
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</table>

CORRELATION DATA

Geological Age Quaternary

Geological Source Kansas Terrace

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

LS+30
Pwc

Site No.          Date      Nov. 2, 1977

Material  Limestone  County  Cowley

Location  SW ¼, SW ¼  Sec.  32  Twp.  31S  Range  4E

Owner  Gary L. Andes etal  %Donnie Andes  R.R. 5  Winfield, Kansas  67156

Nature of Deposit  Dry  Accessibility  Good

Status of Site  Open Materials Site; Not Sampled

EXPLORATION DATA

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<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
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<th>Depth of Material</th>
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CORRELATION DATA

Geological Age  Permian

Geological Source  Winfield Limestone - Cresswell Limestone MBR.

Material Similar To

Specific Gravity (Sat.)  (Dry)

Los Angeles Wear

Absorption  Soundness

Wt. Cu. Ft.  Str. Ratio

Remarks

Scale: 1 inch = ¼ Mile
**MATERIAL SITE DATA FORM**

**LS+31**

**Site No.**

**Date** Nov. 2, 1977

**Pr**

**Material** Limestone

**County** Cowley

**Location**

SW ¼ Sec. 21 Twp. 32S Range 8E

**Owner**

Charles M. Hamil

Box 177

Cedar Vale, Kansas 67204

**Nature of Deposit** Dry

**Accessibility** Good

Site Located on Plate VI

**Status of Site**

Open Materials Site; Not Sampled

---

**EXPLORATION DATA**

| Test Hole | Material at Bottom of Hole | Depth of Over-Burden | Depth of Material | 1½ | ½ | ¾ | 3/8 | 4 | 8 | 16 | 30 | 50 | 100 | Wash 200 | G.F. | L.L. | P.I. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

---

**CORRELATION DATA**

**Geological Age** Permian

**Geological Source** Red Eagle Limestone Formation

**Material Similar To**

---

**Specific Gravity (Sat.)** (Dry)

**Los Angeles Wear**

**Absorption**

**Soundness**

**Wt. Cu. Ft.**

**Str. Ratio**

**Remarks**

---

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

CG+32
Qtw

Site No.          Date         Nov. 2, 1977

Material       County        Cowley
Gravel (Chert & Limestone)      Cowley

Location  Twp.  Range
SW 1/4 SE 1/4  Sec. 3  34S  4E

Owner       Address
Robert W. Dowler  R#3  Winfield, Kansas 67156

Nature of Deposit    Accessibility
Wet    Good    Site Located on Plate VII

Status of Site
Open Materials Site; Not Sampled

EXPLORATION DATA

| Test Hole | Material at Bottom of Hole | Depth of Overburden | Depth of Material | 1/2 | 1/4 | 3/8 | 1 | 2 | 4 | 8 | 16 | 30 | 50 | 100 | Wash 200 | G.F. | L.L. | P.L. |
|-----------|---------------------------|---------------------|-------------------|-----|-----|-----|---|---|---|---|----|----|----|----|------|------|-----|-----|-----|
|           |                           |                     |                   |     |     |     |   |   |   |   |    |    |    |    |      |      |     |     |     |

CORRELATION DATA

Geological Age     Quaternary
Geological Source   Wisconsinan Terrace

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks

Scale: 1 inch = ½ Mile
MATERIAL SITE DATA FORM

LS+33
Pwt

Date Nov. 2, 1977

Site No.  

Material Limestone

County Cowley

Location NE ¼, SE ¼ Sec. 18 Twp. 33S Range 7E

Owner Joint Venture 909 1st Nat'l Bank Bldg., Wichita, Kansas 67202

Nature of Deposit Dry

Accessibility Good

Site Located on Plate IX

Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

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CORRELATION DATA

Geological Age Permian

Geological Source Wreford Limestone – Threemile Limestone MBR.

Material Similar To

Specific Gravity (Sat) (Dry)

Los Angeles Wear

Absorption Soundness

Wt. Cu. Ft. Str. Ratio

Remarks

Scale: 1 Inch = 1/4 Mile
**MATERIAL SITE DATA FORM**

Site No. LS+34  
Date Nov. 2, 1977  

Material Limestone  
County Cowley  

Location SW ¼ NE ¼ Sec. 35 Twp. 34S Range 3E  
Owner Andrews Sand & Gravel, Inc., 728 S. 8th, Arkansas City, Kansas  

Nature of Deposit  
Accessibility Good  
Site Located on Plate X  
Owner Address 67005  

Status of Site Open Materials Site; Not Sampled

**EXPLORATION DATA**

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**CORRELATION DATA**

Geological Age Permian  
Geological Source Nolans Limestone - Herington Limestone Member  

Material Similar To

Specific Gravity (Sat.) (Dry)
Los Angeles Wear
Absorption  
Wt. Cu. Ft.  
Soundness  
Str. Ratio
Remarks

Scale: 1 inch = ¼ mile
MATERIAL SITE DATA FORM

CG-35
Qtw
Site No. Date Nov. 2, 1977
Chert Gravel County Cowley
Material
Location SE ¼ Sec. 19 Twp. 34S Range 4E
Fred W. Rouch etux R #2 Arkansas City, Kansas
Owner
Nature of Deposit Wet Accessibility Good Site Located on Plate X
Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

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CORRELATION DATA

Geological Age Quaternary
Wisconsinan Terrace
Geological Source
Material Similar To
Specific Gravity (Sat.) (Dry)
Los Angeles Wear
Absorption Soundness
Wt. Cu. Ft. Str. Ratio
Remarks
MATERIAL SITE DATA FORM

Site No. LS+36  Pb
Date Nov. 2, 1977

Material Limestone
County Cowley

Location Sec. 29  Twp. 34S  Range 5E
Owner C. H. Hockenbury, RR 3, Box 230, Arkansas City, Kansas 67005

Nature of Deposit Dry  Accessibility Good  Site Located on Plate XI
Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

| Test Hole | Material at Bottom of Hole | Depth of Overburden | Depth of Material | 1½ | ¾ | 3/8 | 4 | 8 | 16 | 30 | 50 | 100 | Wash | G.F. | LL | PI |
|-----------|----------------------------|---------------------|-------------------|-----|---|-----|---|---|----|----|----|-----|-------|------|-----|----|----|

CORRELATION DATA

Geological Age Permian
Geological Source Barneston Formation - Fort Riley Limestone MBR
Material Similar To
Specific Gravity (Sat.) (Dry)
Los Angeles Wear
Absorption Soundness
Wt. Cu. Ft. Str. Ratio
Remarks

Scale: 1 inch = 1/4 Mile
MATERIAL SITE DATA FORM

CG-37
Qtk

Site No. Date Nov. 2, 1977

Chert Gravel Cowley

County

Material Location W ½, SE ¼ Sec. 16 Twp. 34S Range 5E

Owner Richard J. Hunt RR 3, Arkansas City, Kansas 67005

Accessibility Good

Nature of Deposit Dry

Site Located on Plate XI

Status of Site Open Materials Site; Not Sampled

EXPLORATION DATA

CORRELATION DATA

Geological Age Quaternary

Kansan Terrace

Geological Source

Material Similar To

Specific Gravity (Sat.) (Dry)

Los Angeles Wear

Absorption


Soundness

Str. Ratio

Remarks Abandoned
PROSPECTIVE MATERIALS SITES; SAMPLED

LEGEND

====== Trail or lane

Road

Railroad

Hedge or trees

Name

Major streams

Intermittent streams

Pond or lake

□ Open materials sites; sampled

● Open materials sites; not sampled

▼ Prospective materials sites; sampled

◆ Prospective materials sites; not sampled

⊙ Center of section

□ Dwelling

► Cemetery

▲ School

□ Church

□ Town or city
MATERIAL SITE DATA FORM

Site No. LS+39 Pb
Date Nov. 2, 1977

Material Limestone
County Cowley

Location NE ¼ Sec. 32 Twp. 30S Range 4E
Owner Frances S. Braungardt Rock, Kansas 67131

Nature of Deposit Dry
Accessibility Good

Status of Site Prospective Materials Site; Sampled

EXPLORATION DATA

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<th>Material at Bottom of Hole</th>
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CORRELATION DATA

Geological Age Permian
Geological Source Barneston Formation – Fort Riley Limestone MBR.
Material Similar To SHC No. 81608

Specific Gravity (Sat) 2.31 (Dry)
Los Angeles Wear 39.0
Absorption 4.94

Wt. Cu. Ft. Str. Ratio
Remarks Materials Department No. 18-24

Scale: 1 Inch = ½ Mile
SG+40
Qa1

Material: Sand & Gravel
County: Cowley
Location: W ¼, NE ¼, NW ¼ Sec. 7
Twp. 32S Range 3E
Owner: Ray Haskins
Address: 8425 No. Broadway, Valley Center, Kansas
Nature of Deposit: Wet
Accessibility: Good
Site Located on Plate: IV
Status of Site: Prospective Materials Site; Sampled

EXPLORATION DATA

<table>
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<th>Test Hole</th>
<th>Material at Bottom of Hole</th>
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<th>Wash 200</th>
<th>G.F.</th>
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</table>

CORRELATION DATA

Geological Age: Quaternary
Geological Source: Alluvium
Material Similar To: SHC Lab No. AB-619

Specific Gravity (Sat.)
Los Angeles Wear
Absorption
Wt. Cu. Ft.
Str. Ratio
Remarks: Materials Department No. 18-8

Scale: 1 inch = ¼ mile
**Material Site Data Form**

**LS+41**

- **Site No.**: Pr
- **Material**: Limestone
- **County**: Cowley
- **Location**: NW ¼ Sec. 28 Twp. 32S Range 8E
- **Owner**: First Nat'l. Bank
- **Name**: Winfield, Kansas 67156
- **Nature of Deposit**: Dry
- **Accessibility**: Good
- **Site Located on Plate**: VI
- **Status of Site**: Prospective Materials Site; Sampled

**Exploration Data**

| Test Hole | Material at Bottom of Hole | Depth of Over. Burden | Depth of Material | 1½ | ¾ | ¾/8 | 4 | 8 | 16 | 30 | 50 | 100 | Wash 200 | G.F. | LL | P.I. |
|-----------|---------------------------|-----------------------|-------------------|-----|--|-----|---|---|---|-----|-----|-----|------|-------|-----|----|-----|

**Correlation Data**

- **Geological Age**: Permian
- **Geological Source**: Red Eagle Limestone Formation
- **Material Similar To**: SHC Lab No. 81602
- **Specific Gravity (Sat.)**: 2.48 (Dry)
- **Los Angeles Wear**: 30.7
- **Absorption**: 2.94
- **Soundness**: 0.96

**Remarks**: Materials Department No. 18-9

Scale: 1 inch = ¼ Mile
MATERIAL SITE DATA FORM

Site No. LS+42 Pu
Date Nov. 2, 1977

Material Limestone
County Cowley
Location NW ¼ Sec. 9 Twp. 34S Range 7E

Owner Carl A. Steward R.R. 1 Cedar Vale, Kansas

Nature of Deposit Dry
Accessibility Good
Site Located on Plate VII

Status of Site Prospective Materials Site; Sampled

EXPLORATION DATA

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CORRELATION DATA

Geological Age Permian

Geological Source Wreford Limestone – Threemile Limestone MBR.

Material Similar To SHC Lab No. 81617

Specific Gravity (Sat.) 2.37 (Dry)

Los Angeles Wear 35.1

Absorption 5.67 Soundness 0.92

Wt. Cu. Ft. Str. Ratio

Remarks

Scale: 1 inch = ½ mile
PROSPECTIVE MATERIALS SITES; NOT SAMPLED

LEGEND

========== Trail or lane

Road

Railroad

Hedge or trees

Name

Major streams

Intermittent streams

Pond or lake

■ Open materials sites; sampled

Open materials sites; not sampled

Prospective materials sites; sampled

Prospective materials sites; not sampled

Center of section

Dwelling

Cemetery

School

Church

Town or city
MATERIAL SITE DATA FORM

CG-43
Qtk

Site No. ___________________________ Date ____________

Material Chert Gravel County Cowley

Location NE 1/4, NE 3/4 Sec. 5 Twp. 30S Range 4E

Owner Delbert Wade etal R.R. 1 Douglas, Kansas

Nature of Deposit Dry

Accessibility Good

Site Located on Plate I

Status of Site Prospective Materials Site; Not Sampled

EXPLORATION DATA

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<th>Test Hole</th>
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CORRELATION DATA

Geological Age Quaternary

Geological Source Kansan Terrace

Material Similar To ____________________________

Specific Gravity (Sat.) ____________________________ (Dry)

Los Angeles Wear ____________________________

Absorption ____________________________ Soundness ____________________________

Wt. Cu. Ft. ____________________________ Str. Ratio ____________________________

Remarks ____________________________
**MATERIAL SITE DATA FORM**

**Site No.** CG-44  
**Date** Nov. 2, 1977

**Material** Chert Gravel  
**County** Cowley

**Location** W ½, SE ¼  
Sec. 13  
Twp. 31S  
Range 3E

**Owner** Boyd & Kenneth Waite  
R.R. 2, Winfield, Kansas 67156

**Nature of Deposit** Dry  
**Accessibility** Good  
**Site Located on Plate** I

**Status of Site** Prospective Materials Site; Not Sampled

## EXPLORATION DATA

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## CORRELATION DATA

**Geological Age** Quaternary  
**Geological Source** Kansan Terrace

**Material Similar To**

**Specific Gravity (Sat.)** (Dry)

**Los Angeles Wear**

**Absorption**

**Wt. Cu. Ft.**

**Soundness**

**Str. Ratio**

**Remarks**

---

Scale: 1 inch = 1/4 Mile
GLOSSARY


Absorption: Determined by tests performed in accordance with A.A.S.H.O. designation T85.

Aggrade: To raise the grade or level of a valley or stream bed by depositing particles of clay, silt, sand, and gravel.

Aggregate: Any of several hard, inert, construction materials (such as sand, gravel, shells, slag, crushed stone, or other mineral material), or combinations thereof, used for mixing in various-sized fragments with a cementing or bituminous material to form concrete of bituminous mix.

Alluvium: A deposit of clay, silt, sand, or gravel deposited by a stream or other body of running water.

Aquifer: A body of rock that contains sufficient saturated permeable material to conduct ground water and to yield economically significant quantities of ground water to wells and springs.

Bedded: A characteristic of some rock units which shows distinct layers due to the manner in which they were deposited.

Coarse sand: An aggregate of unconsolidated aggregate of rounded minerals or rock particles, the dimensions of which are usually more than two millimeters.

Consolidated deposit: A deposit of limestone, shale, or sandstone. In Kansas, this term generally applies to rock older than Pliocene age.

Construction aggregate: Processed rock that will meet standard specifications for concrete and bituminous construction.

Crossbedding: Term applied to sedimentary deposits whose bedding is inclined at various angles to the stratification.

Cyclothem: A series of beds deposited during a single sedimentary cycle.

Degrade: To lower the level of a stream or river valley by stream erosive action.

Dolomitic limestone: A limestone in which the mineral dolomite (CaMg(CO3)2) is conspicuous but calcite is more abundant.

Exposure patterns: Topographic features formed on the land surface by the exposure of geologic units.
**Fine sand:** An aggregate of consolidated minerals or rock particles, the dimensions of which are not less than 0.05 of a millimeter and not more than 0.42 of a millimeter. The term refers to size of grain and not to composition; however, since most sands are composed of quartz and feldspar, and the term is used without qualifications, a siliceous composition is implied.

**Flaggy:** Descriptive of a sedimentary rock that splits into layers from 1 cm to 5 cm in thickness.

**Formation:** A persistent body of rocks, having easily recognizable upper and lower boundaries that can be traced in the field without recourse to detailed paleontologic or petrologic analysis, and large enough to be represented on a geologic map as a practical or convenient unit for mapping and description.

**Fossil:** Any remains, trace, or imprint of a plant or animal that has been preserved, by natural processes, in the Earth's crust since some past geologic time.

**Geologic era:** Largest unit of geologic time (e.g., Paleozoic, Mesozoic, and Cenozoic).

**Geologic period:** A unit of geologic time, shorter than an era and longer than an epoch (e.g., Cambrian, Cretaceous, and Tertiary).

**Geologic process:** Term pertaining to erosion, deposition, and diastrophic methods by which the Earth's surface has been shaped.

**Geologic structure:** The attitude of the rock units (i.e., whether they are horizontal or tilted).

**Geologic system:** A term that refers to rocks or deposits that were laid down during a particular geologic period (e.g., the Pennsylvanian, Permian, and Quaternary).

**Geologic unit:** A general term used to denote a geologic formation, member, or an unconsolidated deposit.

**Gradation factor:** The value obtained by adding the percentages of material retained on the 1¾", 3/4", 3/8", 4, 8, 16, 30, 50 and 100 sieves, respectively and dividing the sum by 100.


**Ground-water:** That part of the subsurface water that is the zone of saturation, including underground streams.

**Igneous rocks:** Rocks produced from molten or partly molten material.

**Karst topography:** A type of topography that is formed over limestone, dolomite, or gypsum by dissolving or solution, and that is characterized by closed depressions or sink holes, caves, and underground drainage.
Landform: Any physical, recognizable form or feature of the Earth's surface, having a characteristic shape, and produced by natural causes; it includes major forms such as plain, plateau, mountain, hill, valley, slope, esker, and dune.

Light type surfacing: A surface course constructed from aggregate which is not bound by water, cement, or bituminous material.


Lithology: Physical properties of rocks such as grain size, mineral content, and color.


Marine deposits: Deposits laid down in a sea.

Material source bed: A geologic unit from which construction material is being or can be produced.

Matrix: The smaller or finer-grained, continuous material enclosing, or filling the interstices between the larger grains or particles of a sediment or sedimentary rock.

Member: A division of a formation, generally of distinct lithologic character or of only local extent.

Open materials site: A pit or quarry from which material is produced for possible construction purposes.

Orbiculoida: An inarticulate (neotremate type) having plane pedicule valve of circular outline in which the pedicle issues from a slit located between the centrally placed apex and margin of the valve.

Outwash: (sed.) Soil material washed down a hillside by rainwater and deposited upon more gently sloping land. (glacial geol.) Stratified detritus (chiefly sand and gravel) removed or 'washed out' from a glacier by meltwater streams and deposited in front of or beyond the terminal moraine or the margin of an active glacier.

Physiographic division: A division of the state, based on general geologic and(or) geographic features.

Plasticity index: The water-content range of a soil at which it is plastic; determined by tests performed in accordance with the Kansas Test Method KT-10 of the State Highway Commission of Kansas Construction Manual, Part V, 1969 edition.
**Pleistocene Series:** Deposits laid down during the Pleistocene Epoch.

**Pliocene Epoch:** The youngest major subdivision of the Tertiary Period.

**Prospective materials site:** A location where the geologic conditions are favorable for finding and producing construction aggregate.

**Reef:** A ridge or mound-like, layered, sedimentary rock structure, built by and composed almost exclusively of the remains of sedimentary organisms (espicorals) and usually enclosed in rock of differing lithology.

**Soundness:** Determined by tests performed in accordance with section 1001 of the State Highway Commission of Kansas Standard Specifications, 1973 edition.

**Specific gravity:** Determined by tests performed in accordance with A.A.S.H.O. designation T84 for fine aggregate and T85 for coarse aggregate.

**Stereoscopic vision:** Three-dimensional vision by means of viewing identical images on two photographs exposed from equal distance but at different angles.

**Stratigraphic position:** The vertical position of a geologic unit in relation to other geologic units.

**Stream meander:** One of a series of beds or curves in the course of a stream caused by lateral movement of a stream in its valley.

**Strength ratio:** Determined by tests performed in accordance with A.A.S.H.O. designation T19.

**Terrace:** A plain built up by the deposition of sediments by water.

**Unconsolidated deposits:** A sediment that is loosely arranged or unstratified, or whose particles are not cemented together, occurring either at the surface or at depth.

**Wash:** (Material passing the no. 200 sieve). Determined by tests performed in accordance with A.A.S.H.O. designation T11.

**Weathering:** The disintegration (physical change) or decomposition (chemical change) of rock by atmospheric agents.

**Weight per cubic foot:** Determined by tests performed in accordance with A.A.S.H.O. designation T19.
Selected References


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* This Report
** In Progress