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DEFICIENCY JUDGMENTS IN REAL ESTATE EMINENT DOMAIN PROCEEDINGS.(U)
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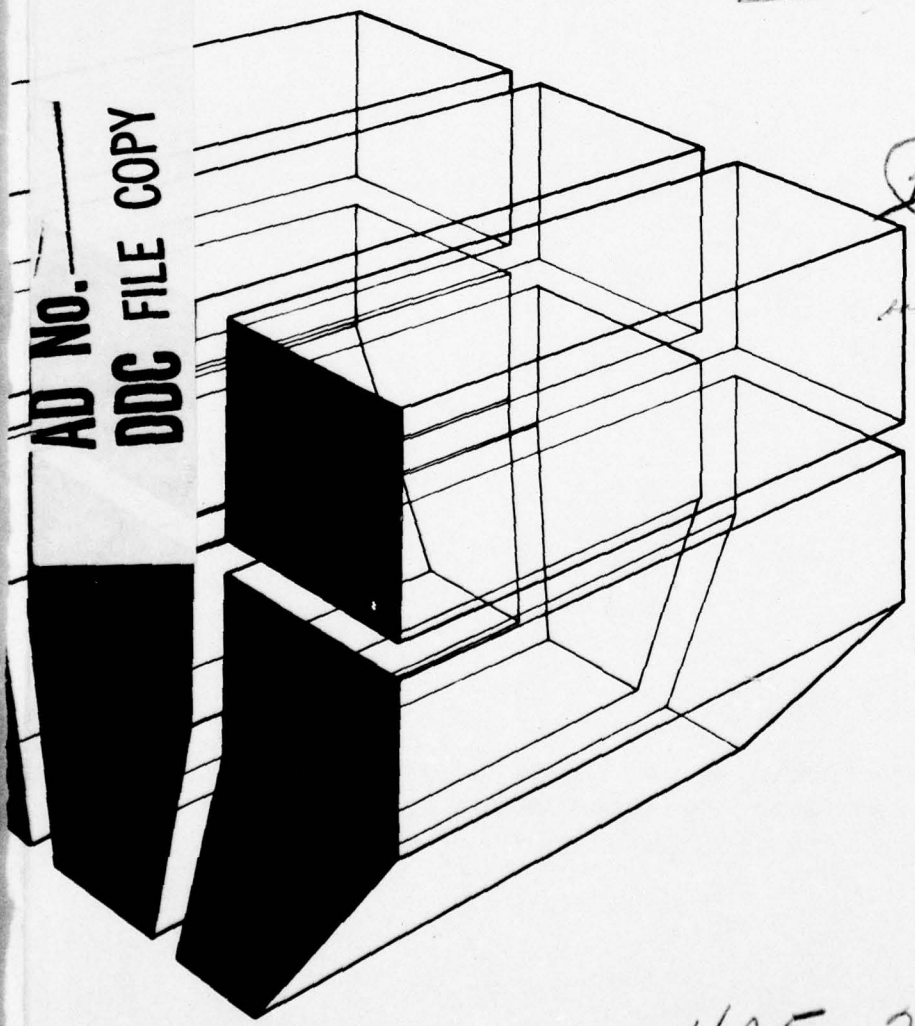

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This study reviewed the Corps of Engineers' experience with deficiency judgments from land acquisition for civil works projects. Historical data were sampled and analyzed in an attempt to develop a more accurate means of assessing land acquisition costs.

In was concluded that three factors generally contribute to the best predictions of total deposits plus deficiencies for a project: (1) the sum

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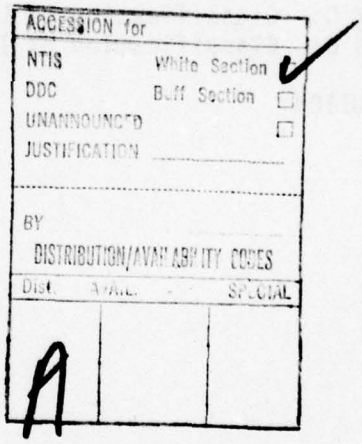
of deposits, (2) the fraction of land in Government interests associated with mineral rights and temporary flowage easements, and (3) the fraction of land in the industrial land use category.

These factors were developed into a predictive equation. Projects for which settlement costs were severely underestimated by the equation were analyzed to identify circumstances which might lead to unexpectedly high settlements. Such circumstances include:(1) how many small settlements, each relatively large compared to even smaller deposits, and (2) individual high deficiencies stemming from disputes over either equipment evaluation or the effects of easements on an agricultural or industrial operation.

FOREWORD

This study was performed for the Directorate of Real Estate, Office of the Chief of Engineers (OCE), under work unit L52, "Forecasts of Civil Works Deficiency Judgments." The OCE Technical Monitor is E. W. Merli.

This report was prepared by the Facility Systems Division (FS), U.S. Army Construction Engineering Research Laboratory (CERL), Champaign, IL. CERL personnel involved in preparation of the report were Michael Fuerst and Veda Scarpetta. Mr. E. A. Lotz is Chief of FS. COL J. E. Hays is Commander and Director of CERL, and Dr. L. R. Shaffer is Technical Director.



CONTENTS

DEFICIENCY JUDGMENTS IN REAL
ESTATE EMINENT DOMAIN PROCEEDINGS

1 INTRODUCTION

Background

Corps of Engineers civil works projects require the Government to obtain an interest in privately held lands. This interest may consist of partial or total title (including or excluding subsurface minerals) or rights (called easements) for permanent or occasional flooding, limited construction, or temporary work.

The initial estimation of land acquisition costs occurs when a Corps district receives funds to plan a new project. Tracts needed for the project are identified from map surveys in order to derive a planning estimate of total acquisition costs. A lag of several years may exist between project planning and the time funds become available to begin land acquisition. Additionally, acquisition for large projects may occur in stages over several years.

Appropriations from Congress are based on initial estimates updated for inflation and other changes in land value. When a district is authorized to spend money for land acquisition, affected tracts undergo complete appraisals, which are used as a basis for negotiations with landowners. If agreement for compensation cannot be reached with a landowner, the Corps may obtain the desired interest (title or rights) by (1) filing a "declaration of taking" in the local Federal District Court, and (2) depositing in an escrow account the Corps' estimate of just compensation. Since the sum represents payment for the Government interest, the landowner may draw upon this account.

However, the landowner often sues for a larger settlement, forcing the Government either to settle out of court or proceed with a trial by jury, commission, or judge, depending on the practice in the local Federal Court District. The Government may decide to seek an out of court settlement, depending on the size of the claim, the attitude of the local judicial system (specifically judges, juries, or commission members) towards the Corps, or newly found evidence such as the discovery of potential mineral or recreational value of a tract. Any amount paid to the landowner beyond the escrow deposit is referred to as the "deficiency."

The Corps sometimes has had to request additional funds from Congress because of unexpectedly high deficiencies. District chiefs of real estate have suggested several factors which affect district estimates of title and easement acquisition costs (including deficiency judgments), both at the planning and pre-acquisition stages. These factors include current land uses; Government interest to be taken (easements reportedly tend to have higher deficiencies than expected); capability of the local U.S. attorney; attitude of judge, jury, and commission; and the occurrence of a second project in an area (landowners have become more sophisticated and hence demand larger settlements).

Objective

The objective of this study was to review the Corps of Engineers' experience with deficiency judgments from land acquisition for civil works projects in order to develop a means of predicting total settlements on a project basis. This information is intended to assist district personnel in more accurately assessing land acquisition costs.

Approach

Historical data concerning deficiency judgments were sampled and analyzed in an attempt to develop an equation which could predict the sum of deposits and deficiencies on a project basis. Projects with settlement costs severely underestimated by the equations were analyzed in order to identify circumstances which might lead to unexpectedly high settlements.

Mode of Technology Transfer

The results of this study may be distributed as an Engineer Circular or Engineer Technical Note.

2 PROCEDURE AND RESULTS

Sample

A sample of deficiencies awarded in the past was reviewed and analyzed. The sample was drawn from Department of Justice records of Corps of Engineers eminent domain civil actions which were closed between 1970 and 1975. For each year, cases were selected from every state; for every state each Federal Court District was sampled, and for each Federal Court District every project was sampled. For every project, a random sample of civil actions was recorded. The number of tracts (and therefore the number of deficiencies) per civil action varied from one to more than 30. Data from multiple tract civil actions were aggregated into a single observation. The need to eliminate many cases which were either title issues (i.e., the landowner could not be identified), cemetery issues (i.e. the land involved was used as a cemetery), or too incomplete for analysis, hampered the sampling design.

The final sample contained 1,056 cases. Appendix A shows the distribution by Corps of Engineers district, state, and project. Appendix B identifies the various Government interests. Note that most of these interests are combinations of 21 basic types. Information on land use and issues, such as why the owner contested the Government's deposit or why the Government did not contest the owner's claim, were available for only 65 and 44 percent of the cases, respectively. Appendices C and D contain the classifications used for these.

Equation Development

Initial analysis of the data focused upon developing equations to predict the total acquisition cost (deposit plus deficiency) of the Government interests contained in each civil action. Separate predictive equations were sought for various land uses, various Government interests, and various Corps districts, using combinations of the following predictive variables: Federal Court District, number of fee acres, number of easement acres, type of trial (jury, commission, judge, or out of court settlement), time lag from date of taking to final settlement, and the amount of the Government deposit. However, the inherent variability of individual settlements and insufficient observations for some variables in specific groups of civil actions complicated the development of statistically useful equations.

Factors contributing to the variability of individual settlements include: late discovery of new information concerning the value of a land tract; trial risks (e.g., jury or commission members may be hostile toward the Corps, or the most persuasive witnesses may not give the most accurate testimony); and the Corps' policy of not contesting small deficiency claims, even if they are several times the deposit.

To average out the fluctuations of individual civil actions, equations were sought to predict the total acquisition costs (deposit plus deficiency) of Government interests contained in all civil actions for each project. To do this, the collected data had to be aggregated on a project basis. Table 1 lists the variables calculated for each project. Only 136 distinct projects exist, since several projects listed in Appendix A transcend more than one Federal Court District. Of these, only 74 have land use information for at least three civil actions, while 79 have Government interest information for at least four civil actions. (To estimate equations using projects having fewer than three or four civil actions for which such information is available would negate the purpose of aggregation by project.)

The parenthetical numbers next to the land use and Government interest variables in Table 1 indicate which land uses from Appendix C or which Government interests from Appendix B were included in each variable. Many of the land uses and Government interests of Appendices B and C occurred infrequently. The groupings of Table 1 were therefore necessary to insure that all variables had a sufficient number of observations to be included in the analysis. Note that the available information for each civil action contained the acreage of tracts affected by a title (fee) acquisition and the acreage of tracts involved in easement acquisition, but not breakdowns by type of title or type of easement. Hence, in classifying the Government interests of Appendix B into the six categories of Table 1, combinations of fees or combinations of easements were assigned to a single fee or easement category as indicated.

The best equation that could be developed related the total deposit plus deficiency to the variable as follows:

$$TOTAL = (1.41 + 2.08\ PGI3 + .67\ PGI5 + 1.62\ PL5)\ DEPST \qquad [Eq\ 1]$$

where: PGI = the fraction of acres in each land use category
PGI3 = fraction of acres of project requiring permanent flowage easements
PGI5 = fraction of acres of projects requiring extinguishment of cemetery or mineral rights
PL5 = fraction of land use in the commercial and industrial land use category.
DEPST = total deposit.

The R^2 "percentage of variation explained" for this equation* equalled .94.

This specific equation was developed by multiple regression using the products of the deposit with each of the PGI and PL variables as the independent variables. By standard statistical criteria, the other variables did not significantly contribute to increasing R^2 and thus were not included in the equation. In fact, deleting all variables on the righthand side of Eq 1 except "DEPST" would result in an R^2 of .93. The additional variables thus contribute a relatively small, but significant portion of the explanatory capability of the equation.

Table 2 shows the predicted values of TOTAL for the 79 projects. Despite the high R^2, the predictive accuracy of the equation is disappointing. The standard error of the equation, $82,000, also indicates this. Although most values fall within 50 percent of the predictions, six have TOTAL values that are more than 90 percent greater than the predictions.

The individual civil actions of these six outlier projects and the Clinton Lake project were reviewed to identify circumstances which produce inordinately large deficiencies. The total given for each project equals the sum of deficiencies and deposits, while the predicted total comes from Table 2.

*R^2 is a statistical measure of the fraction of variance explained by the regression equation. If (1) m observations (in this case 79) are used to develop a regression equation, (2) Y denotes the actual value of the predicted variable (in this case TOTAL), and (3) $\overline{Y}$ denotes the average of these actual values and $\hat{Y}_i$ denotes the ith value of the predicted variable as calculated by the righthand side of the regression equation, then R^2 equals

$$\frac{\Sigma_i \ (\hat{Y}_i - \overline{Y})^2}{\Sigma_i \ (Y_i - \overline{Y})^2}$$

Values of R^2 can vary from 0.0 (implying the regression line is no more useful than $\overline{Y}$ in predicting the values of Y_i) to 1.0 (implying all values of Y_i fall exactly on the regression line). If the inherent variation in the data is great enough, a large R^2 will not necessarily insure useful predictions.

All three civil actions having relatively high deficiencies for the Clinton Lake project (Table 3) involved land with potential for residential development. In the first civil action, the owner claimed this potential (issue 72), while in the third and fourth civil actions, this potential had been known to exist (land uses 28 and 29).

Eight of the civil actions recorded for Pike Island Lock and Dam (Table 4) involved small easement claims, six of which the Government settled out of court. However, in one instance, the Government paid a $55,494 deficiency in acquiescing to an owner's contention that his agricultural land should be valued for its mineral rights (issue 75, land use 24). Hence, the equation failed to predict a high deficiency for this project.

Table 5 contains data from the Shenango Power Reservoir. Three civil actions contributed most to the discrepancy between the actual and predicted totals. The first of these involved a source of sand and gravel (land use 65) for which the Government and landowner disputed the value of equipment (issue 88). The deficiency of $406,209 equalled 83 percent of the difference between the actual and predicted totals for this project. The second of these involved farm land with sand and gravel interests (land use 24) and a dispute over those interests (issue 82). Here the deficiency equalled eight times the deposit. In the third civil action (land use 22, issue 64), the owner claimed additional damages due to disruption of a livestock business.

The poorly predicted total for the Racine Lock and Dam (Table 6) was caused by a single action in which industrial acreage (land use 50) had been damaged by a flowage easement (issue 67).

The 10 sampled civil actions from the Willow Island Lock and Dam (Table 7) all involved nonproductive land (two involved land with potential for mineral production). The deficiencies, although not large, were many times greater than the nominal deposits; hence, the large relative difference between the actual and the predicted total values.

Deficiencies were greater than the deposits for nearly all tracts of the Belleville Lock and Dam (Table 8). Most of the civil actions having unknown land uses appear to be easement cases for which a small settlement was preferable to a costly court battle. The two largest deficiencies, caused by severance issues (60 and 67), together equal nearly three-fourths of the difference between the actual and predicted total values.

The sample from the Keystone Dam and Reservoir (Table 9) consists of channel improvement easements (Government interest 8) on either non-productive riverbed (land use 71) or land from which sand or gravel was extracted (land use 65). The eight sand and gravel civil actions had deficiencies six or more times the deposit. The issues (when given) were a dispute over the value of equipment (issue 88) or new information becoming available to the Government (issue 1).

All seven of these projects illustrate that even if 90 percent of civil actions do not have inordinate deficiencies, the remaining 10 percent can cause a severe overall deficiency for the project.

3 DISCUSSION

This study sampled a limited number of civil actions from each project. A more complete sampling for each project and an increased number of sampled projects would have allowed more variables to be included in the development of equations. Dividing either the six broad Government interest categories or six land use categories more finely or differently might have resulted in more variables having significant predictive ability.

Only the estimation of cost of land known to be taken through civil actions was investigated in this study. Any complete methodology for predicting acquisition costs could benefit from a study to predict the proportion of tracts requiring civil actions. This proportion is affected not only by variables similar to those in Table 1, but by the judicial situation and the effects of previous projects. This study did not collect information on the latter two factors. Judicial situation probably must be subjectively evaluated.

Ultimate success in minimizing acquisition costs requires a "systems approach." Subjective judgments about the accuracy of any estimates and the potential effects of any planned action must be carefully combined to produce the best policy for dealing with a group of landowners. For instance, initial planning estimates of acquisition costs for a project, rather than being expressed as a fixed number, can be expressed as "greater than Y with probability P_1 and greater than Y with probability P_2," and so on. Opening negotiations with a small number of landowners might serve to indicate how much resistance might exist in a local area, indicating that different negotiation tactics or a different staging of acquisition might be appropriate. For example, a review of past projects might reveal that certain landowners with specific sets of characteristics (personality, political beliefs, type of land, etc.) may repeatedly be reluctant to sell or be more disposed to a court fight than other landowners. Such landowners should be dealt with in the early stages of acquisitions of a project. Individuals skilled in soliciting subjective judgment from others and those skilled in measuring psychology and attitude characteristics of groups of persons could be useful in implementing such a "systems approach."

4 CONCLUSIONS AND RECOMMENDATIONS

A review of the Corps' experience with deficiency judgments indicated that three factors generally contribute to the best predictions of total deposits plus deficiencies for a project: (1) the sum of deposits, which reflects the Corps' appraisal, (2) the fraction of land in Government interests associated with mineral rights and temporary flowage easements, and (3) the fraction of land in the industrial land use category. These factors have been developed into a predictive equation. However, for some projects, special situations can cause high deficiencies. These situations include (1) many small settlements, each relatively large compared to even smaller deposits, and (2) individual high deficiencies stemming from disputes over either equipment evaluation or the effects of easements on an agricultural or industrial operation.

This study leads to the recommendation that the Corps use the following procedure in future land acquisition:

1. The Corps should first appraise each tract.

2. The value of land requiring civil actions should then be calculated by multiplying the total appraisal by an estimate of the fraction of the land which will require civil actions.

This result (set equal to DEPST) and the values of *PGI3*, *PGI5*, and PL5 should be substituted into the predictive equation to yield an estimate of the cost of land having deficiency judgments. If values for PGI3, PGI5, and PL5 are unavailable, the DEPST can be multiplied by 1.43. This estimate should then be modified to reflect any special situations, such as those mentioned above.

Table 1

Variables Retained for Each Project

Item	Variable Name
Project Number	PROJ
Number of civil actions for which data collected	N
Number of civil actions for which land use is known	KNLU
Total deposit	DEPST
Total deficiency	DEFIC
Sum of total deposit and total deficiency	TOTAL
Total deposit for civil actions for which land use known	DEPWLU
Total deficiency for civil actions for which land use known	DEFWLU
DEPWLU plus DEFWLU	TOTWLU
Acres known to be in various land categories	
1. Rural homesites, including those with farm, minerals, or business (11, 12, 13, 16, 17)*	L1
2. Urban homesites and homesites with potential for residential or recreational development (14, 15, 18, 19, 90-99)	L2
3. Agricultural (20-29)	L3
4. Recreation, miscellaneous mineral, nonproductive, timber (40-49, 60, 64, 65, 67-89)	L4
5. Miscellaneous, commercial or industrial, (1-9, 30-39, 50-59)	L5
6. Gas, oil or coal (61-63, 67)	L6
Fraction of known land use in each of above categories	PL1 - PL6
Acres of various government interests	
1. Fee simple (1, 31, 51, 55, 56, 58, 61-63, 65, 66)	GI1
2. Fee simple but excluding title to mineral rights (2-4, 22, 28, 30, 34, 52-54, 57, 59, 60, 64, 67-68, 77, 90)	GI2
3. Title to minerals (19, 69)	GI3
4. Permanent or partial permanent flowage easements (5, 7, 23, 25, 27, 33, 53, 56, 57, 60, 62, 64, 71, 80)	GI4
5. Temporary or partial temporary flowage easements (6, 24, 26, 32, 52, 58, 59, 67-69, 72-74, 76-78)	GI5
6. Other easements (8-16, 20-21, 29, 51, 54-55, 61, 63, 66, 75, 79)	GI6
*Fraction of acres in each government interest category	PGI1 - PGI6

Table 2

Predicted Vs. Actual Deficiency Judgments

District	Project Name	Actual Total, $	Predicted Total, $	% Dev. of Actual from Predicted
Memphis	St. Francis Basin	188,400	233,026	19
New Orleans	Cooper Lake	197,708	157,122	3
Vicksburg	Degray Reservoir	80,024	87,665	-9
	Yazoo Basin Backwater	81,308	123,747	-34
Kansas City	Rathbun Lake	221,414	224,106	-1
	Clinton Lake	308,862	204,497	51
	Perry Dam and Reservoir	268,846	300,289	-10
	Harry S. Truman Dam and Reservoir	857,697	725,613	18
	Stockton Dam and Reservoir	315,296	275,355	15
Omaha	Chatfield Lake	572,500	758,933	-25
	Oahe Dam and Reservoir	150,306	121,145	24
	Pipestem Lake	550,945	565,562	-3
	Big Bend Dam and Reservoir	58,255	44,371	31
New England	Hop Brook Dam and Reservoir	176,483	192,144	-8
	Stamford Hurricane Project	144,835	98,119	48
	West Thompson Lake	75,870	63,954	19
	Hopkinton-Everett Dam and Reservoir	116,000	142,678	-19
Rock Island	Saylorville Reservoir Project	884,720	933,496	-10
Portland	John Day	761,915	581,034	31
Seattle	Libby Dam and Lake	719,322	681,067	6
Walla Walla	Ririe Lake	85,276	122,182	-30
	Little Goose Dam and Lake	256,581	328,558	-22
	Lower Granite Lock and Dam	2,151,195	2,013,013	7
Huntington	Fish Trap Lake	111,190	115,216	-3
	Grayson Lake	79,289	143,332	-45
	Alum Creek Lake	847,489	912,883	-7
	Deer Creek Lake	12,050	9,162	32
	Greenup	19,100	29,319	-35
	Paint Creek Lake	115,500	132,691	-13
	Racine	103,750	42,446	145
	Willow Island	8,650	932	828
	Rd Bailey Lake	97,048	93,006	4
	Belleville	43,450	15,333	184
	East Lynn Lake	77,350	88,095	-12
Louisville	Brookville Lake	201,510	231,510	-13
	Cannelton Locks and Dam	31,804	23,803	33
	Huntington Dam and Reservoir	174,759	205,025	-15
	Buckhorn Dam and Reservoir	70,163	62,346	13
	Carr Fork Lake	30,750	35,435	-13
	Cave Run Lake	180,736	187,803	-4
	Green River Lake	734,267	591,345	24
	Caesar Creek Lake	297,815	357,695	-17
Nashville	Barkley Dam and Lake	404,308	471,517	-14
	Cordell Hull Dam and Reservoir	325,905	389,300	-16
	J. Percy Priest	411,971	543,729	-24

Table 2 (continued)

District	Project Name	Actual Total, $	Predicted Total, $	% Dev. of Actual from Predicted
Pittsburgh	Kinzua Dam	643,083	517,233	24
	Pike Island Locks and Dam	74,121	23,604	214
	Shenango River Reservoir	950,935	488,496	95
	Union City Dam and Reservoir	165,665	195,294	-15
	Allegheny Reservoir	577,997	596,201	-3
Mobile	Jackson	91,595	99,626	-8
	Millers Ferry	389,092	434,266	-10
	Okatibbee Dam and Reservoir	97,953	70,891	38
Savannah	West Point Lake	1,003,684	1,095,823	-8
	B. Everett Jordan	350,927	382,580	-8
Fort Worth	Bull Shoals Lake	108,339	104,472	4
	Granger Lake	99,130	139,625	-29
	Lavon Lake	1,225,736	1,245,995	-2
	Sam Rayburn Dam and Reservoir	39,563	43,401	-8
	Somerville Reservoir	438,284	464,889	-6
	Laneport Lake	241,052	281,639	-14
Little Rock	Arkansas River Lock and Dam	93,240	104,797	-11
	Arkansas River Project	205,186	185,473	11
	Toad Suck Ferry Project	9,425	9,141	3
	Dardanelle Project	57,050	102,519	-44
	Ozark Lake	62,510	60,895	3
Tulsa	Millwood Lake	97,504	61,995	4
	Marion Lake	835,005	944,445	-12
	Broken Bow Dam and Reservoir	50,760	59,364	-14
	Hugo Lake	134,827	139,613	-3
	Kaw Lake	553,369	590,463	-6
	Robert S. Kerr Lock and Dam	193,264	206,284	-6
	Keystone Lake	24,693	6,813	326
	W D Mayo Lock and Dam	172,941	99,917	73
	Newt Graham Project	183,505	181,907	1
	Oolagah Lake	250,789	404,096	38
	Webbers Falls Lock and Dam	336,046	361,306	-8

Table 3

Civil Actions From Clinton Lake, KS
(Kansas City District Project No. 17197)

Land Use Category	Government Interest Category*	No. of Acres Fee	No. of Acres Easement	Type of Trial	Issue+	Deposit,$	Deficiency,$
12	55	76	10	x	72	32,750	22,042
—	11	0	4	x	x	2,100	900
28	01	85	0	S**	x	50,000	87,299
18	01	80	0	S	x	60,000	53,771
	Sum of Deposits		144,850	Total		308,862	
	Sum of Deficiencies		164,012	Predicted Total		204,497	

* = Appendix B explains category codes.
\+ = Appendix D contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JR = Jury
JD = Judge

Table 4

Civil Actions From Pike Island Lock and Dam, OH
(Pittsburgh District Project No. 36592)

Land Use Category	Government Interest Category*	No. of Acres		Type of Trial	Issue†	Deposit,$	Deficiency,$
		Fee	Easement				
20	70	0	1	S**	x	610	590
x	7	0	5	S	x	700	500
x	6	0	1	JD	x	50	50
20	6	0	1	x	x	50	450
20	6	0	1	S	x	100	200
20	6	0	1	S	x	50	150
20	6	0	1	S	x	50	150
24	1	45	0	S	75	14,100	55,494
x	74	0	1	C	71	200	625
		Total Deposit		15,910	Total		74,119
		Total Deficiency		58,209	Predicted Total		23,604

* = Appendix B explains category codes.
† = Appendix D contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

Table 5

Civil Actions From Shenango River Reservoir, PA (Pittsburgh Corps District Project No. 39720)

Land Use Category	Government Interest Category*	No. of Acres		Type of Trial	Issue†	Deposit,$	Deficiency,$
		Fee	Easement				
39	2	190	0	S**	x	25,000	38,000
x	1	46	0	S	20	13,000	8,000
x	1	19	0	S	20	3,700	4,300
10	58	1	1	S	x	4,500	3,000
20	1	8	0	S	x	2,700	4,800
x	1	55	0	S	43	24,900	5,260
x	1	22	0	S	x	10,300	2,400
37	1	36	0	S	64	8,200	14,050
x	50	37	1	S	x	3,050	1,950
x	1	69	0	S	x	5,000	1,942
x	1	77	0	S	x	16,600	9,400
65	1	200	0	JR	88	92,100	406,209
x	1	21	0	S	x	3,000	2,500
x	1	7	0	S	x	1,100	600
12	1	39	0	S	50	7,200	4,100
x	1	28	0	S	x	1,300	1,050
24	1	85	0	S	82	15,000	119,500
20	1	5	0	S	x	300	1,200
22	2	74	0	JR	64	16,600	43,400
20	1	2	0	S	x	3,000	1,500
x	1	52	0	S	35	13,800	6,200
60	26	0	228	S	x	229	995

Sum of Deposits	270,579	Total	950,935
Sum of Deficiencies	680,356	Predicted Total	488,496

* = Appendix B explains category codes.
† = Appendix D contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

Table 6

Civil Actions From Racine Lock and Dam, WV
(Huntington District Project No. 36608)

Land Use Category	Government Interest Category*	No. of Acres		Type of Trial	Issue†	Deposit,$	Deficiency,$
		Fee	Easement				
x	8	0	8	S**	x	16,500	2,500
70	7	0	6	S	35	50	1,200
50	70	0	70	S	67	6,050	76,450
x	6	0	20	S	x	900	100

Total Deposit	23,500	Total	103,500
Total Deficiency	80,250	Predicted Total	42,446

* = Appendix B explains category codes.
† = Information contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

Table 7

Civil Actions From Willow Island Lock and Dam, WV
(Huntington District Project No. 36886)

Land Use Category	Government Interest Category*	No. of Acres Fee	No. of Acres Easement	Type of Trail	Issue+	Deposit,$	Deficiency,$
70	6	0	1	JD	x	5	20
70	7	0	1	S	x	25	1,475
73	7	0	1	S	81	50	750
70	6	0	2	S	x	50	1,450
73	7	0	3	S	81	100	2,400
70	73	0	1	S	x	50	550
70	7	0	2	S	x	10	590
70	6	0	1	S	x	25	75
70	6	0	1	JD	x	1	24
70	6	0	4	S	x	200	800
		Sum of Deposits			514	Total	8,648
		Sum of Deficiencies			8,134	Predicted Total	932

* = Appendix B explains category codes.
\+ = Information contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

Table 8

Civil Actions From Belleville Lock and Dam, OH
(Huntington District Project Number 49122)

Land Use Category	Government Interest Category*	No. of Acres		Trial of Trial	Issue†	Deposit,$	Deficiency,$
		Fee	Easement				
x	7	0	1	S**	x	50	450
x	32	0	1	S	x	50	450
x	7	0	4	S	x	100	650
x	6	0	1	S	4	200	300
x	6	0	1	S	x	50	950
42	6	0	1	S	35	250	2,250
x	6	0	6	S	x	175	1,325
70	73	0	24	S	x	1,280	1,920
x	6	0	1	S	60	50	15,950
50	6	0	1	S	x	25	975
76	73	0	5	JR	67	175	4,825
29	6	0	1	S	x	25	475
x	6	0	1	S	x	100	900
65	7	0	9	S	14	5,150	4,350

Sum of Deposits	7,680	Total	43,540
Sum of Deficiencies	35,770	Predicted Total	15,530

* = Appendix B explains category codes.
† = Information contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

Table 9

Civil Actions From Keystone Dam and Reservoir, OK
(Tulsa District Project No. 37432)

Land Use Category	Government Interest Category*	No. of Acres Fee	No. of Acres Easement	Type of Trial	Issue†	Deposit,$	Deficiency,$
65	8	0	41	C	88	210	3,697
65	8	0	4	C	88	50	309
65	8	0	53	C	x	265	2,084
65	8	0	137	C	x	680	5,371
65	8	0	94	C	x	470	3,715
65	8	0	9	C	1	50	348
65	8	0	17	C	1	80	688
65	8	0	73	C	1	360	2,876
71	8	0	13	C	27	70	19
71	8	0	58	C	x	291	241
71	8	0	3	C	x	50	27
71	8	0	342	C	2	1,710	389
71	8	0	109	C	27	540	103
	Sum of Deposits		4,826	Total		24,693	
	Sum of Deficiencies		19,867	Predicted Total		6,813	

* = Appendix B explains category codes.
† = Information contains issue classifications.
x = Information not available.
**S = Settlement
C = Commission
JD = Judge
JR = Jury

APPENDIX A:

DESCRIPTION OF SAMPLE

District	State	Federal Court District	Project	Number of Value Issue Deficiency Judgments
Memphis	Arkansas	East	St. Francis Basin	5
New Orleans	Texas	East	Cooper Lake	5
St. Louis	Illinois	East	Shelbyville	2
	Missouri	East	Clarence Canyon	1
			Merramec PK Lake	1
Vicksburg	Alabama	Central	Columbia LD	2
	Arkansas	West	Degray Res	10
			Ouachita Riv. & Trib.	1
	Mississippi	South	Yazoo Basin Backwater	11
			Yazoo Basin Headwater	3
			Big Sunflower Basin	1
Kansas City	Iowa	South	Rathbun Lake	9
	Kansas		Clinton Lake	4
			Grove Lake	1
			Perry Dr.	17
	Missouri	West	Pomme De Terre	1
			Smithville Lake	2
			Longview Lake	2
			Harry S. Truman	26
			Stockton Dr.	20
Omaha	Colorado		Bear Creek Lake	2
			Chatfield Lake	19
	Nebraska		Salt Creek & Trib.	3
			Oxbow Recreation	5
			Niobrara	1
	North Dakota		Pipestem Lake	6
			Oahe Dr.	3
	South Dakota		Oahe	1
			Cottonwood Springs	1
			Big Bend	6

District	State	Federal Court District	Project	Number of Value Issue Deficiency Judgments
New England Div. Off.	Connecticut		Hop Brook	5
			West Thompson Lk.	4
			Hancock Brook	3
			Stamford Hurr. Proj.	4
			Thomaston Dam	3
	Massachusetts		New Bedford-Fairhaven	1
	New Hampshire		Hopkinton-Everett	5
Norfolk	Virginia	West	Gathright Lake	3
Philadelphia	New Jersey		Tocks Island Lake	1
Rock Island	Iowa	South	Saylorville Res. Proj.	28
			Red Rock	3
Portland	Oregon		Lost Creek Res.	3
			Blue River Res.	2
	Washington	East	John Day	10
Seattle	Montana		Libby Dam & Lake	41
	Washington	West	Wynochee Lake	1
Walla Walla	Idaho		Ririe Lake	6
			Lower Granite	15
			Dworshak	1
	Oregon		McNary	2
	Washington	East	Little Goose	5
			Lower Granite	18
Huntington	Kentucky	East	Fish Trap Lake	11
			Grayson Lake	7
	Ohio	North	Bolivar Dam	1
		South	Belleville	8
			N Branch Kokosing	3
			Paint Creek Lake	5
			Alum Creek Lake	26

District	State	Federal Court District	Project	Number of Value Issue Deficiency Judgments
			Deer Creek Lake	4
			Dillon Lake	2
	Virginia	West	John W Flannagan	3
	West Virginia	North	Willow Island	10
	Virginia		Belleville	6
			R. D. Bailey Lake	6
			Beech Fork Lake	3
			East Lynn Lake	6
			Burnsville Lake	1
			Greenup	9
			Racine	4
Louisville	Indiana	North	Huntington	8
		South	Brookville Lake	12
			Newburgh	2
	Kentucky	East	Cave Run Lake	11
			Carr Fork Lake	4
			Buckhorn	12
		West	Barren River	3
			Green River Lake	23
			Uniontown	1
			Newburgh	1
			Cannelton	8
	Ohio	South	Caesar Creek Lake	14
			Clarence J. Brown	1
Nashville	Kentucky	West	Barkley	21
	Tennessee	Central	Cordell Hull	8
			Center Hill Lake	1
			J. Percy Priest	13
			Barkley	1
Pittsburgh	New York	West	Kinzua Dam	3
	Ohio	North	Shenango R Res.	11
			New Cumberland	1
		South	Pike Island	9

District	State	Federal Court District	Project	Number of Value Issue Deficiency Judgments
	Pennsylvania	West	Woodcock Creek Lake	1
			Shenango R. Res.	11
			Union City	9
			Kinzua Dam	17
			Allegheny	34
			Lock & Dam #4	1
	West Virginia	North	Opekiska	1
Mobile	Alabama	North	Tom Bigsbee	1
			John Hollis Bankhead	2
		South	Jackson	11
			Millers Ferry	15
		Central	Holt	1
			Robt. F. Henry	1
	Mississippi	South	Okatibbee	10
Savannah	Alabama	Central	West Point	6
	Georgia	North	West Point	14
	North Carolina	Central	B. Everett Jordon	12
Los Angeles	California	South	Carbon Canyon	2
		Central	Mojave Riv. Dam	8
Sacramento	California	East	New Melones Lake	3
			Lake Kaweah	1
Albuquerque	Colorado		Trinidad Lake	3
Ft. Worth	Arkansas	West	Bull Shoals Lake	4
	Texas	North	Proctor Res.	2
		East	Lavon Lake	68
			Sam Rayburn Lake	4
		West	Granger Lake	4
			Laneport Lake	4
			Somerville Res.	18

District	State	Federal Court District	Project	Number of Value Issue Deficiency Judgments
Little Rock	Arkansas	East	Arkansas Riv.	10
			Toad Suck Ferry	5
			Arkansas Riv. Proj.	3
			Dardanelle	9
		West	Arkansas Riv. Proj.	3
			Ozark Lake	5
	Oklahoma	East	Arkansas River Proj.	1
Tulsa	Arkansas	West	Millwood Lake	9
			DeQueen Res.	1
	Kansas		Marion Lake	11
	Oklahoma	North	Kaw Lake	2
			Newt Graham	8
			Oolagah Lake	3
			Keystone	13
		East	Robt. S. Kerr	10
			Broken Bow	7
			Hugo Lake	5
			Chouteau	1
			Webbers Falls	16
			W. D. Mayo	4
		West	Kaw Lake	11
			Waurika Lake	2

APPENDIX B:

GOVERNMENT INTEREST--ESTATE TAKEN[1]

1 FEES

- 01 Fee simple
- 02 Fee, excluding subsurface minerals
- 03 Fee, excluding minerals, with restriction on use of surface
- 04 Fee, excluding minerals, with restriction on use of surface and right to flood
- 19 Extinguishment of rights to cemetery or mineral interests
- 22 Fee simple, excluding block mineral interests
- 28 Fee, excluding owner and block mineral interests
- 30 Combination of fee simple and fee, excluding block mineral interests
- 31 Fee simple, with some easements reserved to owner
- 34 Fee, excluding subsurface minerals, and with permission to quarry sand or gravel

2 VARIOUS EASEMENTS

A BASIC EASEMENTS

- 05 Permanent flowage easement
- 06 Occasional flowage easement
- 07 Part permanent and part occasional flowage easement
- 08 Channel improvement easement
- 09 Flood protection level easement
- 10 Drainage ditch easement
- 11 Road easement
- 12 Railroad easement
- 13 Utility and/or pipeline easement
- 14 Borrow easement
- 15 Temporary work area easement
- 20 Restrictive easement
- 21 Right of entry for survey and exploration

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[1] Appendix B to ER 405-1-640 dated 25 April 1972 lists estates from 1 through 21. All estates whose identifying number is greater than 21 are modifications and combinations of these basic 21.

B MODIFICATIONS TO BASIC EASEMENTS

23 Permanent flowage easement with right to quarry sand and/or gravel
24 Occasional flowage easement with right to quarry sand and/or gravel
25 Part permanent/part occasional easement with right to quarry sand and/or gravel
26 Occasional flowage easement, reserving minerals to owner
27 Permanent flowage easement, reserving minerals to owners
29 Road easement reserving owner's right to access
32 Occasional flowage easement reserving mineral rights to third-party owner
33 Permanent flowage easement reserving mineral rights to third-party owner

C COMBINATIONS OF EASEMENTS

71 (5+6) Some tracts permanent flowage easement/some tracts occasional flowage easement
72 (26+11) Some tracts occasional flowage reserving minerals to owners/some tracts road easement
73 (6+7) Some tracts occasional flowage easements/some tracts combination of permanent and occasional flowage
74 (6+13) Some tracts occasional flowage easement/some tracts utility or pipeline easement
75 (11+5) Some tracts road easement/some tracts temporary work easement
76 (6+11) Some tracts occasional flowage easement/some tracts road easement
78 (6+15) Some tracts occasional flowage easement/some tracts temporary work easement
79 (10+15) Some tracts drainage ditch easements/some tracts temporary work easement
80 (5+11) Some tracts permanent flowage easement/some tracts road easement

3 COMBINATIONS OF FEES AND EASEMENTS (50)

51 (1+21) Some tracts fee simple/some tracts right of entry for survey or exploration
52 (2+6) Some tracts fee excluding owner's right to minerals/some tracts occasional flowage easement
53 (2+7) Some tracts fee excluding owner's right to minerals/some tracts permanent and occasional flowage easement

54 (2+11) Some tracts fee excluding subsurface minerals/ some tracts road easement

55 (1+11) Some tracts fee simple/some tracts road easement

56 (1+7) Some tracts fee simple/some tracts permanent and occasional flowage easements

57 (22+5) Some tracts fee simple excluding block mineral interests/some tracts permanent flowage easement

58 (1+6) Some tracts fee simple/some tracts occasional flowage easement

59 (28+6) Some tracts fee excluding third-party mineral rights/some tracts occasional flowage

60 (4+7) Some tracts fee excluding minerals with restriction on use and right to flood/some tracts permanent and occasional flowage easement

61 (1+8) Some tracts fee simple/some tracts channel improvement easement

62 (1+5) Some tracts fee simple/some tracts permanent flowage easement

63 (1+12) Some tracts fee simple/some tracts railroad easement

64 (3+33) Some tracts fee excluding minerals and restriction on use/some tracts permanent flowage easement reserving mineral rights to third party

65 (1+2) Some tracts fee simple/some tracts fee excluding subsurface minerals

66 (1+15) Some tracts fee simple/some tracts temporary work easement

67 (2+5) Some tracts fee excluding subsurface minerals/some tracts permanent flowage easement

68 (3+6) Some tracts fee excluding subsurface minerals with restriction on use/some tracts occasional flowage easement

69 (19+32)/Some tracts extinguishment of mineral rights/some tracts occasional flowage easement reserving mineral rights to third party

77 (4+6) Some tracts fee excluding minerals, with restriction on use and right to flood/some tracts occasional flowage easements

90 (3+22) Some tracts fee excluding minerals with restriction on use/some tracts fee simple with block mineral rights

APPENDIX C:

CLASSIFICATION OF LAND USE

1 RESIDENTIAL

- 11 Rural homesite
- 12 Rural homesite and farm
- 13 Rural homesite and a business
- 14 Urban homesite
- 15 Urban homesite and a business
- 16 Homesite on an island in a river
- 17 Homesite with a farm and mineral interests
- 18 Homesite with potential for residential development
- 19 Homesite with potential for recreational or industrial development

2 AGRICULTURAL

- 21 Crop farming
- 22 Livestock farming
- 23 Grazing land
- 24 Farmland with gravel/sand interests
- 25 Farming on an island in a river
- 26 Mixed agriculture; both crops and livestock
- 27 Farming with some mineral interests
- 28 Farmland with potential for residential development
- 29 Farmland with potential for recreational or industrial development

3 COMMERCIAL

- 31 Grain elevator
- 32 Service station
- 33
- 34
- 35
- 36
- 37 Business and a farm
- 38 Commercially used land with potential for residential development
- 39 Commercially used land with potential for recreational or industrial development

4 RECREATIONAL

41 Riverfront land
42 Yacht club or marina
43 Social club (Elks Club, etc.)
44
45
46
47
8 Recreationally used land with potential for residential development
49 Recreationally used land with potential for recreational or industrial development

5 INDUSTRIAL

51
52
53
54
55
56
57
58 Industrially used land with potential for residential development
59 Industrially used land with potential for recreational or industrial development

6 MINERAL OR OTHER PRODUCTS

61 Gas
62 Coal
63 Oil
64 Gravel
65 Sand and gravel
66 Oil and gas
67 Gold
68 Limestone
69

7 NON-PRODUCTIVE

71 Riverbed land
72 Currently non-productive land with potential for timber production
73 Currently non-productive land with potential for mineral production

74
75
76
77
78 Currently non-productive land with potential for residential development
79 Currently non-productive land with potential for recreational or industrial development

8 TIMBER

81 Timberland with mineral interests
82 Timberland with homesite
83
84
85
86
87
88 Timberland with potential for residential development
89 Timberland with potential for industrial or recreational development

9 SUBDIVISION IN PROCESS AT THE DATE OF TAKING

91 Lots of land within city limits

0 MISCELLANEOUS OR PUBLIC

01 Church-owned land
02 Public water works
03 School
04 Non-corp. levy flood control

APPENDIX D:

CLASSIFICATION OF ISSUES

1 NEW INFORMATION OBTAINED SINCE THE DATE OF TAKING

- 11 New appraisal obtained by the Department of Justice
- 12 New appraisal obtained by the Corps of Engineers (note the high Government testimony)
- 13 Reassessment of severance damage
- 14 Reassessment of minerals
- 15 New appraisal obtained and agreed to by Corps of Engineers and the Department of Justice

2 TRIAL CONDUCT

- 21 Government negotiator or appraiser, questioned or discredited
- 22 Trial error/failure to meet Merz criteria, with unsuccessful appeal or denial
- 23 Trial error/failure to meet Merz criteria, with no appeal
- 24 Hostile community attitude during trial
- 25 Jury or commission error
- 26 Judge error
- 27 Default/landowner did not appear
- 28 Sympathy towards landowner during trial

3 REASONS FOR HIGH SETTLEMENT

- 31 Department of Justice recommendation to settle based on its own high appraisal or on that of the Corps of Engineers
- 32 Department of Justice recommendation to settle based upon outcome of past comparable cases
- 33 Strong landowner association
- 34 Congressional pressure to settle
- 35 High trial risk based upon outcome of recent comparable cases
- 36 Settled despite objection by the district, division, or OCE
- 37 High compensation offered in lieu of exchange of land

38 Landowner and/or Department of Justice resist a flowage easement and would prefer a fee taking

4 REVESTMENTS TO LANDOWNER

41 Revestment of fee acreage
42 Revestment of easement acreage
43 REvestment of timber
44 Revestment of crops
45 Revestment of buildings
46 Revestment of equipment
47 Revestment of improvements
48 Revestment of leasehold on minerals

5 PROJECT ENHANCEMENT CLAIMED BY OFFICE OF THE CHIEF OF ENGINEERS

51 Enhancement disputed by owner who instead claims severance damage

6 SEVERANCE OR OTHER DAMAGES

61 Severance damage to fencing
62 Access to land severed
63 Access to water severed
64 Disruption of agriculture, livestock, or commercial enterprise because of severance
65 Disruption of residence because of severance (septic tank problems, etc.)
66 Replacement or "Cost to Cure" approach to assessing damages
67 Damage from a flowage easement

7 HIGHEST AND BEST USE DISPUTE

71 Government claims timber or agricultural use/landowner claims recreational use
72 Government claims timber or agricultural use/landowner claims potential for suburban homesites
73 Government claims timber or agricultural use/landowner claims commercial use
74 Government claims timber or agricultural use/landowner claims a market for sand/gravel contained within land

75 Government claims timber or agricultural use/landowner claims presence of minerals within the land

8 MINERAL ISSUES (INCLUDING SAND AND GRAVEL)

81 Extent of minerals is disputed
82 Value of recoverable minerals is disputed
83 Landowner or judge values land by Unit X price
84 Block ownership issue
85 Unfavorable ruling on leaseholding issue
86 Settlement involves issue of plugging wells
87 Dispute over operating status of oil wells
88 Value of operating equipment is disputed

9 MISCELLANEOUS VALUE ISSUES

91 Comparable sales dispute
92 Landowner claim to riparian rights
93 Value of improvements disputed
94 Value of timber disputed
95 Value of crops disputed
96 High Government contract appraisal disregarded
97 Value of business disputed/capitalized value of earnings
98 Settled over objection of the district, division, or OCE

0 MISCELLANEOUS NON-VALUE ISSUES

01 Owner objection to warranty clause
02 Generally title issue, but once the case went to court the award exceeded appraisal
03 Owners refusal to sign to agreed price, but consent to court verdict
04 Dispute among owners forcing case to condemnation

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Dornan, Kathleen K.
Deficiency judgments in real estate eminent domain proceedings. -- Champaign, Ill. : Construction Engineering Research Laboratory ; Springfield, Va. : available from National Technical Information Service , 1978.
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