Approved: March 12, 2002
Date

MINUTES OF THE HOUSE COMMITTEE ON ENVIRONMENT.

The meeting was called to order by Chairperson Joann Freeborn at 3:30 p.m. on January 29, 2002 in Room 231-N of the Capitol.

All members were present except: Representative Tom Sloan - excused
Representative Jeff Peterson - excused
Representative Laura McClure - excused
Representative Clay Aurand - excused

Committee staff present: Raney Gilliland, Kansas Legislative Research Department
Mary Torrence, Revisor of Statute's Office
Mary Ann Graham, Committee Secretary

Conferees appearing before the committee: Earl Lewis, Kansas Water Office, 901 SW Kansas Ave., Topeka, KS 66612
Maurice Korphage, Director, Conservation Division, Kansas Corporation Commission, 130 S. Market, Room 2078, Wichita, KS 67202

Others attending: See Attached Sheet

Chairperson Joann Freeborn called the meeting to order at 3:30 p.m. She opened the floor for bill introductions and asked if anyone wished to make a bill request. No one came forward. She called the committee's attention to a map that had been distributed from the Kansas Department of Health and Environment, which was requested by Representative Sharon Schwartz, concerning Proposed Designations for Streams Surveyed in 2001. (See attachment 1)

The Chairperson welcomed Earl Lewis, Kansas Water Office, to the committee. Mr. Lewis introduced staff members; Kent Lamb, Kansas Water Authority; Paul Tobia, Kansas Water Office and Kansas Water Authority; Kent Weatherby, Kansas River Water Assurance District; and Iona Branscum, Department of Agriculture, Division of Water Resources. He briefed the committee on a Reservoir Operations and Drought Exercise, with the use of an overhead viewer and slides. The State of Kansas through the Kansas Water Office has worked with local public water suppliers and the federal government for nearly 30 years to improve reservoir operations and minimize the effects of drought. The state has purchased water supply storage in 13 federal lakes and developed two operational programs related to these issues. They feel they must continue to learn from experiences and put new practices into place to meet the changing population and water demand base. The State of Kansas really became involved with water supply from federal lakes in the 1950's. The flood of 1951, followed by the drought of 1952-1957 pointed out the need for development of flood control and water supply reservoirs in Kansas. With passage of the Federal Water Supply Act of 1958, the state had a mechanism to participate in the process of reservoir development. As Mr. Lewis walked the committee through the information from the drought exercise he called attention to three basic things; participant decisions, the storage in the federal reservoirs, and the flow in the river at Topeka at each time step. He showed how the participant decisions and operational rules affected the storage in the reservoirs and the flow in the river. He showed information and graphs at each time step to correlate the decisions to the effect on water available both in storage and for diversion by water users. (See attachment 2) Discussion followed.

Chairperson Freeborn thanked Mr. Lewis for his presentation and welcomed Maurice Korphage, Director, Conservation Division, Kansas Corporation Commission. He gave an update on Well Plugging and Remediation Activities with the use of an overhead viewer and slides. During the 1996 legislative session **House Substitute for SB755** was passed. As a result of that legislation the Abandoned Oil and Gas Well/Remediation Fund was created for the expressed purpose of providing funding to the KCC with which to address the problem of abandoned exploration and production wells located within the state. The legislation requires in part that the Commission prepare and maintain an inventory of all abandoned wells with a special focus on wells which, (1) the State of Kansas has assumed the plugging liability because of the lack of a potentially responsible party (No PRP); and (2) pose either an ongoing or potential threat to the environment (Priority 1). The Commission was further directed to develop and maintain such an inventory

on a computer database and report to the office of the Governor and certain legislative committees the status of the inventory as well as the Commission's efforts towards plugging those wells which pose a threat to the public safety and/or environment. Mr. Korphage had slides showing sites of abandoned wells that the Commission had plugged. (See attachment 3) Discussion followed.

The Chairperson thanked Mr. Korphage for his presentation and thanked the committee for their attention.

The meeting adjourned at 5:10 p.m. The next meeting is scheduled for Thursday, January 31, 2002.

HOUSE ENVIRONMENT COMMITTEE GUEST LIST

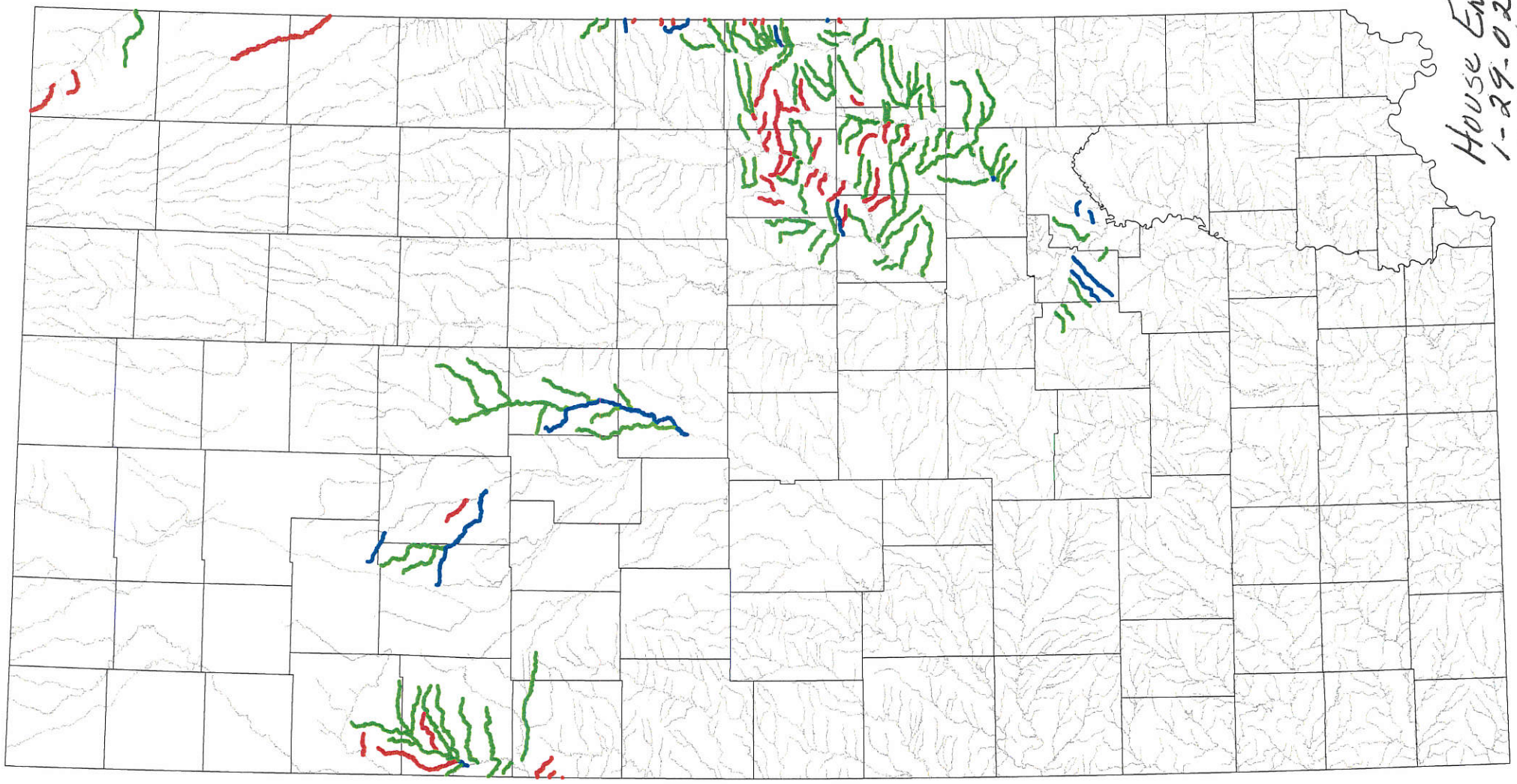
DATE: January 29, 2002

NAME	REPRESENTING
Kent Weatherby	Kansas River Water Assur. District
TOM DAY	KCC
Gary Jenkins	KCC
M. L. Korphage	KCC - WICHITA.
Earl Lewis	KWO
Sam Perkins	KWO
Charles Bryan	Kansas Sierra Club
Dana Johnston	KCC
Jeff Waggoner	KCC
Susan Duffy	KCC
Kent Lamb	KWA

Proposed Designations for Streams Surveyed in 2001

These streams segments were not designated for a recreation use in the 1999 Kansas Surface Water Register.

House Environment
1-29-02
Attachment 1



Stream UAA's Conducted: 167

Proposed Primary Contact Recreation : 18 (~11%)

Proposed Secondary Contact Recreation : 109 (~65%)

Proposed Unclassified (Removed from Register): 40 (~40%)

Countys

Classified Streams

Draft 1/25/2002 BEFS

House Environment Committee
January 29, 2002, 3:30 p.m., Room 231-N
Reservoir Operations and Drought Exercise
Earl Lewis, Kansas Water Office
January 29, 2002

Thank you madam chairperson and members of the committee for the opportunity to come here today and talk about reservoir operations and drought.

As you know, the State of Kansas through the Kansas Water Office has worked with local public water suppliers and the federal government for nearly 30 years to improve reservoir operations and minimize the effects of drought. The state has purchased water supply storage in 13 federal lakes and developed two operational programs related to these issues. We must continue to learn from our experiences and put new practices into place to meet the changing population and water demand base.

First I want to provide a little background to help focus this discussion.

The State of Kansas really became involved with water supply from federal lakes in the 1950's. The flood of 1951, followed by the drought of 1952-1957 pointed out the need for development of flood control and water supply reservoirs in Kansas. With passage of the Federal Water Supply Act of 1958, the state had a mechanism to participate in the process of reservoir development.

The 1958 Water Supply Act allowed the federal government to make proposed flood control lakes larger and include water supply storage if a local sponsor agreed to pay back the cost to build the storage. The state served as the local sponsor and gave a commitment to pay the cost on a number of lakes being proposed at the time. The State of Kansas in turn obtained agreements with local public water suppliers all over the eastern half of the state, that they would repay the state's debt to the federal government for building the larger federal lakes.

The Kansas Water Resources Board, the predecessor agency to the Kansas Water Office, first contracted with the Corps of Engineers for water supply storage in 1974. The Water Marketing Program was developed and passed into law with the State Water Plan Storage Act that same year giving the state a way to provide water service and to recoup the cost of the storage. Contracts were signed initially with the Wolf Creek Generating Station, the Jeffrey Energy Center and the City of Lawrence to name a few. Today 29 municipal and industrial users rely on the Water Marketing Program for either their primary or secondary source of supply.

It soon became clear that the Water Marketing Program did not fit all needs for water supply that could be supported by the federal lakes. In 1986, the Kansas Legislature passed the Water Assurance Program Act. This act allowed local municipal and industrial water users to form districts and contract with the state for releases from state owned water supply storage. The main purpose was to provide water to the stream and

House Environment
1-29-02
Attachment 2

make sure that municipal and industrial customers could obtain water under their existing water rights during times of drought.

There have been three water assurance districts formed under this statute, the Kansas River Water Assurance District No. 1, the Marais des Cygnes River Water Assurance District No. 2 and the Cottonwood and Neosho River Basins Water Assurance District No. 3. The Kansas River Water Assurance District formed and contracted for water supply with the Kansas Water Office in December of 1989.

You may remember that the late 1980's and early 1990's were extremely dry. The contract itself didn't answer the question of how best to operate the reservoirs to serve the assurance district. An operations agreement was negotiated and signed in 1991 and is updated every 5 years. We are finalizing a second revision to this agreement at this time.

My talk today will focus on how the State of Kansas operates the storage owned in the federal lakes, and how we determine what decisions to make during a drought. By way of example, I will focus on the Kansas River and its' lakes operations

One of the key tools that we use in setting up operational rules and making decisions during a drought is an operational model. In the fall of 2000, the State Finance Council provided supplemental funding to help the state prepare for litigation regarding navigation releases if the Corps proposed to use the Kansas River reservoirs for that purpose in the future. A portion of that money went for the development of a computer model that uses the OASIS surface water system. This is the model we will show you here today and the one that is used for assurance district operations.

As the old saying goes, the best time to plan for a drought is when it is raining. To that end, and in conjunction with our operations agreement negotiations, on November 1, 2001, the Kansas Water Office conducted a drought exercise with interested parties of the Kansas River. That exercise provided invaluable information to each of the participants and to the Kansas Water Office on the type of issues we will face in the next drought as well as the physical, legal and operational limitations.

The drought exercise proceeds by operating the computer model through a fictitious drought stopping at regular intervals to evaluate the state of the system and allow participants to make "real life" decisions. The computer model uses inflow and evaporation that are not from any real historical period, but are similar to those experienced in the 1950's. The reservoir operation rules in the model are based on the 1996 operations agreement and the maximum demands on the system from the 1990's. The rules for how the model handles the water within the system are changed based on decisions of the participants before each time step is operated. The time frame that we used for our model was a two-week time step.

I think that the best way to proceed at this point is to walk through the decision-making steps that we experienced during the exercise, the issues that were dealt with and the

ones that remain. The attached slide handouts will provide a roadmap as we work our way through the drought simulation.

As we walk through the information from the drought exercise, you will see three basic things: participant decisions, the storage in the federal reservoirs and the flow in the river at Topeka at each time step. I will try to show how the participant decisions and operational rules affected the storage in the reservoirs and the flow in the river. You will see information and graphs at each time step to correlate the decisions to the effect on water available both in storage and for diversion by water users.

Kansas River Operations Model and Drought Exercise

Presented by
Earl Lewis
Kansas Water Office

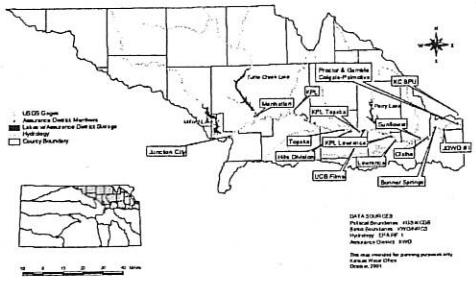
Early Water Supply Activities

- Federal Water Supply Act of 1958
- State commitment to repay construction costs
- Corps of Engineers' contracts-1974
- Water marketing program developed- 1974

Water Assurance Program

- Water Assurance Act passed in 1986
- Districts in Kansas, Marais des Cygnes, and Neosho basins
- Kansas River District first one formed
- Ensure adequate water supply for municipal and industrial users during drought

Kansas River Water Assurance District



Kansas River Operations Agreement

- Establishes rules for operating water supply storage during low flow
- Initial operations agreement signed 1991
- Revised (current) in 1996
- Ongoing negotiations for second revision

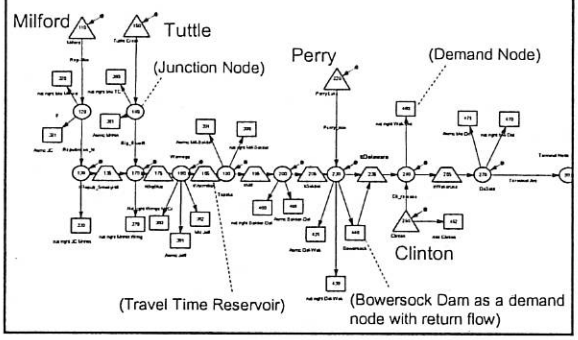
Operations Model

- Simulates operational rules defined in 1996 agreement
- OASIS water balance model
- Assist in decision making during assurance district operation
- Assumes maximum water use demand from 1990's

Drought Exercise Objectives

- Test existing rules of operation
- Identify issues to be resolved
- Provide experience in making decisions required during a drought and in reaching satisfactory resolution of conflicts among water users

Kansas River Basin Model Schematic



Drought Exercise Overview

- November 1, 2001
- Show participant decisions
- Show reservoir storage at each time-step
- Show flow at Topeka at each time step
- How decisions affect storage and flow
- Exercise time period (January 1-August 28 2014)

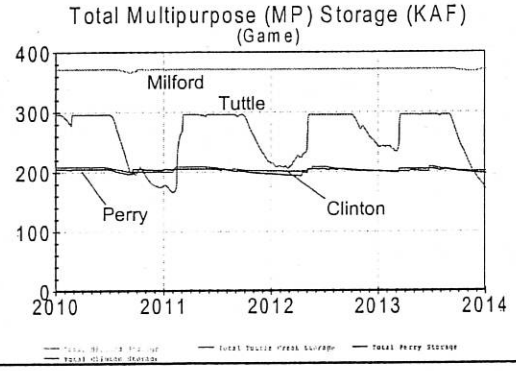
Drought Exercise Participants

- Kansas Water Office
- Kansas River Water Assurance District
- Department of Agriculture, Division of Water Resources
- Department of Health and Environment
- Department of Wildlife and Parks
- US Army Corps of Engineers
- Bowersock Mills and Power Company
- Lower Republican Irrigation Association

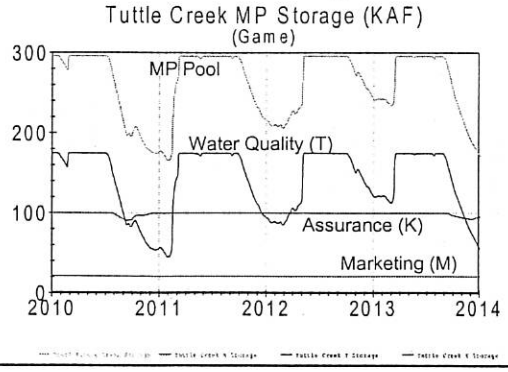
January 1, 2014: Initial Conditions

- Reservoir levels are low but Assurance Storage is full
- Target flows at Topeka and DeSoto being met
- Kansas River flow at Bowersock is 600 cfs

Reservoir Storage



Tuttle Storage



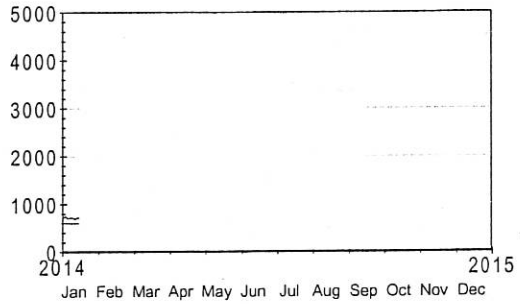
January 1, 2014: Initial Moves by Participants

- Bowersock calls for administration
- Division of Water Resources requires natural flow to bypass reservoirs
- Simulation begins and runs two weeks.

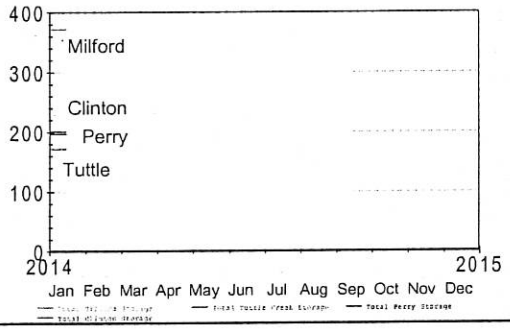
January 14: Conditions

- Kansas River Flow at Bowersock has increased to 1,100 cubic feet per second
- Reservoir release rate would deplete Assurance District storage in three years

January 14: Kansas River at Topeka (cubic feet per second)



Jan 14: Reservoir Storage (1,000 acre-feet)



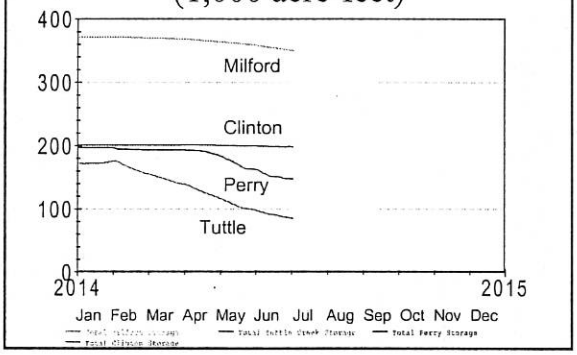
January 14: Participant Moves

- Assurance District sues state and Bowersock over administration of water rights
- Exercise Arbitrator directs simulation to run forward under these conditions to July 5

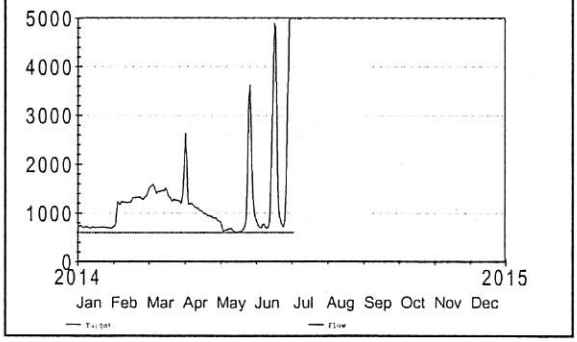
July 5: Conditions

- Reservoirs have been drawn down
- Tuttle Water Quality pool has been empty for a month
- Target flows at Topeka and DeSoto have been met from January 1 – July 5

July 5: Reservoir Storage (1,000 acre-feet)



July 5: Flow at Topeka (cubic feet per second)



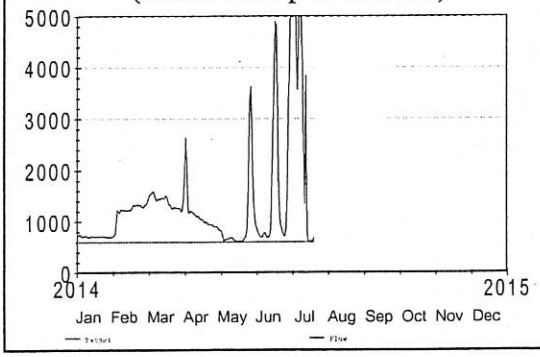
July 5: Players' Moves

- Assurance District asks that administration lawsuit be addressed
- Division of Water Resources stops administration because natural flow is sufficient
- Simulation continues for two weeks

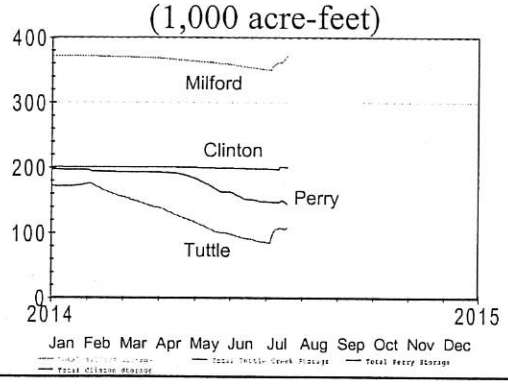
July 19: Conditions

- Topeka and DeSoto target flows are met
- Flow at Bowersock is 1,200 cubic feet per second
- Milford conservation storage is 78 % full
- Reservoir inflows: Milford (2,400 cfs), Tuttle (500 cfs), Perry (20 cfs)

July 19: Flow at Topeka (cubic feet per second)



July 19: Reservoir Storage (1,000 acre-feet)



July 19: Participant Moves

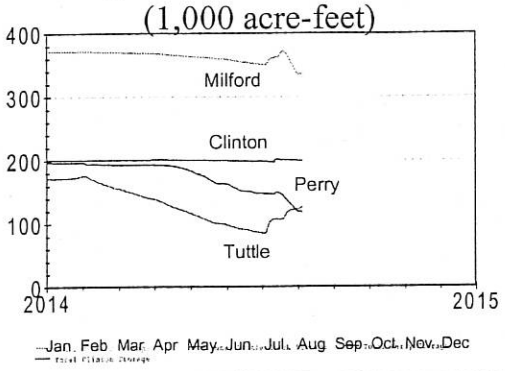
- Because of low flow Bowersock and Topeka request water right administration
- Corps begins navigation releases: Milford (2,000 cfs), Perry (1,000 cfs)
- Kansas Water Office attempts to sue the Corps but cannot be heard by the court
- Simulation continues two weeks

August 1: Conditions

- Perry conservation storage is 42 % full
- Kansas River flow at DeSoto is 2,500 cubic feet per second
- Missouri River flow at Kansas City has increased but is still below 40,000 cfs, the navigation target

2-12

August 1: Reservoir Storage (1,000 acre-feet)



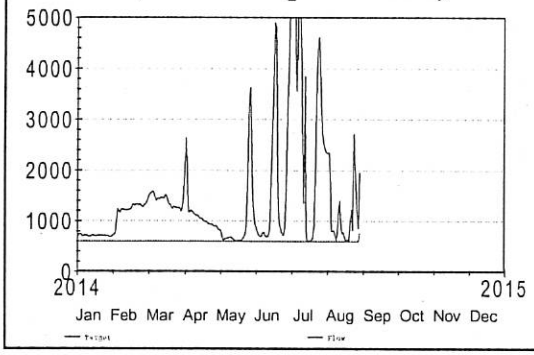
August 1: Participant Moves

- Arbitrator dismisses Kansas Water Office navigation lawsuit
- Kansas Wildlife and Parks sues Corps for washing out Least tern nesting areas – successfully
- Corps sets releases to minimum at Milford (25 cfs), Tuttle (100 cfs) and Perry (25 cfs)
- Assurance District requests Milford release to 50 cfs for Junction City; KWO requests that Corps make release

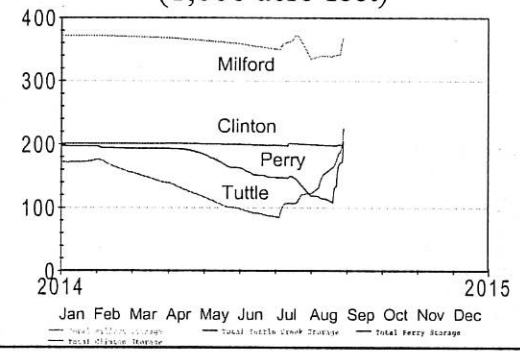
August 14: Conditions

- Perry and Milford storage have declined; Tuttle storage has increased
- Kansas River flow is 800 cfs at Topeka and 1,100 cfs at DeSoto
- Total dissolved solids are high at Wamego and Topeka
- No moves made by players; simulation continues to end

Aug 28: Kansas River at Topeka (cubic feet per second)



August 28: Reservoir Storage (1,000 acre-feet)



Exercise Observations

- System storage can be depleted during a drought by natural flow bypassed to meet demands for large downstream senior water rights and by navigation releases.
- Assurance District storage was sufficient for the simulated drought.

2-14

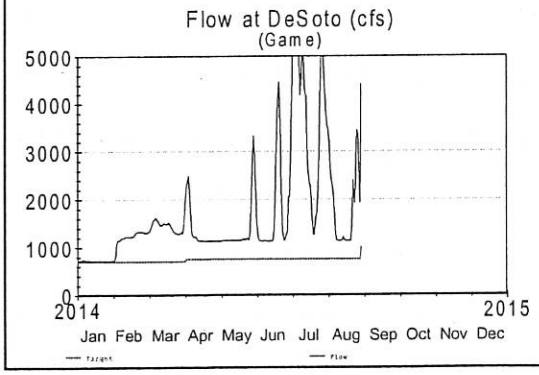
Issues Identified During Simulation

- How best to serve Bowersock vested water right
- Navigation support
- Endangered species limitations
- Indian burial sites
- Importance of Tuttle Creek water quality storage

Thank You

Earl Lewis
Kansas Water Office

Aug 28: Kansas River Flow at DeSoto



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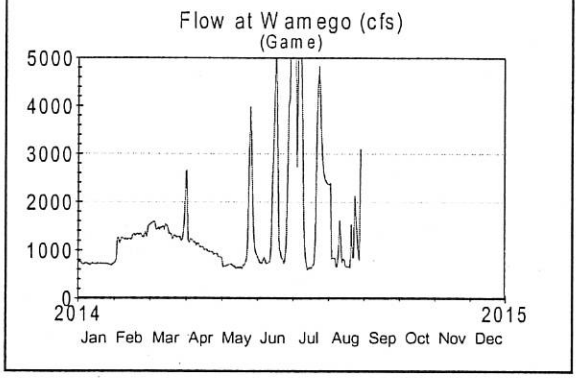
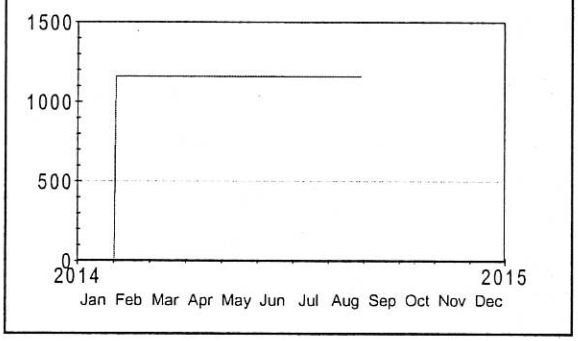
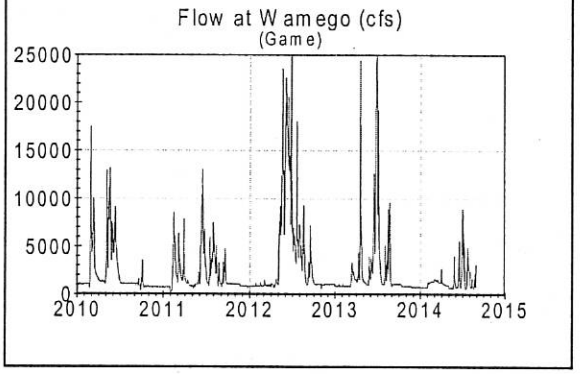
Kansas River Flow at Wamego



Bowersock Demand (cfs)



Kansas River Flow 2010-2014: Wamego



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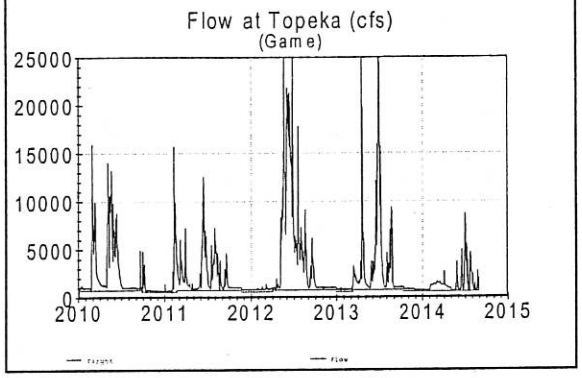
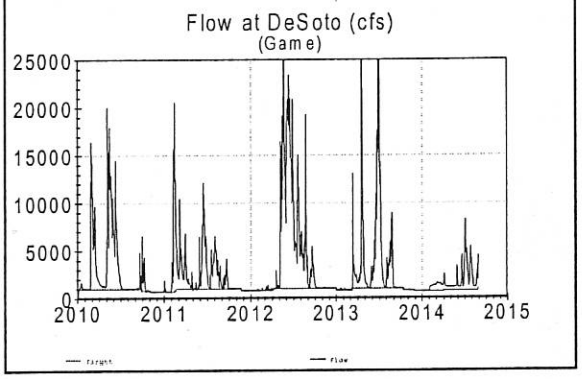
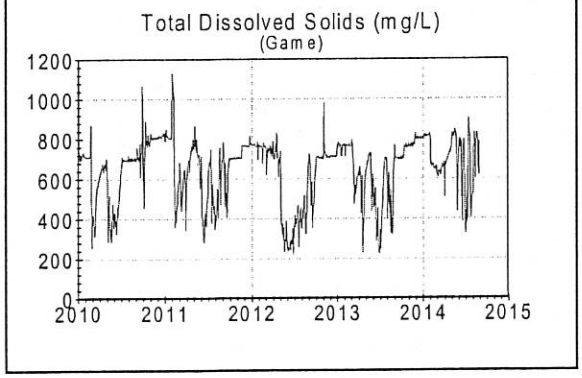
Kansas River Flow 2010-2014: Topeka



Kansas River Flow 2010-2014: DeSoto



Water Quality 2010-2014: Wamego



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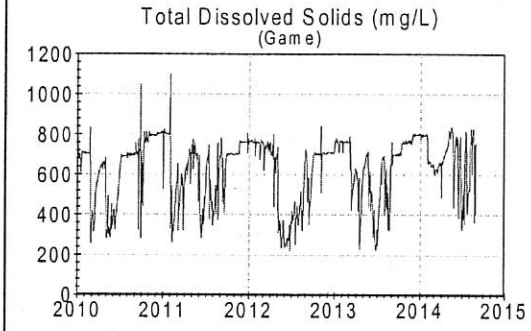
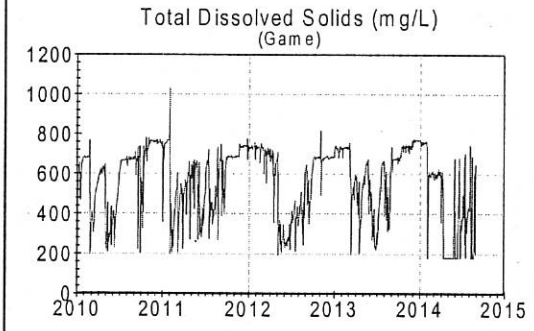
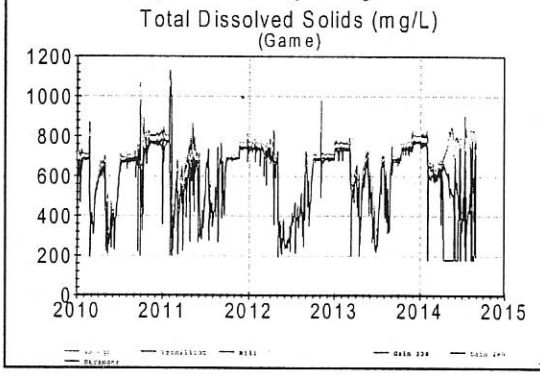
Water Quality 2010-2014: Topeka



Water Quality 2010-2014: DeSoto



Tributary Water Quality 2010-2014



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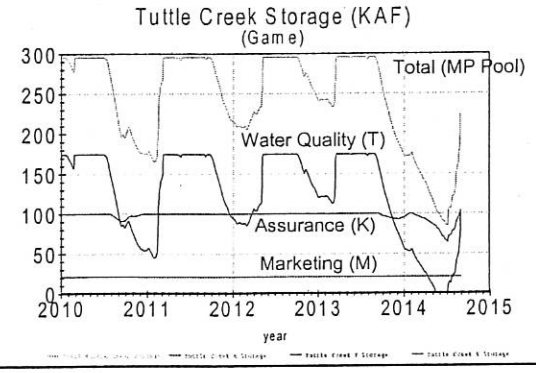
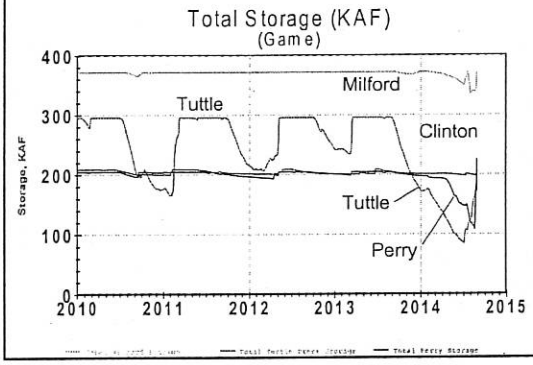
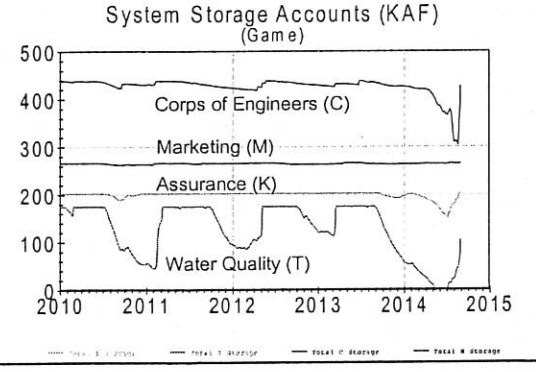
Tuttle MP storage components



Reservoir MP storage 2010-2014



System storage accounts 2010-2014



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System storage accounts

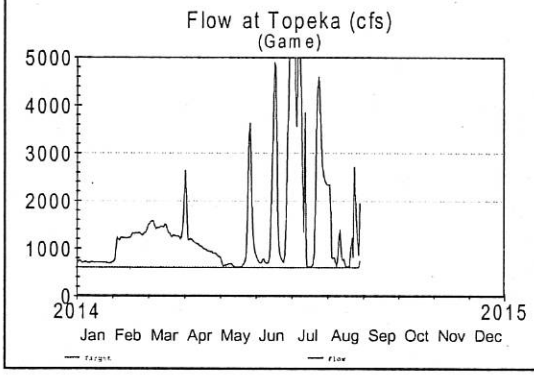
Total (MP Pool)

Water Quality (T)

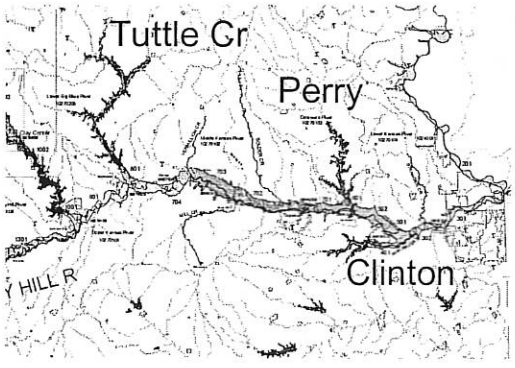
Assurance (K)

Marketing (M)

Kansas River Flow at Topeka



KRWAD Model Focus



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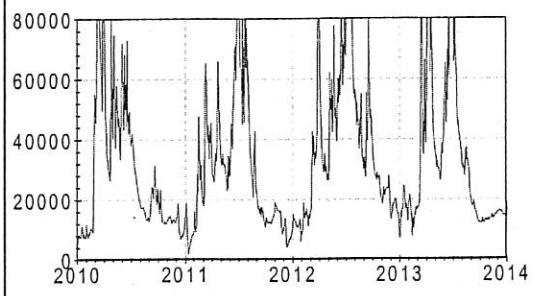
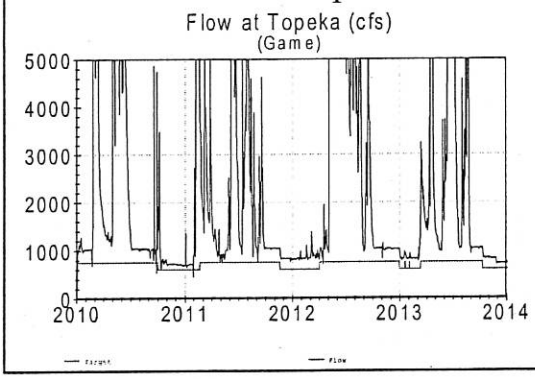
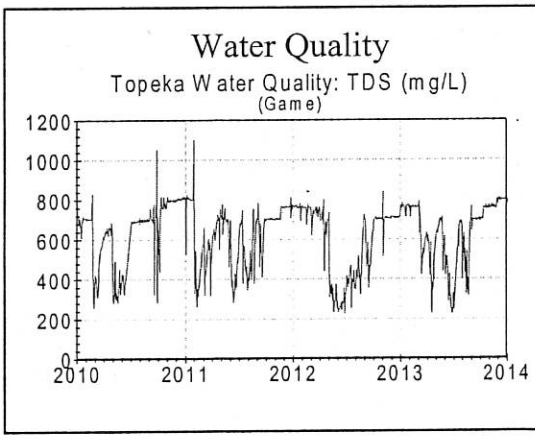
Missouri River at Kansas City (cfs)



Flow at Topeka

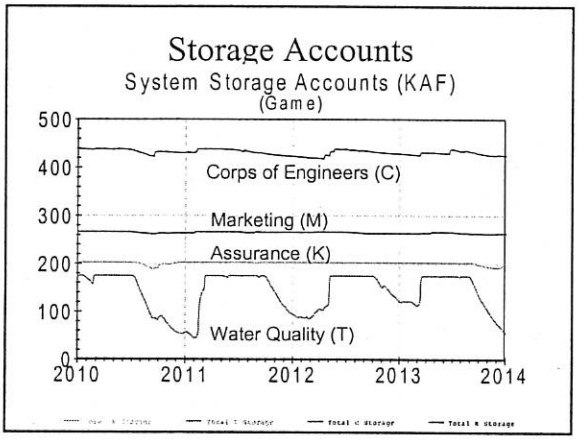


Water Quality

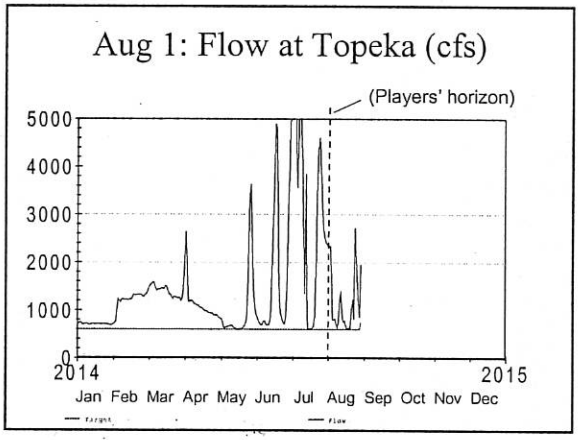


2-21

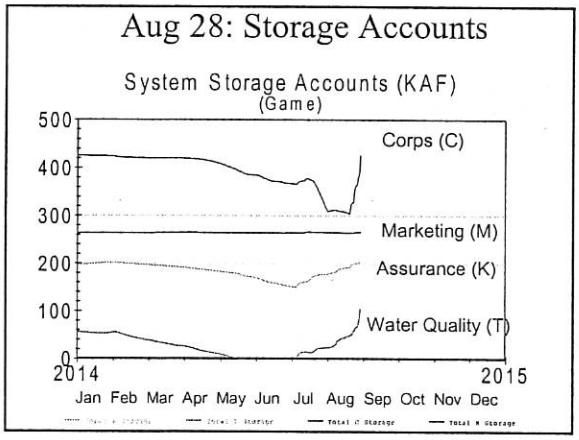
Storage Accounts



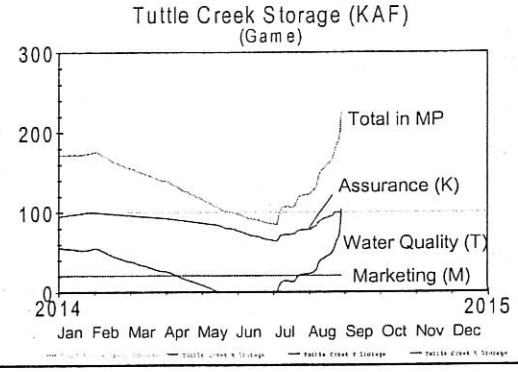
Aug 1: Flow at Topeka (cfs)



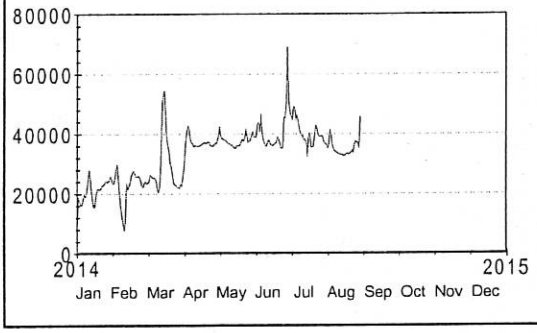
Aug 28: Storage Accounts



Aug 28: Tuttle Creek Storage



Missouri River at Kansas City (cfs)

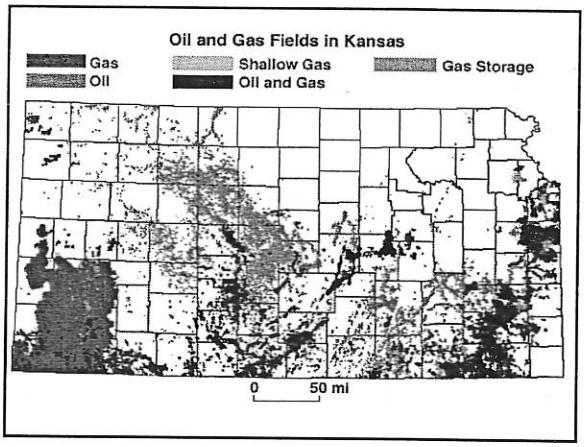


2-23

Abandoned Well and Site Remediation Fund
Status Report
to the
2002 Legislature

Kansas Corporation Commission

Conservation Division



Abandoned Well / Site Remediation Fund

- **The fund was created during the 1996 legislative session with the passage of House substitute for S.B. 755.**
- **The purpose of the fund is to provide additional funding to the Kansas Corporation Commission, Conservation Division with which to address the problem of both abandoned oil and gas wells and exploration and production related contamination sites.**
- **In addition to the creation of the fund the legislation directed the Conservation Division to establish financial responsibility requirements for oil and gas operators within the state of Kansas. These requirements were in place by January, 1998.**
- **Action taken during the 2001 legislative session extended the original fund sunset date 7 years to June 30, 2009.**

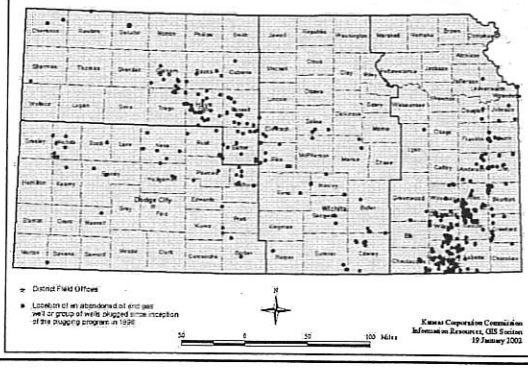
Abandoned Well / Site Remediation Fund
Funding Sources

Funding to this abandoned well plugging and site remediation program is provided through four funding sources:

- **Increased assessments on crude oil and natural gas production through the conservation fee fund**
- **General fund monies**
- **50% of monies received by the state through the federal mineral leasing program**
- **State water plan monies**

Total funding package is in the amount of $1,600,000 / year.

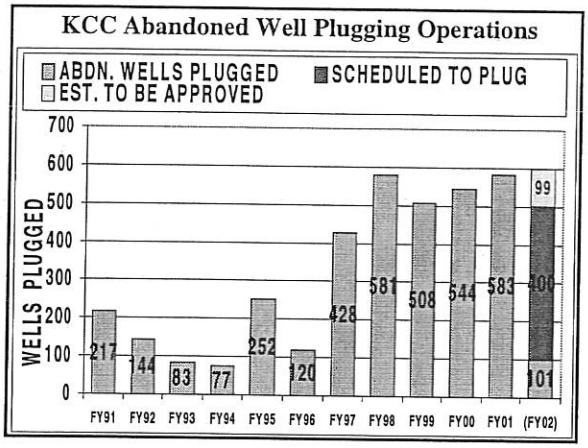
Total Abandoned Wells Plugged Since Inception of Abandoned Wells Fund Established by 1996 Legislature

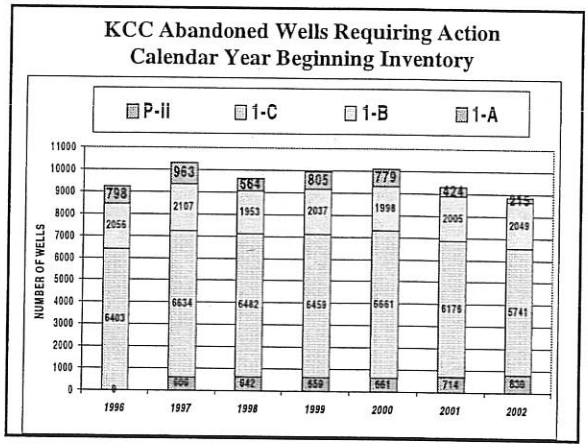


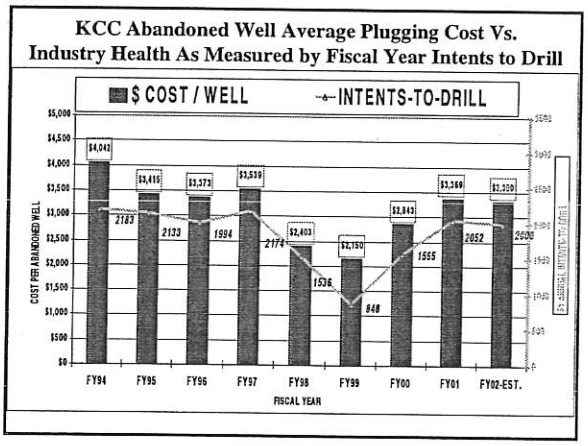
Abandoned Well / Site Remediation Fund
Status of the Abandoned Well Inventory

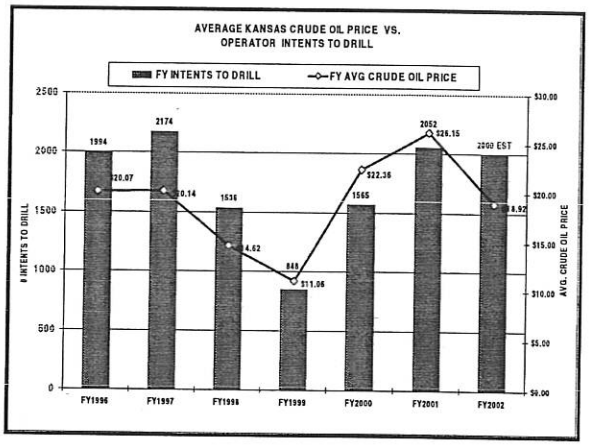
- **The Kansas Corporation Commission total abandoned well inventory (priority I and priority II) currently contains 13,257 wells, documented and verified. This represents an increase in the total inventory of 628 wells over that reported in January of 2001. Of this total, 12,391 wells are listed in the priority I inventory. Of these priority I wells, 8,005 still require plugging operations, which is 600 less than one year ago.**
- **Expenditures for fiscal year 2001 resulted in the plugging of 583 abandoned wells. Those wells were plugged at a cost of $1,855,335 which is $3,199 per well. For the first 7 months of fiscal year 2002, 501 wells have been authorized to be plugged or have been plugged with monies from the fund.**
- **Distribution of remaining priority I wells requiring plugging operations are by action level: level A = 215 wells (3%), level B = 2049 wells (26%), level C = 5741 wells (71%).**

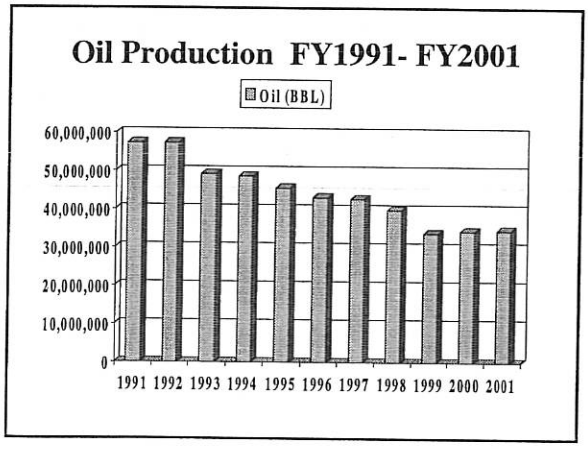
House Environment
1-29-02
Attachment 3

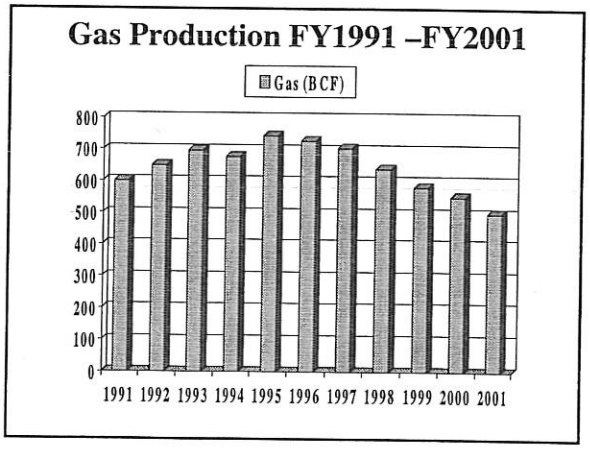

KCC Abandoned Well Plugging Operations
ABDN. WELLS PLUGGED
SCHEDULED TO PLUG
EST. TO BE APPROVED
WELLS PLUGGED
700
600
500
400
300
200
100
0
217
144
83
77
252
120
428
581
508
544
583
406
99
101
FY91 FY92 FY93 FY94 FY95 FY96 FY97 FY98 FY99 FY00 FY01 (FY02)

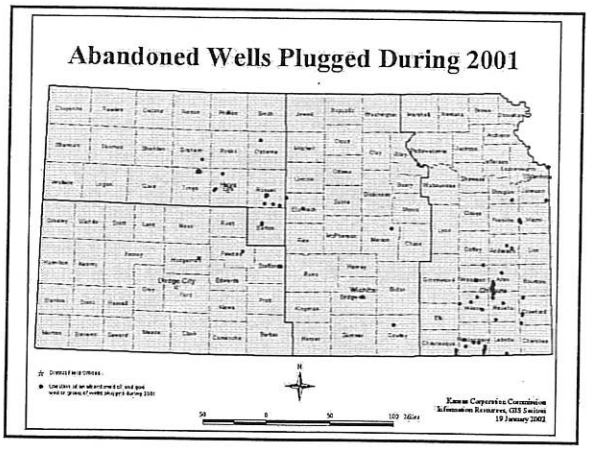

KCC Abandoned Wells Requiring Action
Calendar Year Beginning Inventory
P-ii
1-C
1-B
1-A
NUMBER OF WELLS
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
798
2056
6403
0
963
2107
6634
606
564
1953
6482
642
805
2037
6459
659
779
1998
6661
661
624
2005
6178
714
215
2049
5741
630
1996
1997
1998
1999
2000
2001
2002


KCC Abandoned Well Average Plugging Cost Vs.
Industry Health As Measured by Fiscal Year Intents to Drill
$ COST / WELL
INTENTS-TO-DRILL
COST PER ABANDONED WELL
$5,000
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
$4,043
$3,415
$3,373
$3,539
$2,403
$2,150
$2,843
$3,269
$3,320
2183
2133
1994
2174
1536
848
1555
2652
2000
FY94
FY95
FY96
FY97
FY98
FY99
FY00
FY01
FY02-EST.
FISCAL YEAR

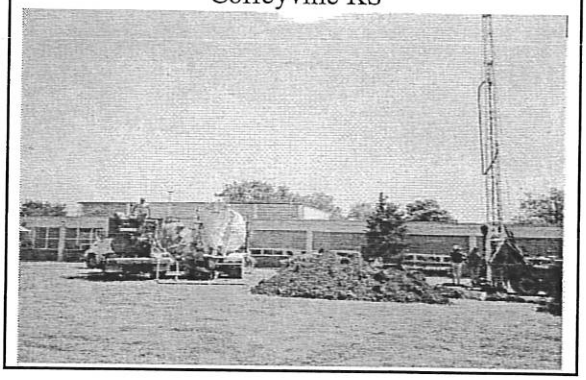

AVERAGE KANSAS CRUDE OIL PRICE VS.
OPERATOR INTENTS TO DRILL
FY INTENTS TO DRILL
FY AVG CRUDE OIL PRICE
INTENTS TO DRILL
AVG. CRUDE OIL PRICE
2500
2000
1500
1000
500
0
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$0.00
1994
2174
1536
848
1565
2052
2000 EST
$20.07
$20.14
$14.62
$11.06
$22.36
$26.15
$18.92
FY1996
FY1997
FY1998
FY1999
FY2000
FY2001
FY2002


Oil Production FY1991- FY2001
Oil (BBL)
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
0
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001


Gas Production FY1991 –FY2001
Gas (BCF)
800
700
600
500
400
300
200
100
0
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001

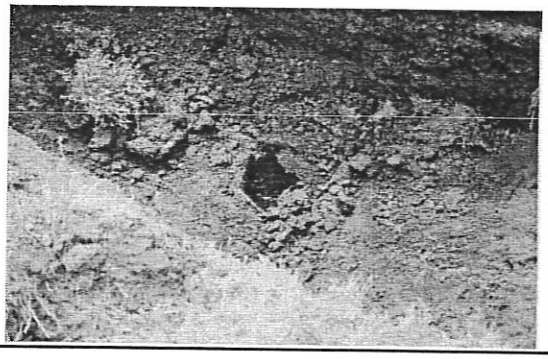


Abandoned Well, Whittier School, USD 445
Coffeyville KS

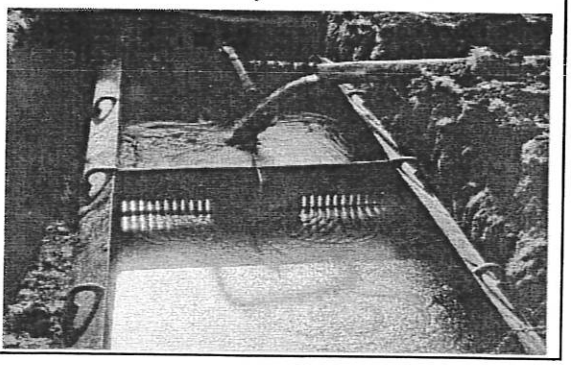


Abandoned Well, Whittier School, USD 445
Coffeyville KS

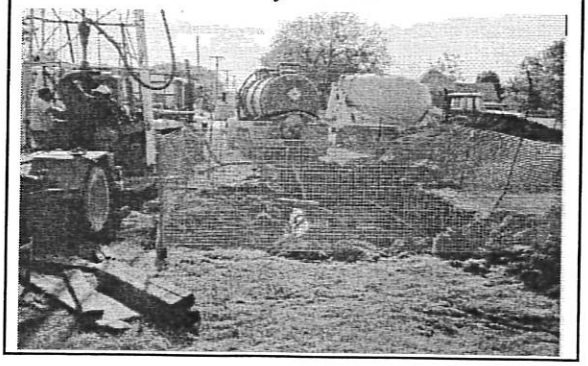
Abandoned Well, Whittier School, USD 445
Coffeyville KS



Abandoned Well, Whittier School, USD 445
Coffeyville KS

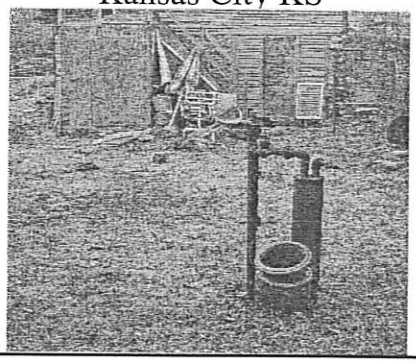


Abandoned Well, Whittier School, USD 445
Coffeyville KS



Abandoned Well, Neosho River

Abandoned Well, Fairfax Area, Kansas City KS

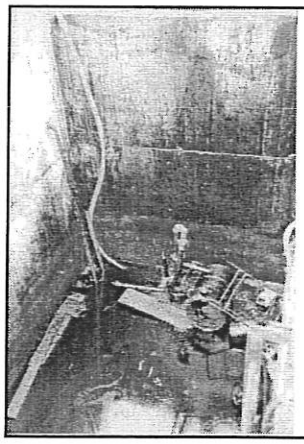


Abandoned Well, Neosho County

Abandoned Well, Coffeyville KS

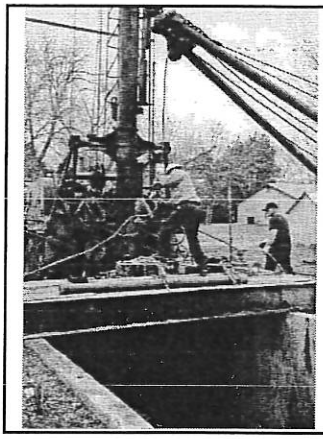
Abandoned Well, Coffeyville KS

Abandoned Well, Lindsborg KS



Abandoned Well, Lindsborg, KS

Abandoned Well, Lindsborg KS

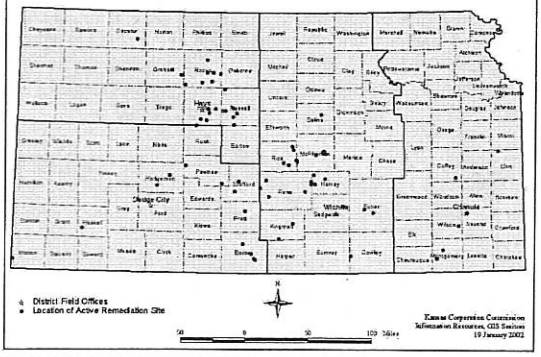


Abandoned Well, Lindsborg KS

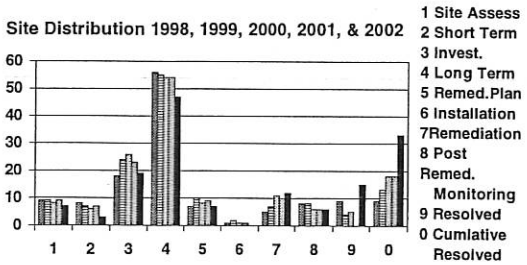
Abandoned Well / Site Remediation Fund
Status of the Site Remediation Inventory

- **When the abandoned well / site remediation fund was first created the KCC carried a listing of 109 sites. During previous reporting periods (1997, 1998, & 1999) four sites were combined with other existing sites, nine sites were added and a total 21 sites were resolved. Of the 95 sites contained in the 2000 report 5 additional sites had been resolved thereby resulting in 90 active sites. There were 92 active sites in the 2001 report. 15 sites were resolved during 2001, resulting in 77 active sites at the time of the 2002 report.**
- **Current distribution of sites with respect to immediacy level is: low & low to moderate = 53%, moderate = 17%, moderate to high & high = 14%, other (under remediation) = 16%.**
- **Authorizations for Expenditures against projects initiated in FY2001 stand at $145,845. When combined with ongoing remediation projects, initiated in prior years, the total expenditure for this period rises to $284,007. Indirect expenditures in KCC staff time to these projects are valued at $94,103.**

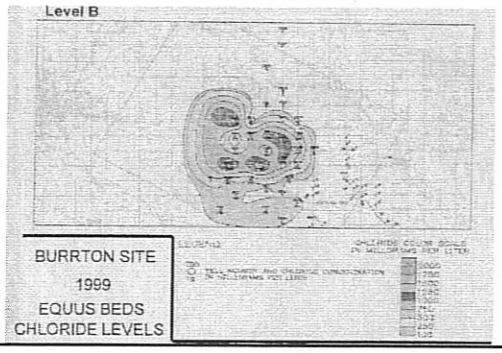
2001 Active Remediation Sites



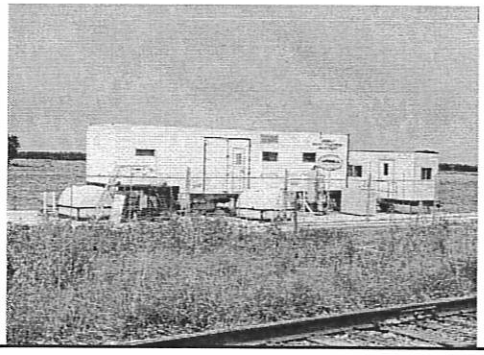
Abandoned Well / Site Remediation Fund
Distribution of Sites by Status

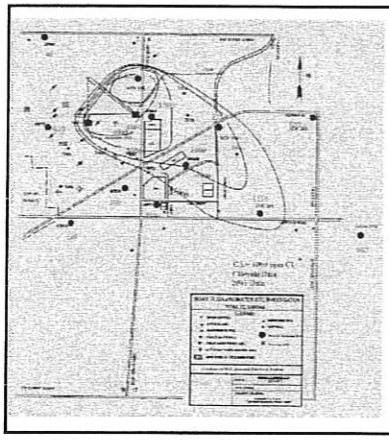


Burrton Site
Harvey Co., Kansas



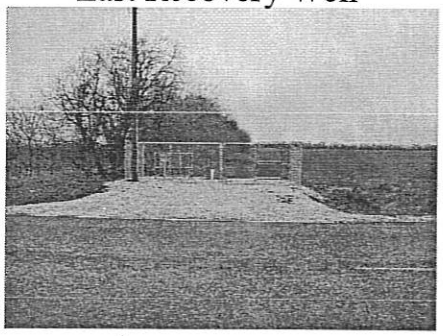
Burrton Remediation Site
Reverse Osmosis Pilot Installation





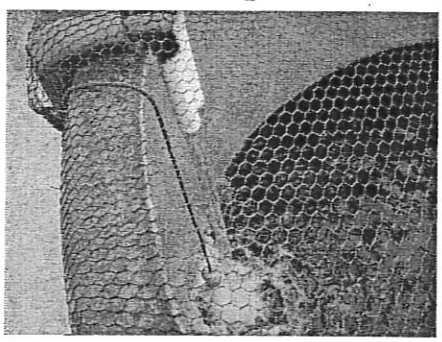
Schulte KS
Remediation
Site

Schulte KS Remediation Site
East Recovery Well



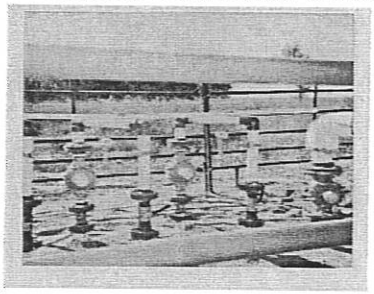
Schulte KS Remediation Site
Saltwater Disposal Well

Schulte KS Remediation Site
Saltwater Disposal Well

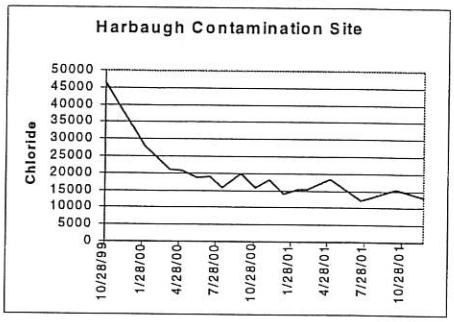


3-6

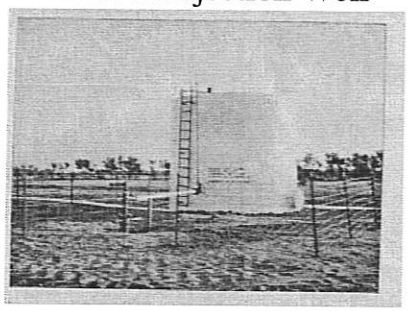
Harbaugh Remediation Site
Wellhead Collection Point



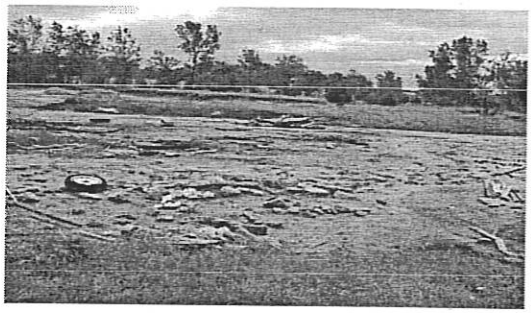
Harbaugh Site
Chloride Data



H.E.W. Remediation Site
Class II Injection Well



Leon Project, Butler Co.
KCC / KBS
Soil Remediation Project



Leon Project, Butler Co.
KCC / KBS
Soil Remediation Project

Abandoned Well / Site Remediation Fund
Operator Financial Responsibility Requirements

- **Operators having an acceptable record of compliance with KCC rules and regulations over the proceeding 36 months may pay a $50 nonrefundable fee.**

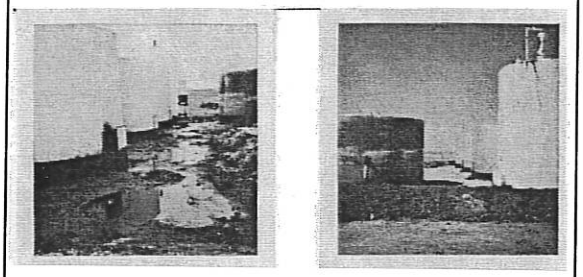
- **Operators that have not been licensed for at least the proceeding 36 months or have not met the acceptable record of compliance requirement must furnish one of the following on an annual basis:**

1. **A performance bond or letter of credit in the amount equal to $.75 x the aggregate depth of all wells under his control.**
2. **A blanket bond or letter of credit between $5000 and $30,000 based on the depth and number of wells operated.**
3. **A fee equal to 3% of the blanket bond required under #2.**
4. **A first lien on equipment equal to the bond requirement.**
5. **Other financial assurance approved by the commission.**

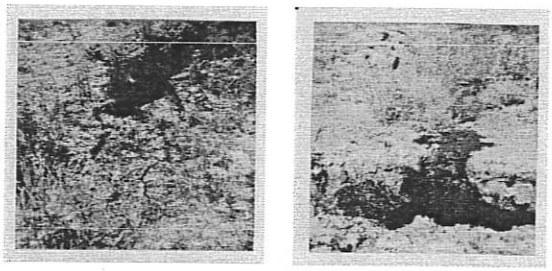
Financial Assurance
Posted in 2001

Method of Assurance	Number of Licenses	Revenue	Assurance
$50 Fee	1,688	$84,400	$84,400 (Compliance)
Cash Bond To KCC	258	$80,627	$80,627
Surety Bond	25		$508,450
CD / Letter of Credit	50		$774,141
Total	2,021	$165,027	$1,447,619

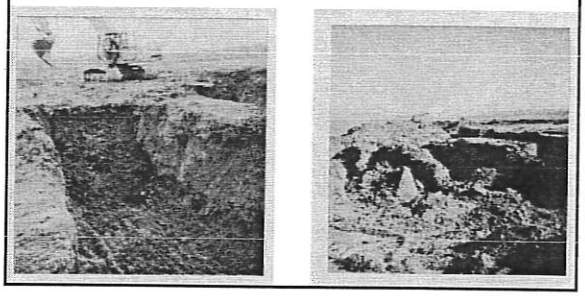
Oil Spill From Tank Battery, Ellis Co.
Clean-up By Operator Via Compliance With KCC Regulations



1930's Sludge Pit, Barton Co. KS
Clean-up by Operator Via Compliance With KCC Regulations



1930's Sludge Pit, Barton Co. KS
Site 300' X 160' X 12' Deep
Contaminated Soil Excavated



1930's Sludge Pit, Barton Co. KS
Site Filled With Clean Topsoil by Operator and Replanted to Crops