Kansas Department of Agriculture

Division of Water Resources

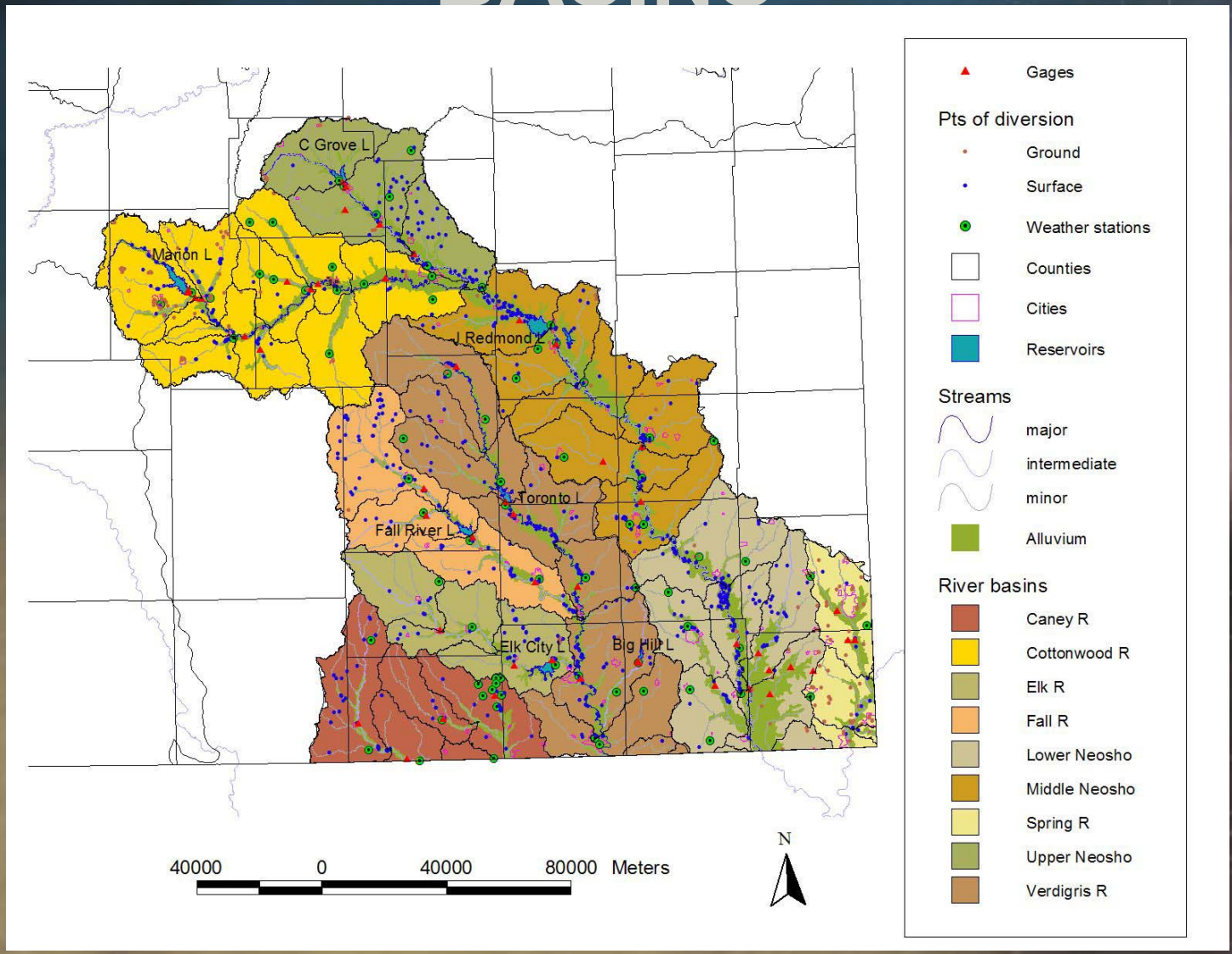
DETERMINATION/ADMINISTRATION OF AN OVER APPROPRIATED BASIN


IN-STREAM FLOW WISP

INSTREAM FLOW

- WISP
- Contract under KDW&P
- Neosho – Verdigris River basins & tribs
- Instream flow recognized as interest in maintaining a suitable environment for aquatic habitat and water quality
- Not a current beneficial use under KWAA
- Currently, surface water not quantified for purposes of determining availability

NEOSHO-VERDIGRIS RIVER BASINS



INSTREAM FLOW PROJECT TASKS

- Evaluate historic flows
- Coordination of reservoir modeling
- Water availability assessment
- Assessment of reservoir operations in water administration
- Assessment of pool management and protection of releases
- Evaluation of water rights and management options
- Identify potential additional demand

EVALUATE HISTORIC FLOWS

- Historic Flow is function of natural flow, reservoir operations and diversions
- Diversions = reported use
- Based on work by Perry, Wolock and Artman, U.S.G.S., 2004 *Estimates of Flow Duration, Mean Flow, and Peak-Discharge Frequency Values for Kansas Stream Locations*

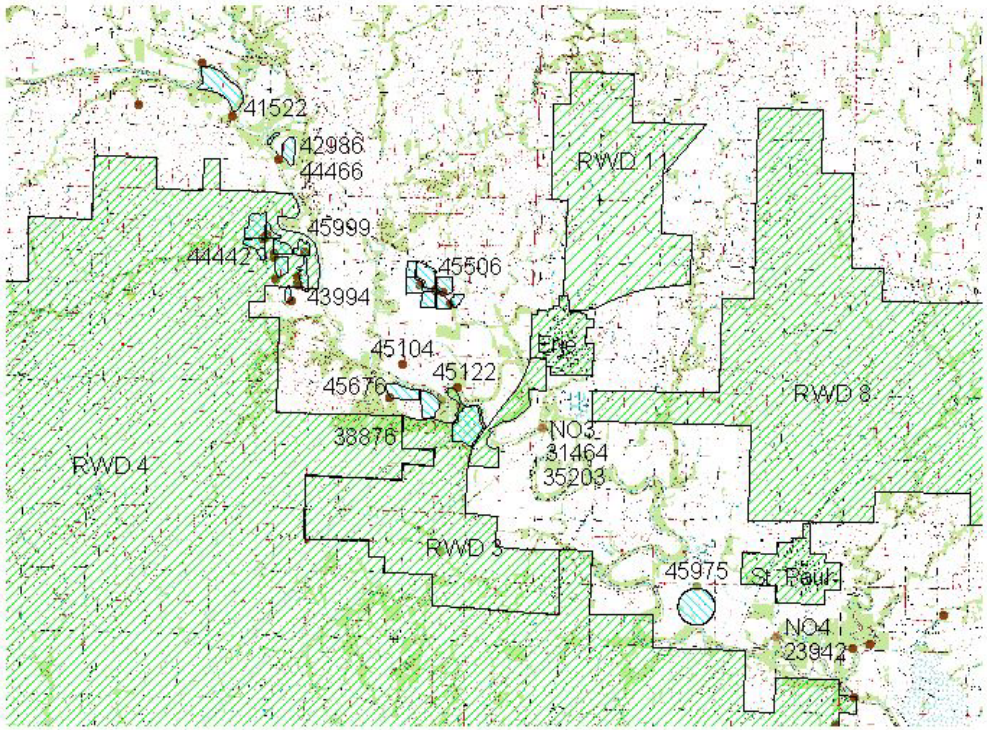
RESERVOIR MANAGEMENT AND MANAGEMENT ACTIVITIES

- Effects of
  - Minimum Desirable Streamflow (MDS)
  - Reservation Rights
  - USCOE lake level management plan
  - Neosho River Water Assurance District
  - Contract water
  - MOA and MOU
- Basin operating outlines

WATER AVAILABILITY ASSESSMENT

- Determination of gain based on historic streamflow
- Gain as difference between historic flow upstream and historic flow downstream by segment
- Available appropriation = Gain – (authorized use – reported use)
- Routine (SWAMI) searches upstream for available gain for appropriation by season

Test Segment 1
Chanute to St. Paul



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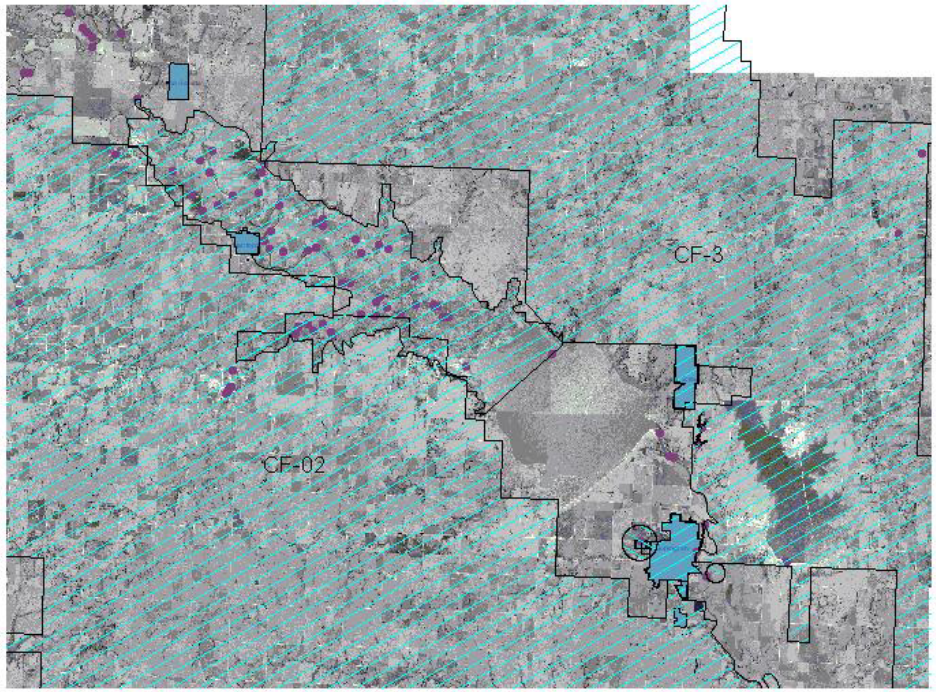
Division of Water Resources
Topeka Field Office
M. Ingrisano

Test Segment 2
John Redmond Lake



N

6 0 6 Miles

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Division of Water Resources
Topeka Field Office
M. Ingrisano

TEST SEGMENTS

- Chose test segments to represent a variety of conditions: straightforward, complex cut-off channel, Federal reservoir
- Determined all parameters of water rights in segment from hard-copy files
- Compared hard-copy determinations against SWAMI data run from routine
- Evaluated effects of manipulated parameters within each test segment

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Division of Water Resources

DETERMINATION/ADMINISTRATION OF AN OVER APPROPRIATED BASIN

ENHANCED WATER MANAGEMENT IN THE OGALLALA - KANSAS

OGALLALA ADVISORY COMMITTEE

Directed by Kansas Water Office – Key Recommendations

1. Focus on decreasing depletion and extending the life of the aquifer – not stop depletion.
2. Use incentive based approach – use state regulations if incentives are not successful.
3. Exercise all existing regulations to enforce compliance with current diversion limits.
4. Consider economic impacts of water management options.
5. Variability of aquifer must be considered by hydrologic subunits.
6. Each groundwater management district be required to prepare protocol to address

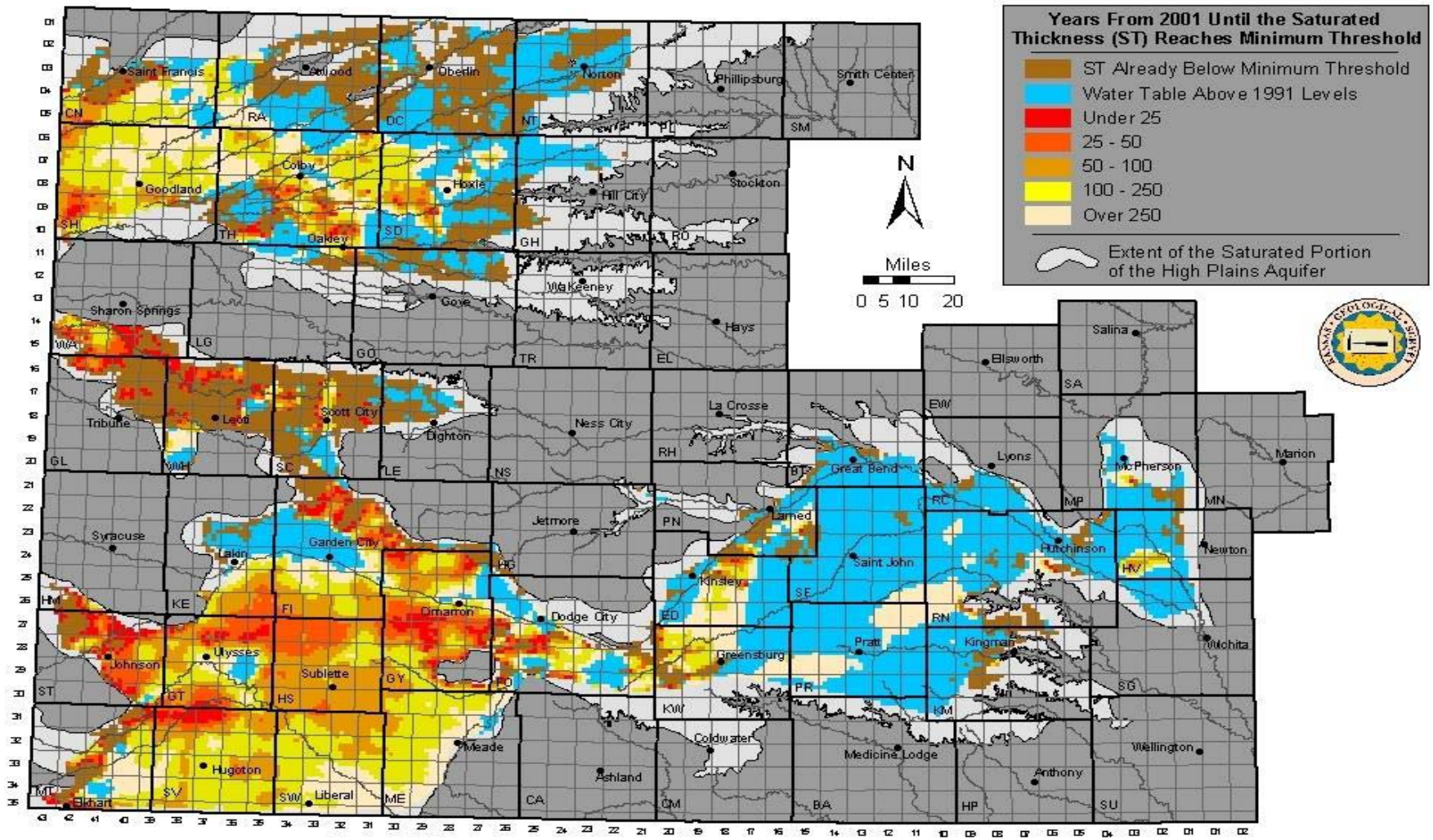
PROTOCOL CONCEPTS
THRESHOLD PUMPING RATES

- Related saturated thickness to pumping rate
- Irrigated corn
- Center pivot on 130 acres

The minimum practical pumping rate presumed to be about 400 gal./min.

PROTOCOL CONCEPTS

PROJECTED USABLE LIFETIME



ENHANCED WATER MANAGEMENT PROTOCOLS

INCLUDE A:

- *Method for defining aquifer subunits
- *Commitment to set priorities of high, medium and low on each subunit

DISTRICTS MUST:

- *Add the protocol to the general management program
- *Hold a public hearing and approve by the Board
- *Obtain approval from the Division of Water

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Division of Water Resources

WATER RIGHTS ENFORCEMENT, COMPLIANCE AND MONITORING

BLATANT AND RECURRING OVERPUMPING

PROACTIVE ENFORCEMENT IN KANSAS

- Focus on use exceeding that authorized
- Relies on reported water use
- Compliance investigations define blatant and recurring overpumping (BRO)

The BRO Project is proactive enforcement action against overpumping violations

Compliance Enforcement Selection Design for Each Field Office

- Tier 1
  - The 50 users reporting overpumping by the largest amount
- Tier 2
  - A group of 10 files randomly selected from those reporting overpumping by at least 25% excluding top 50
- Tier 3
  - A group of 10 files randomly selected from all files not part of Tiers 1 & 2
- Tier 4
  - A group of 10 files randomly selected from any set of files that the field office considers likely to have compliance problems (e.g.: double cropping, alfalfa in sandy soils, excessive acres, sensitive areas)
- Tier 5
  - Follow up on file in past RRO categories

ADMINISTRATIVE REQUIREMENTS

- All BRO overpumping violations are required to prepare a conservation plan and submit monthly water use reports
- Fines are now assessed for recurring violations
- Blatant non-compliance may result in suspension of water right
- Meter tampering may result in water right dismissal

FINDINGS AFTER THREE YEARS

- 50 – 70% of Tier 1 top 50 are reporting problems or resolvable water right and water management challenges
- About 7% of totally random groups have violations

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WATER RIGHTS ENFORCEMENT, COMPLIANCE AND MONITORING

MDS ADMINISTRATION

MDS ADMINISTRATION

- 23 Rivers & Streams
- Set minimum desirable streamflows at gaging stations
- April 12, 1984 priority date
- Surface water and alluvial wells

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WATER RIGHTS ENFORCEMENT, COMPLIANCE AND MONITORING

CIVIL PENALTIES

EXAMPLE CIVIL PENALTIES

- $100
  - Meter maintenance problem
  - Less than 10 excess acres
- $500
  - Exceed authorized quantity
  - Failed to install meter
- $1,000
  - Meter tampering
  - Falsifying water use report
  - Violate cease and desist order

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TECHNOLOGY AND ON-LINE APPLICATIONS AND RECORDS MANAGEMENT


INTERNET WATER USE
REPORTING

INTERNET SUBMISSION OF WATER USE REPORTS

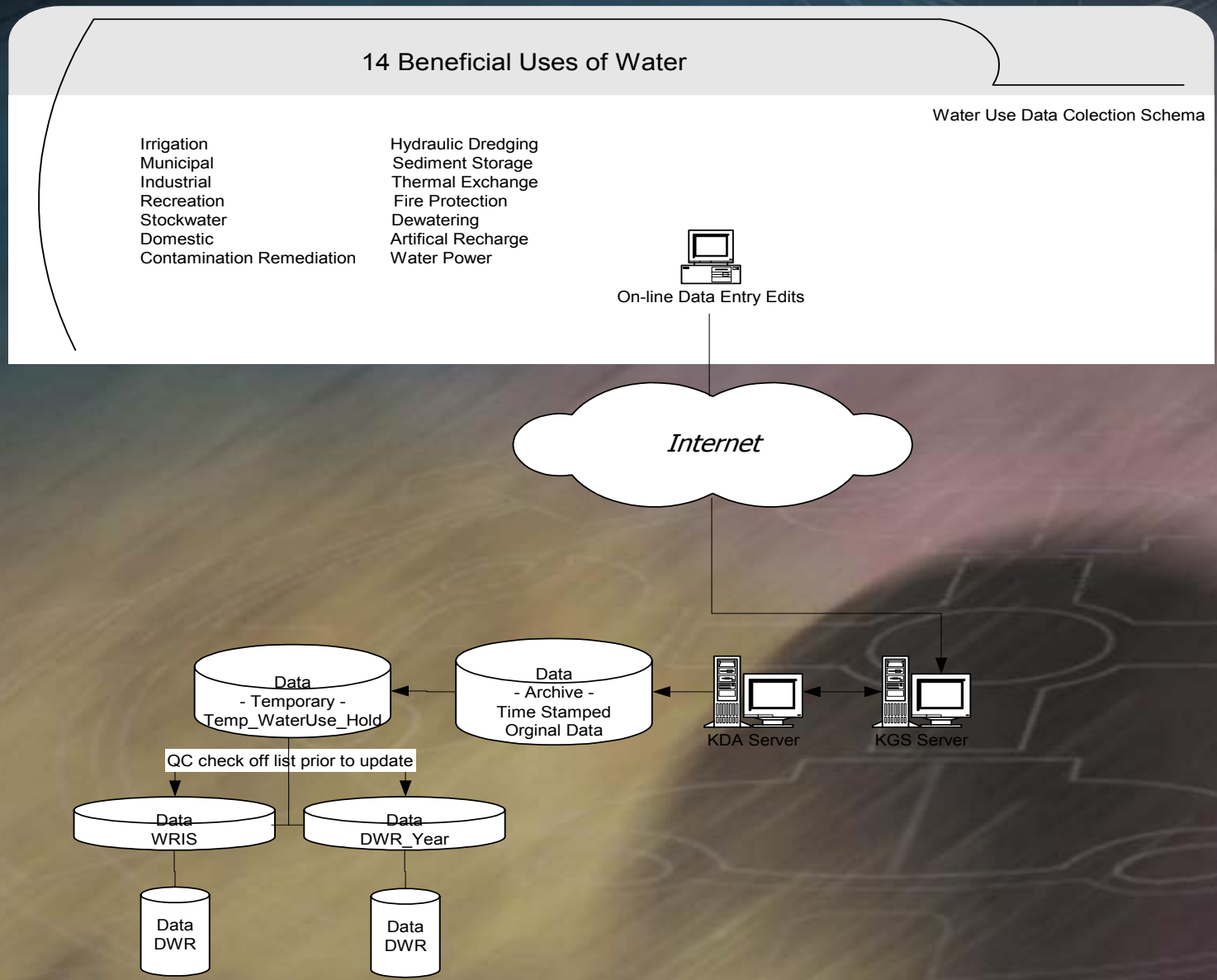
- Reporting requirements
  - Annual water use reports required
  - Forms mailed in December – deadline March 30
  - Late or delinquent – fined $50
  - Penalty - $250 after June 1
  - Checked and data entry by April 30 – June 1

INTERNET SUBMISSION OF WATER USE REPORTS

- Web site designed by DWR staff
- Web site programmed by data systems staff at KGS
- Updates database at DWR
- Pilot 150 irrigation and 150 municipal in ’05
- Full implementation in ’06

INTERNET SUBMISSION OF WATER USE REPORTS

sion of Water Resources
Topeka, Kansas
WaterUseDataCol.vsd



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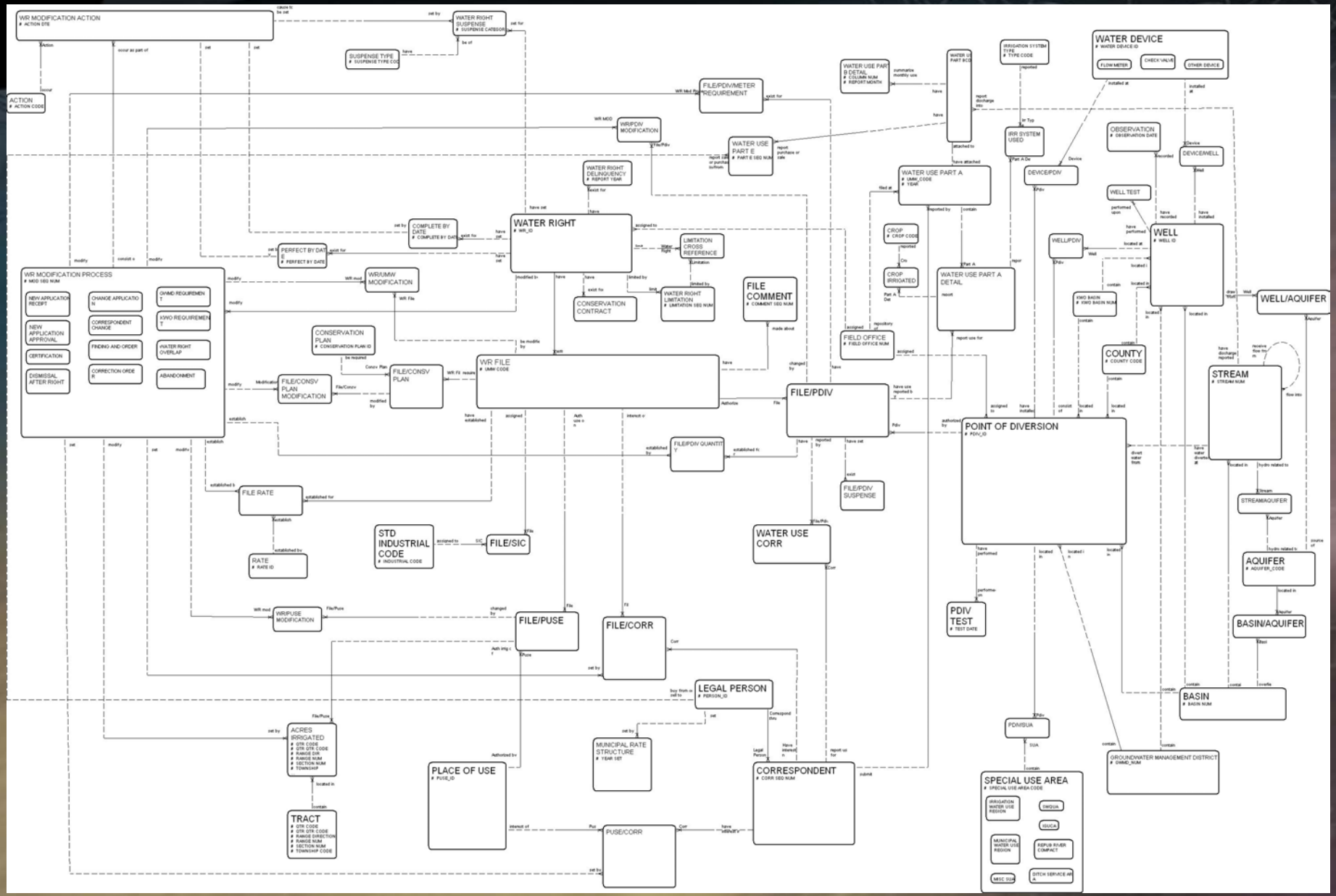
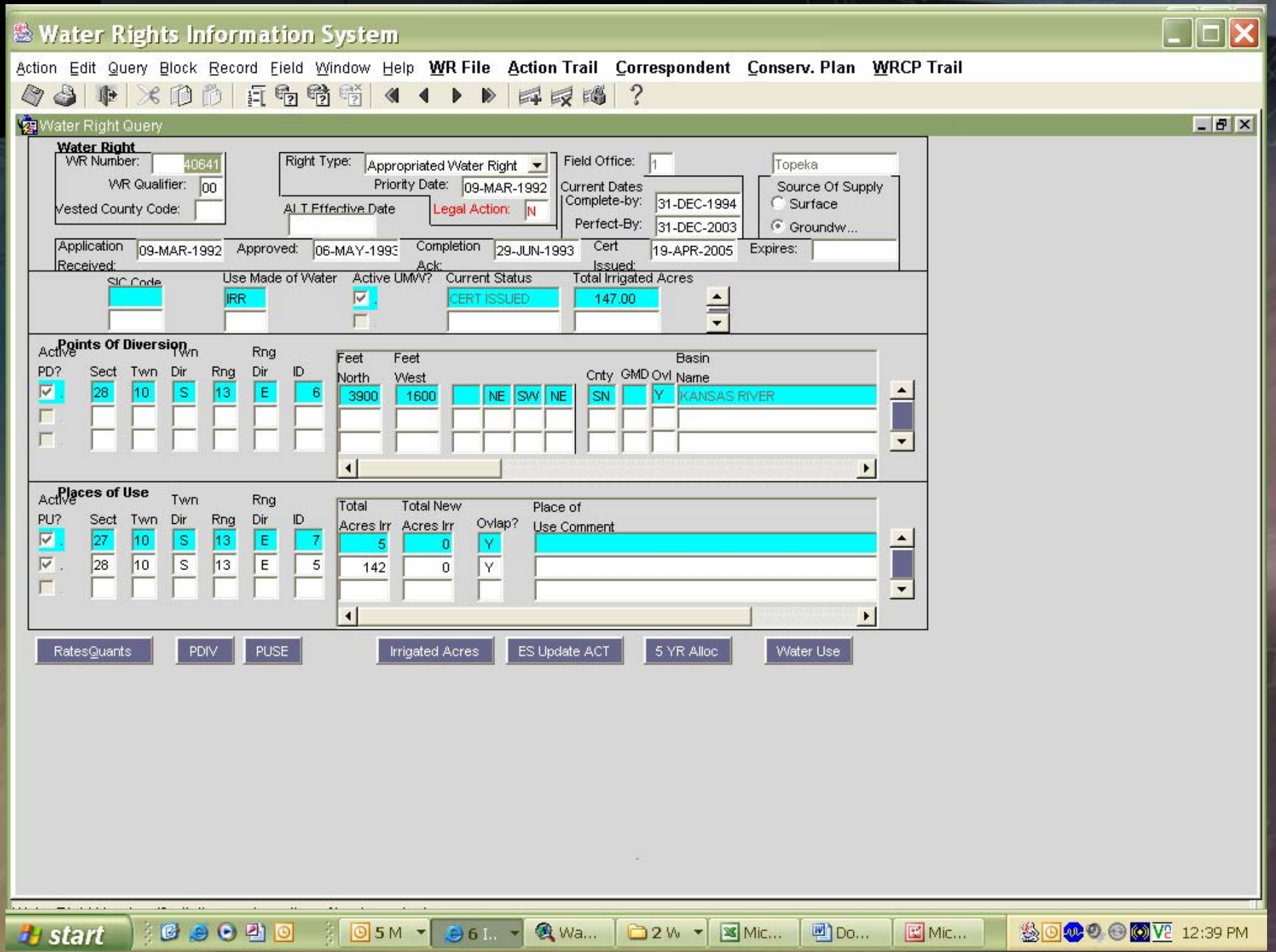
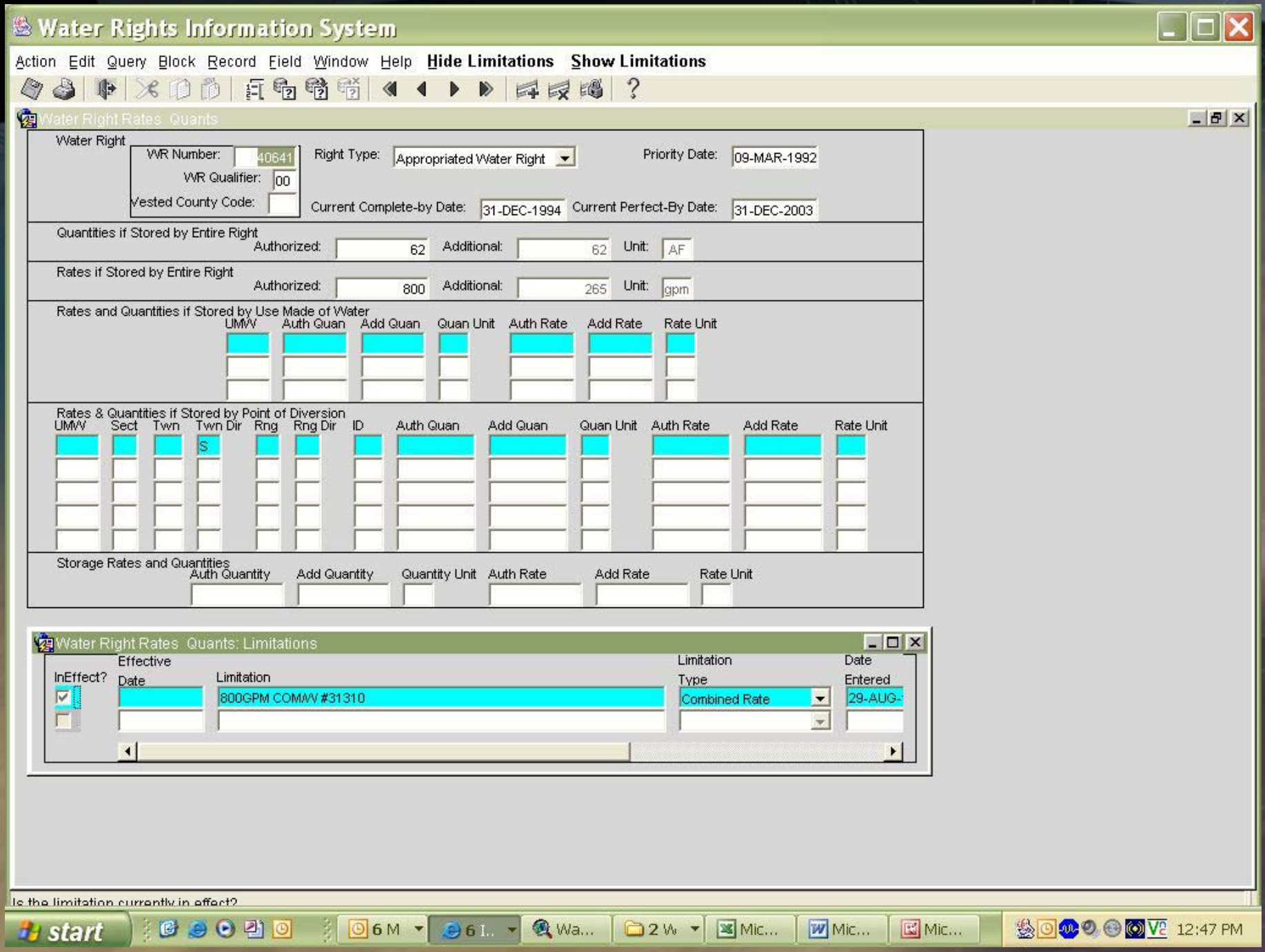
Division of Water Resources

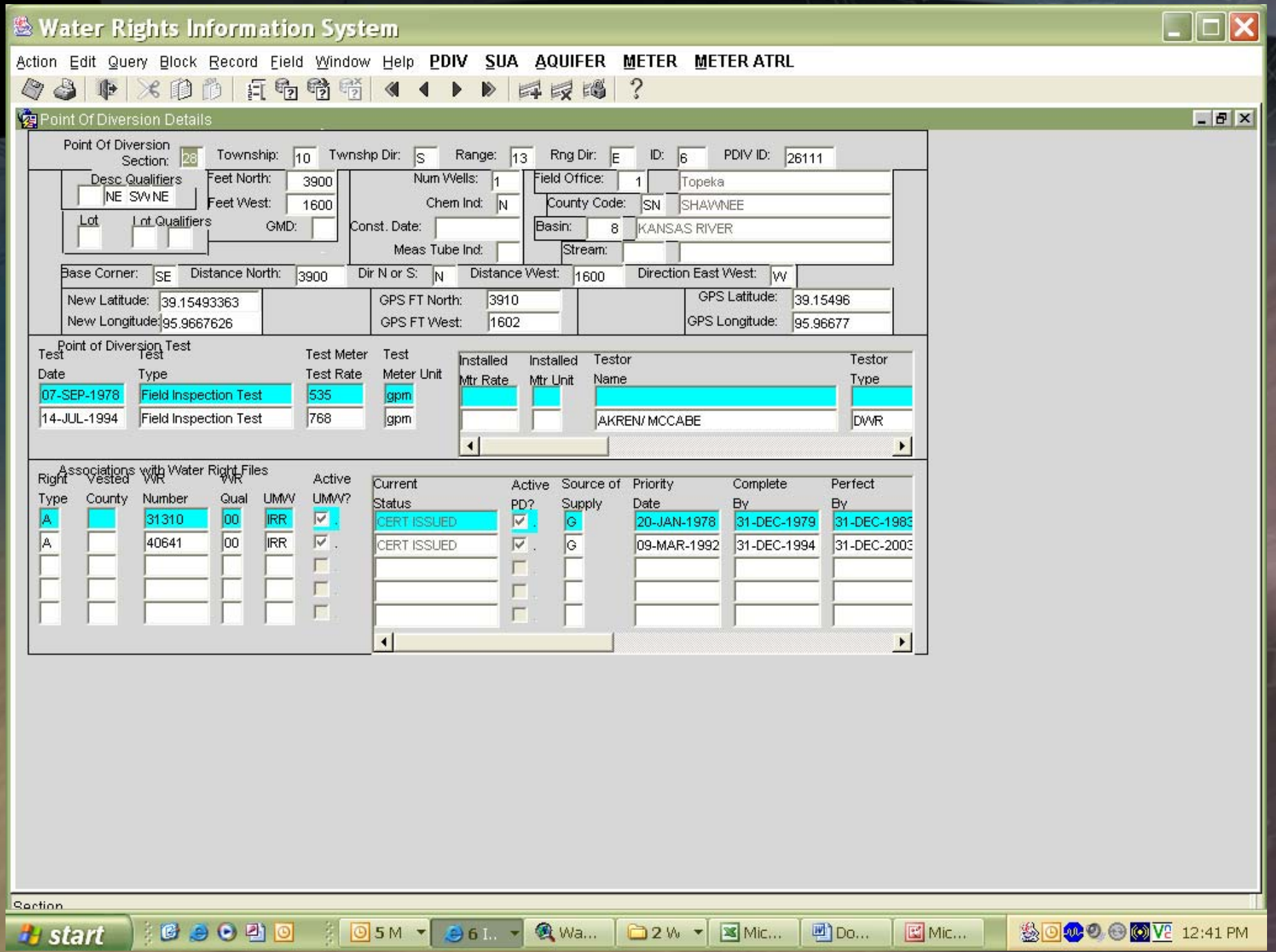
TECHNOLOGY AND ON-LINE APPLICATIONS AND RECORDS MANAGEMENT


WATER RIGHTS
INFORMATION SYSTEM
(WRIS)


WR MODIFICATION ACTION
ACTION DTE
ACTION
ACTION CODE
WATER RIGHT SUSPENSE
SUSPENSE CATEGOR
SUSPENSE TYPE
SUSPENSE TYPE COD
FILE/PDIV/METER REQUIREMENT
WR/PDIV MODIFICATION
WATER USE PART E
PART E SEQ NUM
WATER RIGHT DELINQUENCY
REPORT YEAR
WATER RIGHT
WR_ID
COMPLETE BY DATE
COMPLETE BY DATE
PERFECT BY DATE
PERFECT BY DATE
LIMITATION CROSS REFERENCE
WATER RIGHT LIMITATION
LIMITATION SEQ NUM
CONSERVATION CONTRACT
FILE COMMENT
COMMENT SEQ NUM
WR MODIFICATION PROCESS
MOD SEQ NUM
NEW APPLICATION RECEIPT
NEW APPLICATION APPROVAL
CERTIFICATION
DISMISSAL AFTER RIGHT
CHANGE APPLICATIO N
CORRESPONDENT CHANGE
FINDING AND ORDER
CORRECTION ORDE R
OWMD REQUIREMEN T
KIWO REQUIREMEN T
WATER RIGHT OVERLAP
ABANDONMENT
WR/UMW MODIFICATION
CONSERVATION PLAN
CONSERVATION PLAN ID
FILE/CONSV PLAN MODIFICATION
FILE/CONSV PLAN
WR FILE
UMW CODE
FILE/PDIV
FILE/PDIV QUANTITY
FILE/PDIV SUSPENSE
FILE RATE
RATE
RATE ID
STD INDUSTRIAL CODE
INDUSTRIAL CODE
FILE/SIC
WATER USE CORR
WR/PUSE MODIFICATION
FILE/PUSE
FILE/CORR
LEGAL PERSON
PERSON_ID
ACRES IRRIGATED
QTR CODE
QTR QTR CODE
RANGE DIR
RANGE NUM
SECTION NUM
TOWNSHIP
TRACT
QTR CODE
QTR QTR CODE
RANGE DIRECTION
RANGE NUM
SECTION NUM
TOWNSHIP CODE
MUNICIPAL RATE STRUCTURE
YEAR SET
PLACE OF USE
PUSE_ID
CORRESPONDENT
CORR SEQ NUM
PUSE/CORR
WATER USE PART A
UMW_CODE
YEAR
WATER USE PART A DETAIL
WATER USE PAR B DETAIL
COLUMN NUM
REPORT MONTH
WATER USE PART B
CROP
CROP CODE
CROP IRRIGATED
FIELD OFFICE
FIELD OFFICE NUM
WATER DEVICE
WATER DEVICE ID
FLOW METER
CHECK VALVE
OTHER DEVICE
IRRIGATION SYSTEM TYPE
TYPE CODE
IRR SYSTEM USED
DEVICE/PDIV
OBSERVATION
OBSERVATION DATE
DEVICE/WELL
WELL TEST
WELL
WELL ID
WELL/PDIV
KIWO BASIN
KIWO BASIN NUM
COUNTY
COUNTY CODE
WELL/AQUIFER
STREAM
STREAM NUM
POINT OF DIVERSION
PDIV_ID
STREAM/AQUIFER
AQUIFER
AQUIFER_CODE
BASIN/AQUIFER
BASIN
BASIN NUM
PDIV TEST
TEST DATE
PDIV/SUA
GROUNDWATER MANAGEMENT DISTRICT
GWMD_NUM
SPECIAL USE AREA
SPECIAL USE AREA CODE
IRRIGATION WATER USE REGION
MUNICIPAL WATER USE REGION
MISC SUA
EWSUA
IGUCA
KEPUB RIVER COMPACT
DITCH SERVICE AR A


Water Rights Information System
Action Edit Query Block Record Field Window Help WR File Action Trail Correspondent Conserv. Plan WRCP Trail
Water Right Query
Water Right
WR Number: 40641
WR Qualifier: 00
Vested County Code:
Right Type: Appropriated Water Right
Priority Date: 09-MAR-1992
ALT Effective Date
Legal Action: N
Field Office: 1
Topeka
Current Dates
Complete-by: 31-DEC-1994
Perfect-By: 31-DEC-2003
Source Of Supply
Surface
Groundw...
Application Received: 09-MAR-1992
Approved: 06-MAY-1993
Completion Ack: 29-JUN-1993
Cert Issued: 19-APR-2005
Expires:
SIC Code
Use Made of Water
Active UMW?
Current Status
Total Irrigated Acres
IRR
CERT ISSUED
147.00
Points Of Diversion
Active PD? Sect Twn Dir Rng Dir ID Feet North Feet West Basin Name
28 10 S 13 E 6 3900 1600 NE SW NE SN Y KANSAS RIVER
Places of Use
Active PU? Sect Twn Dir Rng Dir ID Total Acres Irr Total New Acres Irr Ovlap? Place of Use Comment
27 10 S 13 E 7 5 0 Y
28 10 S 13 E 5 142 0 Y
RatesQuants
PDIV
PUSE
Irrigated Acres
ES Update ACT
5 YR Alloc
Water Use
start
12:39 PM


Water Rights Information System
Action Edit Query Block Record Field Window Help Hide Limitations Show Limitations
Water Right Rates Quants
Water Right
WR Number: 40641
WR Qualifier: 00
Vested County Code:
Right Type: Appropriated Water Right
Priority Date: 09-MAR-1992
Current Complete-by Date: 31-DEC-1994
Current Perfect-By Date: 31-DEC-2003
Quantities if Stored by Entire Right
Authorized: 62
Additional: 62
Unit: AF
Rates if Stored by Entire Right
Authorized: 800
Additional: 265
Unit: gpm
Rates and Quantities if Stored by Use Made of Water
UMW Auth Quan Add Quan Quan Unit Auth Rate Add Rate Rate Unit
Rates & Quantities if Stored by Point of Diversion
UMW Sect Twn Twn Dir Rng Rng Dir ID Auth Quan Add Quan Quan Unit Auth Rate Add Rate Rate Unit
S
Storage Rates and Quantities
Auth Quantity Add Quantity Quantity Unit Auth Rate Add Rate Rate Unit
Water Right Rates Quants: Limitations
InEffect? Effective Date Limitation Limitation Type Date Entered
800GPM COMWV #31310
Combined Rate
29-AUG-
Is the limitation currently in effect?
start
6 M
6 I..
Wa...
2 W
Mic...
Mic...
Mic...
12:47 PM


Water Rights Information System
Action Edit Query Block Record Field Window Help PDIV SUA AQUIFER METER METER ATRL
Point Of Diversion Details
Point Of Diversion Section: 28
Township: 10
Twnshp Dir: S
Range: 13
Rng Dir: E
ID: 6
PDIV ID: 26111
Desc Qualifiers
NE SW NE
Feet North: 3900
Feet West: 1600
Lot
Lot Qualifiers
GMD:
Num Wells: 1
Chem Ind: N
Const. Date:
Meas Tube Ind:
Field Office: 1 Topeka
County Code: SN SHAWNEE
Basin: 8 KANSAS RIVER
Stream:
Base Corner: SE
Distance North: 3900
Dir N or S: N
Distance West: 1600
Direction East West: W
New Latitude: 39.15493363
New Longitude: 95.9667626
GPS FT North: 3910
GPS FT West: 1602
GPS Latitude: 39.15496
GPS Longitude: 95.96677
Point of Diversion Test
Test Date
Test Type
Test Meter Test Rate
Test Meter Unit
Installed Mtr Rate
Installed Mtr Unit
Testor Name
Testor Type
07-SEP-1978 Field Inspection Test 535 gpm
14-JUL-1994 Field Inspection Test 768 gpm AKREN/ MCCABE DWR
Associations with Water Right Files
Right Type
Vested County
WR Number
WR Qual
UMW
Active UMW?
Current Status
Active PD?
Source of Supply
Priority Date
Complete By
Perfect By
A 31310 00 IRR CERT ISSUED G 20-JAN-1978 31-DEC-1979 31-DEC-1983
A 40641 00 IRR CERT ISSUED G 09-MAR-1992 31-DEC-1994 31-DEC-2003
Section
start
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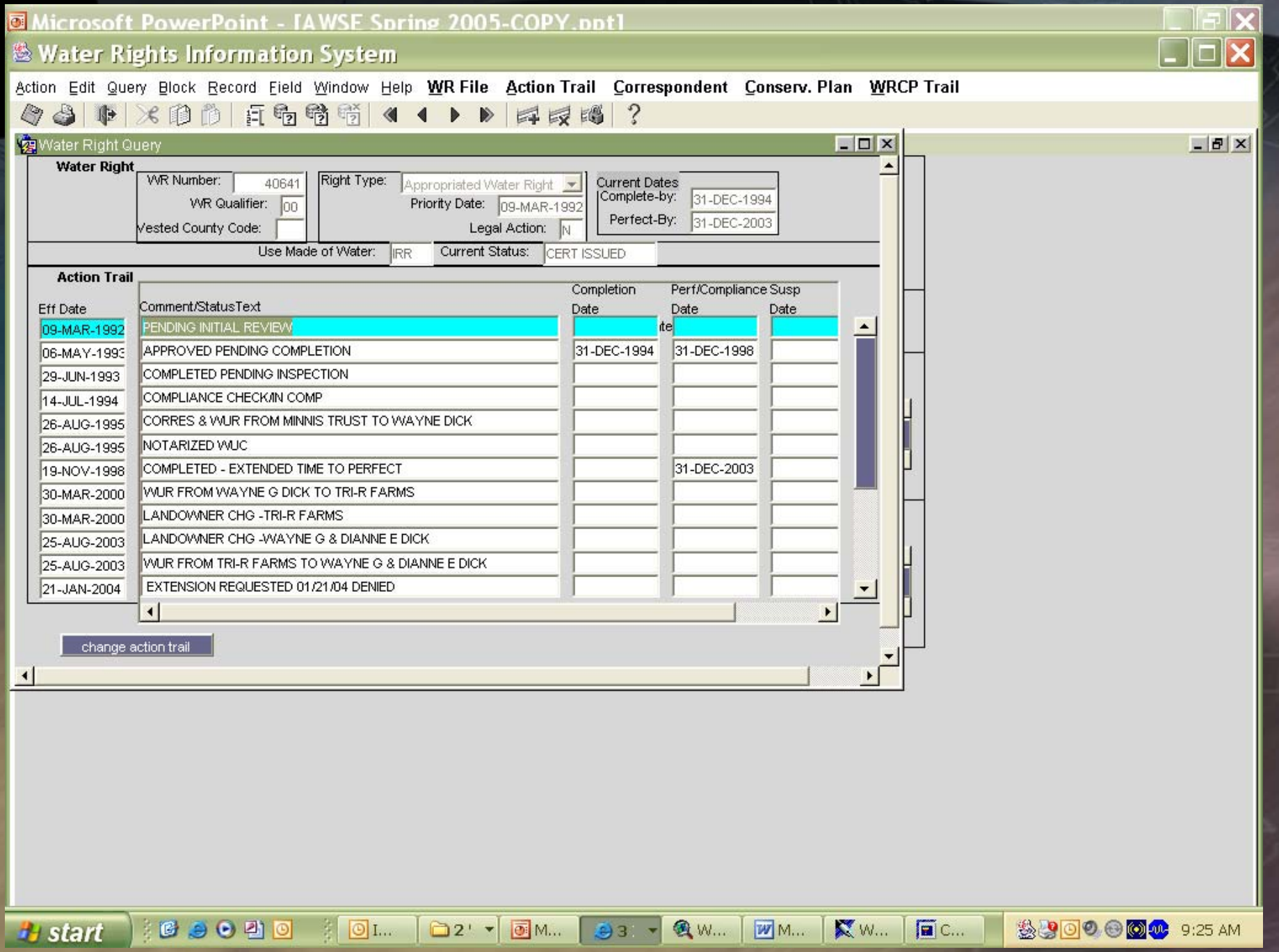
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Water Rights Information System
Action Edit Query Block Record Field Window Help WR File Action Trail Correspondent Conserv. Plan WRCP Trail
Water Right Query
Water Right
WR Number: 40641
WR Qualifier: 00
Vested County Code:
Right Type: Appropriated Water Right
Priority Date: 09-MAR-1992
Legal Action: N
Current Dates
Complete-by: 31-DEC-1994
Perfect-By: 31-DEC-2003
Use Made of Water: IRR
Current Status: CERT ISSUED
Action Trail
Eff Date
Comment/StatusText
Completion Date
Perf/Compliance Date
Susp Date
09-MAR-1992 PENDING INITIAL REVIEW
06-MAY-1993 APPROVED PENDING COMPLETION 31-DEC-1994 31-DEC-1998
29-JUN-1993 COMPLETED PENDING INSPECTION
14-JUL-1994 COMPLIANCE CHECK/IN COMP
26-AUG-1995 CORRES & WUR FROM MINNIS TRUST TO WAYNE DICK
26-AUG-1995 NOTARIZED WUC
19-NOV-1998 COMPLETED - EXTENDED TIME TO PERFECT 31-DEC-2003
30-MAR-2000 WUR FROM WAYNE G DICK TO TRI-R FARMS
30-MAR-2000 LANDOWNER CHG -TRI-R FARMS
25-AUG-2003 LANDOWNER CHG -WAYNE G & DIANNE E DICK
25-AUG-2003 WUR FROM TRI-R FARMS TO WAYNE G & DIANNE E DICK
21-JAN-2004 EXTENSION REQUESTED 01/21/04 DENIED
change action trail
start
9:25 AM

Kansas Department of Agriculture

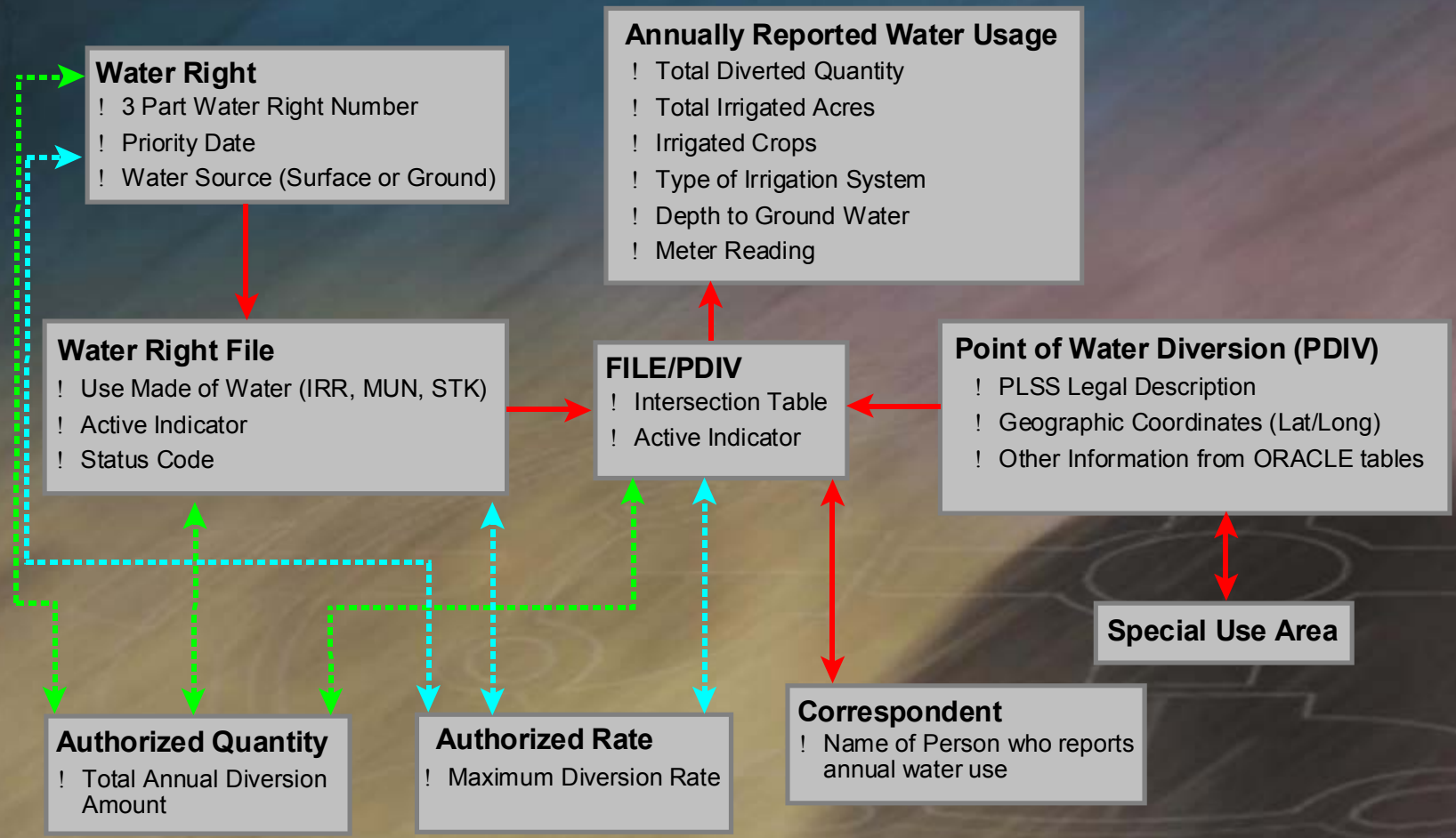
Division of Water Resources

TECHNOLOGY AND ON-LINE APPLICATIONS AND RECORDS MANAGEMENT

WATER INFORMATION MANAGEMENT AND ANALYSIS SYSTEM (WIMAS)

Water Rights Information System (WRIS)
Primary ORACLE Tables Used in WIMAS

One → Many



Water Information Managment and Analysis System- WIMAS

File Analysis Help

Scale 1: 3,565

164.12
418.84

WIMAS Start Screen

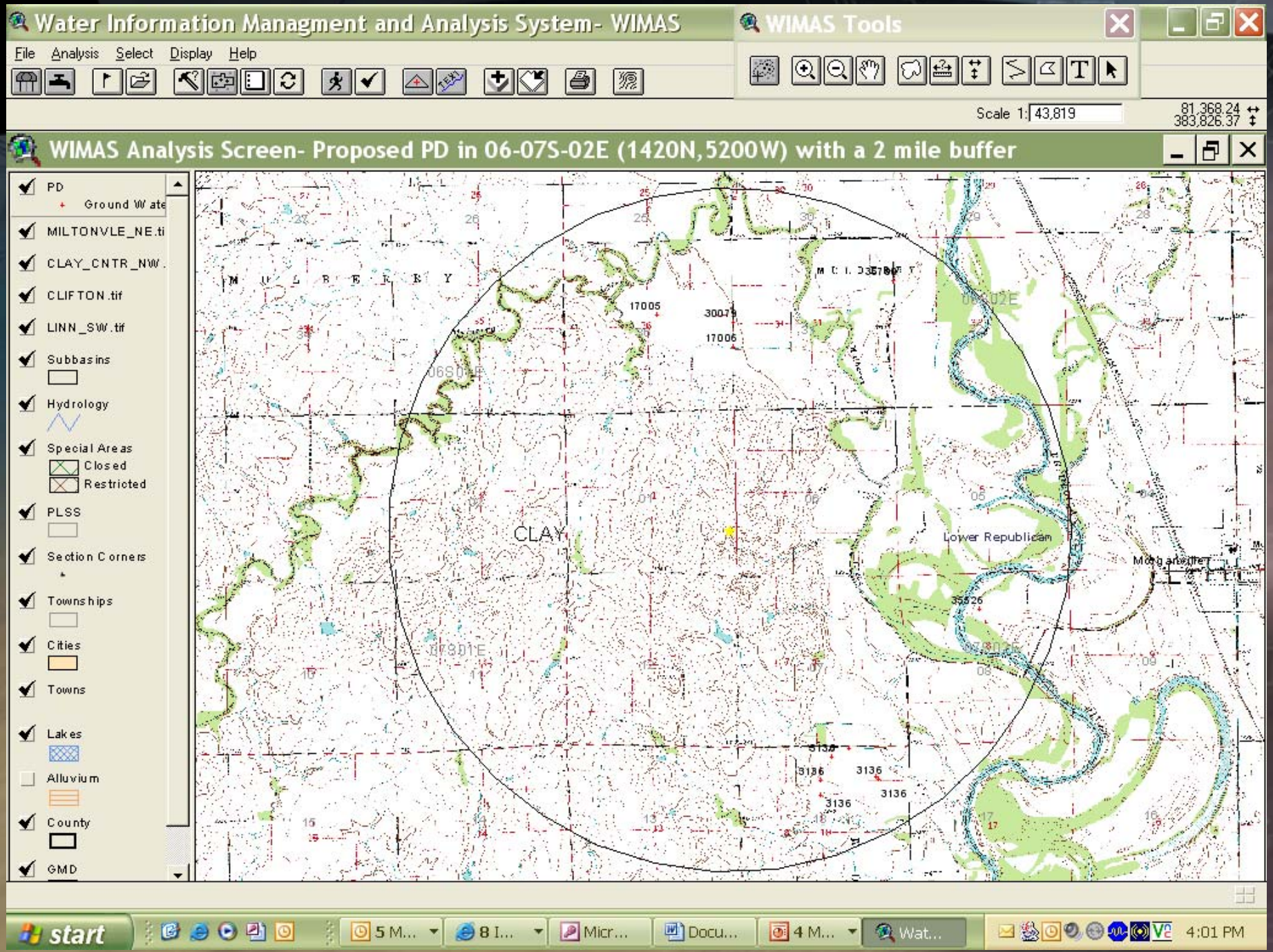
Kansas Department of Agriculture

Water Information Management and Analysis System (WIMAS) for ArcView

Version 4
June 1998

Division of Water Resources
Technical Services Section

start 5 M 8 I. Mi... Do... 4 M W... wi... 4:04 PM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File Analysis Select Display Help
WIMAS Tools
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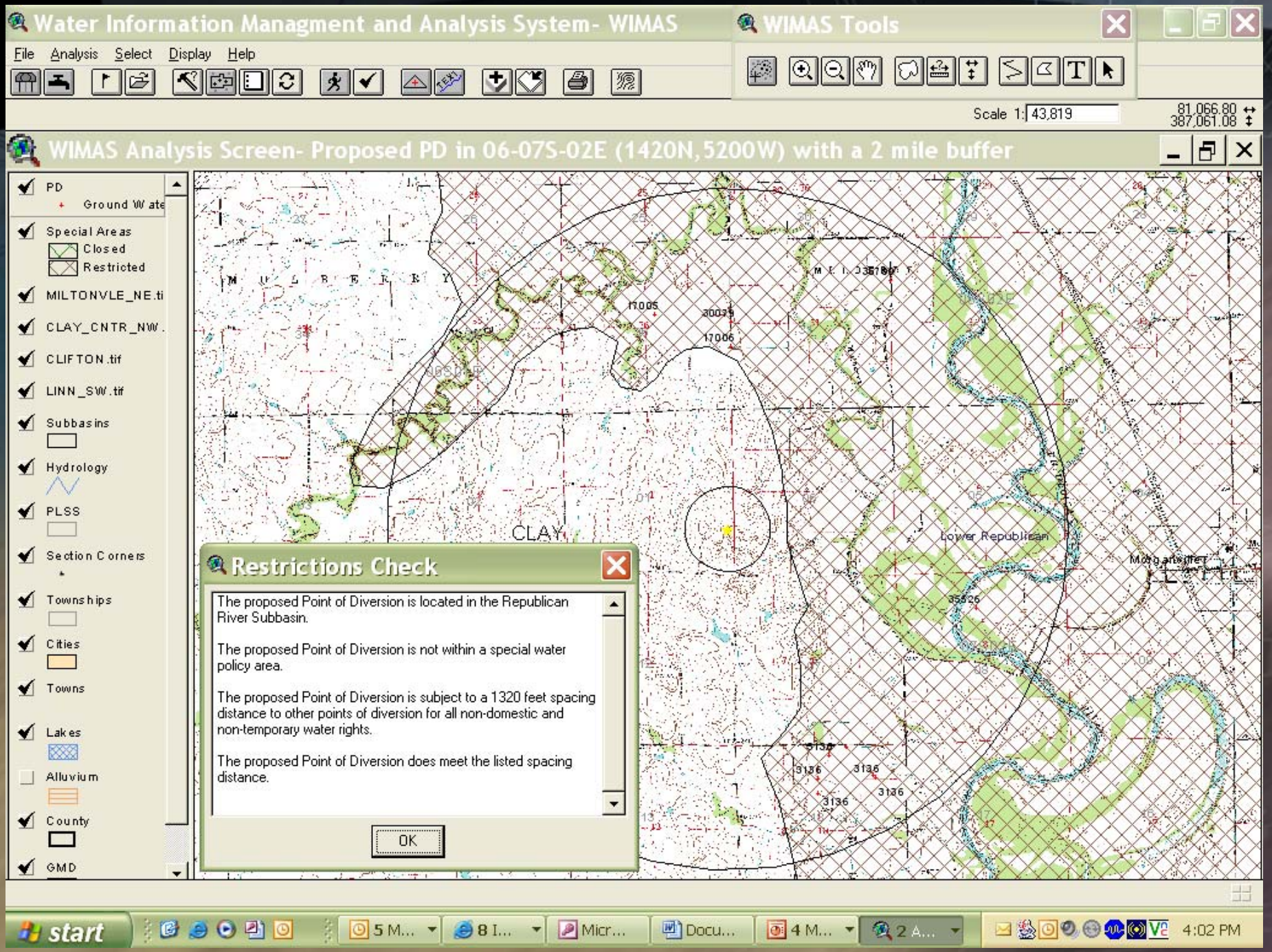
383,826.37
WIMAS Analysis Screen- Proposed PD in 06-07S-02E (1420N,5200W) with a 2 mile buffer
PD
Ground Wate
MILTONVLE_NE.ti
CLAY_CNTR_NW.
CLIFTON.tif
LINN_SW.tif
Subbasins
Hydrology
Special Areas
Closed
Restricted
PLSS
Section Corners
Townships
Cities
Towns
Lakes
Alluvium
County
GMD
CLAY
Lower Republican
17005
30079
17006
3136
start
4:01 PM


Water Information Managment and Analysis System- WIMAS
File Analysis Select Display Help
WIMAS Tools
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387,061.08
WIMAS Analysis Screen- Proposed PD in 06-07S-02E (1420N,5200W) with a 2 mile buffer
PD
Ground Wate
Special Areas
Closed
Restricted
MILTONVLE_NE.ti
CLAY_CNTR_NW.
CLIFTON.tif
LINN_SW.tif
Subbasins
Hydrology
PLSS
Section Corners
Townships
Cities
Towns
Lakes
Alluvium
County
GMD
MILLBERRY
CLAY
Lower Republican
Restrictions Check
The proposed Point of Diversion is located in the Republican River Subbasin.
The proposed Point of Diversion is not within a special water policy area.
The proposed Point of Diversion is subject to a 1320 feet spacing distance to other points of diversion for all non-domestic and non-temporary water rights.
The proposed Point of Diversion does meet the listed spacing distance.
OK
start
4:02 PM

wimas.txt - WordPad

File Edit View Insert Format Help

Safe Yield Report Sheet.
Proposed Pd In 06-07s-02e (1420n,5200w) With A 2 Mile Buffer.

Analysis Results

The selected PD is in an area OPEN to new appropriations.
The safe yield, based on the variables listed below, is 1251.61 AF.
Total prior appropriations in the circle is 951.00 AF.
Total quantity of water available for appropriation is 300.61 AF.

Safe Yield Variables

The area used for the analysis is set at 8042 acres.
The potential annual recharge of the area is estimated to be 2.49 inches.
The percent of calculated recharge available for appropriation is 75 %.

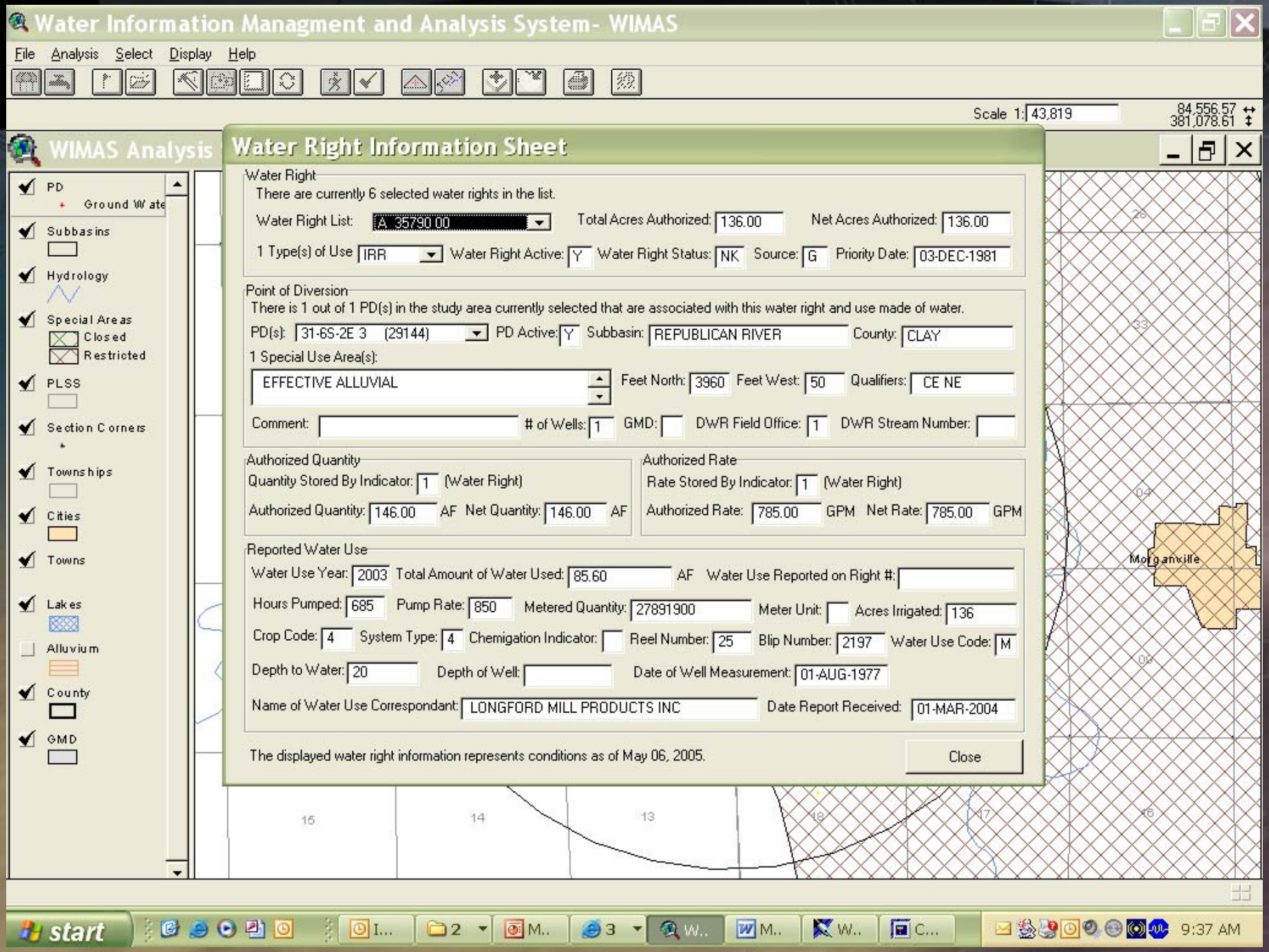
Authorized Quantity values are as of Apr 27, 2005 and are based on Appropriated and Vested
ground water rights and possible stream nodes for GMDs. Domestic, Term and Temporary
water rights have been excluded.

There are 6 water right(s) and 9 point(s) of diversion within the circle.

File Number	Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth_Quant	Add_Quant	Tacres	Nacres
A 3136 00	IRR	NK	G		NE	NW	NE	5203	1825	18	7	2E	7	WR	218.00	218.00	147.00	147.00
Same					NE	SE	NW	3731	2692	18	7	2E	6					
Same					SE	NE	NW	4197	2689	18	7	2E	3					
Same					SW	NE	NE	4208	896	18	7	2E	1					
A 17005 00	IRR	NK	G		SW	SW	NE			36	6	1E	1	WR	194.00	194.00	100.00	100.00
A 17006 00	IRR	NK	G		SW	NW	SW			31	6	2E	1	WR	220.00	220.00	130.00	130.00
A 30079 00	IRR	NK	G		SW	SW	NW	2686	4973	31	6	2E	2	WR	165.00	165.00	119.15	119.15
A 35526 00	IRR	NK	G		SE	NE	NW	4041	2867	8	7	2E	1	WR	8.00	8.00	6.00	6.00
A 35790 00	IRR	NK	G			CE	NE	3960	50	31	6	2E	3	WR	146.00	146.00	136.00	136.00

For Help, press F1 NUM

start 5 M 8 I. Mi... Do... 4 M W... wi... 4:03 PM


Water Information Managment and Analysis System- WIMAS
File Analysis Select Display Help
Scale 1: 43,819
84,556.57
381,078.61
WIMAS Analysis
PD
Ground Wate
Subbasins
Hydrology
Special Areas
Closed
Restricted
PLSS
Section Corners
Townships
Cities
Towns
Lakes
Alluvium
County
GMD
Water Right Information Sheet
Water Right
There are currently 6 selected water rights in the list.
Water Right List: A 35790.00
Total Acres Authorized: 136.00
Net Acres Authorized: 136.00
1 Type(s) of Use IRR
Water Right Active: Y
Water Right Status: NK
Source: G
Priority Date: 03-DEC-1981
Point of Diversion
There is 1 out of 1 PD(s) in the study area currently selected that are associated with this water right and use made of water.
PD(s): 31-6S-2E 3 (29144)
PD Active: Y
Subbasin: REPUBLICAN RIVER
County: CLAY
1 Special Use Area(s):
EFFECTIVE ALLUVIAL
Feet North: 3960
Feet West: 50
Qualifiers: CE NE
Comment:
# of Wells: 1
GMD:
DWR Field Office: 1
DWR Stream Number:
Authorized Quantity
Quantity Stored By Indicator: 1 (Water Right)
Authorized Quantity: 146.00 AF
Net Quantity: 146.00 AF
Authorized Rate
Rate Stored By Indicator: 1 (Water Right)
Authorized Rate: 785.00 GPM
Net Rate: 785.00 GPM
Reported Water Use
Water Use Year: 2003
Total Amount of Water Used: 85.60 AF
Water Use Reported on Right #:
Hours Pumped: 685
Pump Rate: 850
Metered Quantity: 27891900
Meter Unit:
Acres Irrigated: 136
Crop Code: 4
System Type: 4
Chemigation Indicator:
Reel Number: 25
Blip Number: 2197
Water Use Code: M
Depth to Water: 20
Depth of Well:
Date of Well Measurement: 01-AUG-1977
Name of Water Use Correspondant: LONGFORD MILL PRODUCTS INC
Date Report Received: 01-MAR-2004
The displayed water right information represents conditions as of May 06, 2005.
Close
Morganville
start
9:37 AM

Kansas Department of Agriculture

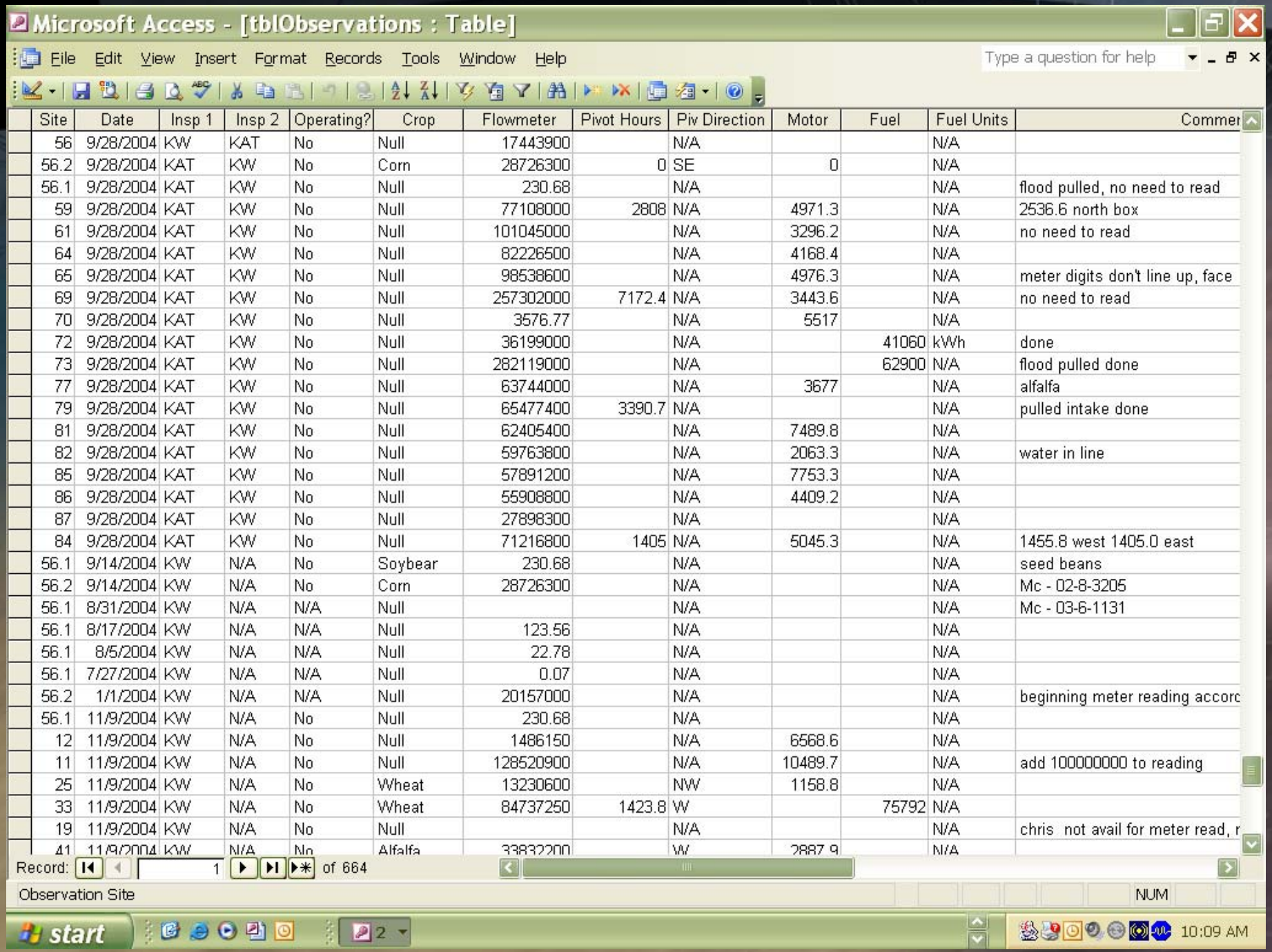
Division of Water Resources

TECHNOLOGY AND ON-LINE APPLICATIONS AND RECORDS MANAGEMENT


POCKET PC TECHNOLOGY


Pocket PC
TFO MDS
11:13
Site Id:
38
Site:
File 39306
Source:
GW
Assoc Files:
39306
Mtr Units:
Gal
Name:
McMahan
Auth Gal:
20007251
MDS Relief:
Manufacture:
McCrometer
Auth AF:
61.4
Model:
N/A
Auth GPM:
700
Comments:
new meter at zero, approved 7-19-04
Serial:
90-8-1557N
System:
Pivot
File Program


Pocket PC
TFO MDS
11:15
Site Id:
38
Operating:
No
Fuel Units:
kWh
Date:
4/22/2005
Pivot Hrs:
5032
Fuel Used:
7637
Inspector 1:
BGW
Pivot Dir:
S
Comments:
Inspector 2:
BLB
Crop:
Multiple
Motor:
4910
Mtr Reading:
8702500
Save
Prev Mtr:
2202500
Prev Date:
07/15/2004
Difference:
6500000
File Program



Site	Date	Insp 1	Insp 2	Operating?	Crop	Flowmeter	Pivot Hours	Piv Direction	Motor	Fuel	Fuel Units	Commer
56	9/28/2004	KW	KAT	No	Null	17443900		N/A			N/A	
56.2	9/28/2004	KAT	KW	No	Corn	28726300	0	SE	0		N/A	
56.1	9/28/2004	KAT	KW	No	Null	230.68		N/A			N/A	flood pulled, no need to read
59	9/28/2004	KAT	KW	No	Null	77108000	2808	N/A	4971.3		N/A	2536.6 north box
61	9/28/2004	KAT	KW	No	Null	101045000		N/A	3296.2		N/A	no need to read
64	9/28/2004	KAT	KW	No	Null	82226500		N/A	4168.4		N/A	
65	9/28/2004	KAT	KW	No	Null	98538600		N/A	4976.3		N/A	meter digits don't line up, face
69	9/28/2004	KAT	KW	No	Null	257302000	7172.4	N/A	3443.6		N/A	no need to read
70	9/28/2004	KAT	KW	No	Null	3576.77		N/A	5517		N/A	
72	9/28/2004	KAT	KW	No	Null	36199000		N/A		41060	kWh	done
73	9/28/2004	KAT	KW	No	Null	282119000		N/A		62900	N/A	flood pulled done
77	9/28/2004	KAT	KW	No	Null	63744000		N/A	3677		N/A	alfalfa
79	9/28/2004	KAT	KW	No	Null	65477400	3390.7	N/A			N/A	pulled intake done
81	9/28/2004	KAT	KW	No	Null	62405400		N/A	7489.8		N/A	
82	9/28/2004	KAT	KW	No	Null	59763800		N/A	2063.3		N/A	water in line
85	9/28/2004	KAT	KW	No	Null	57891200		N/A	7753.3		N/A	
86	9/28/2004	KAT	KW	No	Null	55908800		N/A	4409.2		N/A	
87	9/28/2004	KAT	KW	No	Null	27898300		N/A			N/A	
84	9/28/2004	KAT	KW	No	Null	71216800	1405	N/A	5045.3		N/A	1455.8 west 1405.0 east
56.1	9/14/2004	KW	N/A	No	Soybear	230.68		N/A			N/A	seed beans
56.2	9/14/2004	KW	N/A	No	Corn	28726300		N/A			N/A	Mc - 02-8-3205
56.1	8/31/2004	KW	N/A	N/A	Null			N/A			N/A	Mc - 03-6-1131
56.1	8/17/2004	KW	N/A	N/A	Null	123.56		N/A			N/A	
56.1	8/5/2004	KW	N/A	N/A	Null	22.78		N/A			N/A	
56.1	7/27/2004	KW	N/A	N/A	Null	0.07		N/A			N/A	
56.2	1/1/2004	KW	N/A	N/A	Null	20157000		N/A			N/A	beginning meter reading accorc
56.1	11/9/2004	KW	N/A	No	Null	230.68		N/A			N/A	
12	11/9/2004	KW	N/A	No	Null	1486150		N/A	6568.6		N/A	
11	11/9/2004	KW	N/A	No	Null	128520900		N/A	10489.7		N/A	add 100000000 to reading
25	11/9/2004	KW	N/A	No	Wheat	13230600		NW	1158.8		N/A	
33	11/9/2004	KW	N/A	No	Wheat	84737250	1423.8	W		75792	N/A	
19	11/9/2004	KW	N/A	No	Null			N/A			N/A	chris not avail for meter read, r
41	11/9/2004	KW	N/A	No	Alfalfa	33832200		W	2887.9		N/A	