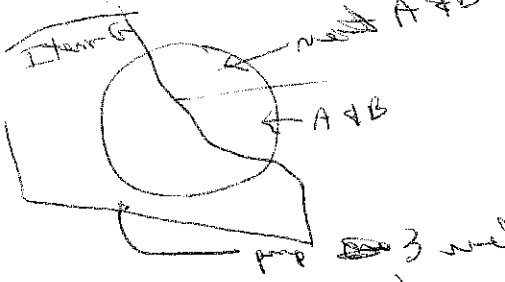
Rich R. document
Hydrof 55

Area 1



3 wells serve this area
through a pipe system (1 private well)
"mixes"

Unit B includes non-A & B loads, private, etc.
Unit A is more detailed
Q - [illegible] for unit B?
= pow. A-B id. ahg from - HDR - roughly
"shouldn't be used for [illegible]?

ox phos - no real shortage - mitigated
through wells deepened - etc...
- John Kirkey (HDR)

Meeting w/ Dan Temple

- when note "lost cuttings" means producing zone.
- some pumps produce 5,000 gpm
- target/goal of 3,000 gpm
- 47 wells since 1980 deepened.
- all abandoned wells were due to to low yield.
- initially the abandoned wells met needs.

Dan - sand problems on west end, but some on east side w/ problem of sand, we didn't have sand problem until they deepened the well.

Dan - before '95 no sand problems he's aware of.

Dan (*) - some will show increase of capacity with deepening.

Dan (*) - some will not "

Self initiated

- sprinkler conversion
- pipelines
- deepening wells
-

Dan - "wells may have improved w/ drilling deeper."

A&B 1260

1/4/08

A+B meeting

Area 1: Pivot bisected by item-9 polygon ~~[illegible]~~ has its out of poly area watered by a private well near the A+B well.

Δ7

> Gravity polygon coincident w/ ~~water~~ item-9 polygon: Not surprising. A+B has no authority to determine application method.

> irrig on Fed land – lot of people have leases.

> ~~spilt~~

All the above

DIANA WARBURTON

DAN NOT A PG OR PE

1/4/08 @ 1:00 P.m

Questions for Dan Temple (we must notify Dan that we may use his responses as Findings of Fact).

Returns in general. → NOW A CLOSED SYSTEM OR REUSED OR WETLANDS SEPARATE ACCOUNT FOR PUMP FAILURES

1) How much return flow water is reused and how much is not reused?

2) Do you have geologic or geochemical evidence that any of your wells reach the bottom of the ESPA (i.e., into rhyolite or non-interbed sediment).

3) Was a hydrogeologic assessment performed?

4) Where are production zones? Driller's logs. No consultant. Cuttings only – no test until following spring.

5) Are there data establishing productivity versus depth? Is there evidence that you've run out of aquifer?

6) Expansions.

7) Did A&B drill small diameter test borings along the southern boundary of the A&B district in advance of production wells as recommended by Nace (1948, p. 40)?

8) Arable = 66,664 acres (p. 73)
   a) Irrigable = 64,000 acres (p. 75) and productive = 60,160 acres (p.75).

9) How was initial TD determined? Was recommendation from Definite Plan to go to 85 feet considered?

10) What does well rectification (p. 6 of Motion to Proceed) include? What other O&M costs for irrigation facilities are there (p. 95 of Definite Plan)?

11) How many wetlands do you have associated with Unit B? Is there a way that we could get a shapefile coverage for wetlands?

— NOT TRYING TO HIT A PRODUCTION ZONE — JUST TRYING TO MAINTAIN HEAD ABOVE THE PUMP INTAKE

— DAN'S BEEN MANAGER 10 YEARS & ELECTRICAL/MECHANICAL BRANCH FOR 30 YRS

* SANDING AFTER 1995 BUT NOT BEFORE

3 OR 4 REPLACEMENTS = ROTARY – EVERYTHING ELSE CABLE TOOL

ABANDONED MID-1990, THROUGH 2001

INADEQUATE YIELD

* SAND PROBLEMS WITH DEEPENED WELLS ONLY

30-40 50 to 60' may WEST 1/3

25-30 35-40 MAY

[illegible] 35-40 MAY

A&B 1262

— HISTORically DIVERTED more THAN 0.75 INCH) TOM & DAN
— HISTORically DIVERTED 1,100 CFS

RIGHT IS FOR 0.88 INCH

0.75 IS CUTOFF FOR ITEM G LANDS

175 WELLS

SOME USER (A SMALL %) CAN SHIFT TO A DIFFERENT WELL

→ TOM LUCK SAID THAT VIRGIL TEMPLE SAID CAN ONLY DELIVER 0.75 INCH SO COULD NOT HAVE DELIVERED 0.88 INCH = 1,100 CFS ?

→ in 1972 DAN → 1,095 OR 1,098 CFS

— 1962 OR 1963 WAS END OF PROJECT DEVELOPMENT PER DAN
IF TOOK 1965-1970 JULY VALUES & DIVIDE IT BY TOTAL # OF ACRES → IS THAT A REASONABLE WAY

— DO YOU HAVE CROP YIELD DATA TO SUPPORT INJURY TO CROPS → DAN SAYS THERE IS HEARSAY EVIDENCE OF THIS → SOME FARMERS WILLY COULD TESTIFY TO THIS

AMOUNT PUMPED, AMOUNT DELIVERED @ HEADGATE CIPOLETTI WEIR
→ CIPOLETTI WEIR FROM PUMP

PRESSURIZED SYSTEM HAS FLOW METER THAT'S MEASURED 6 DAYS/WEEK

DAN ON PUMPS — "IT'S ABOUT MY HEAD, BUT IT DEPENDS ON THE PUMP" ← 10 FEET OF DRAWDOWN MAY CAUSE A DECREASE IN YIELD IN SOME WELLS BUT NOT FOR ANOTHER (PUMP).

A&B 1263

☆ 1 of 7 WELLS WAS ABANDONED BECAUSE CROOKED HOLE (@ EAST)

MOST OF WELLS HAVE BEEN "ABANDONED" WITH GROUT — JUST ABANDONED IN TERMS OF OPERATION

78 INJECTION WELLS → RECORD BECAUSE OF WATER QUALITY, NOT BECAUSE OF SHUTTING

DAN - MAYBE CALL BECAUSE RIGHT NOT BEING RELEASED & HAVE SHUTTING CROP LOSS ??

— DID USBR SUBSIDIZE DRAINAGE & DRAIN WELL RECTIFICATION EFFORTS?

— DAN IS THE WHOLEMAN

22-139 100 sheets

1) 97% SPRINKLER EFFICIENCY
2) PIPELINES
3) DEEPENED WELLS

DAN, DIANA

8 REMAINING INJECTION WELLS FOR FLOOD FLOWS ONLY → NOT AG

— DUMPING SANDS

62,604.3 UNDER 1948 RIGHT ← DECREE
2063 UNDER 1960 BENEFICIAL USE RIGHT
64,667.3 ACRES

CALC

91 EXPANSION ACRES NOT PART OF CALC

64,667.3

ITEM D → SYSTEM ACREAGE.XLS

CLASSIFIED "IRRIGABLE"

160 → 133

FOF → NO EVIDENCE PROVIDED OF MATERIAL INJURY → CROP LOSS/PRODUCTIVITY/YIELD

NOT ALLEGING THAT THERE SHORT → ALLEGING THAT THEY'VE EXPENDED TONS OF MONEY TO KEEP THEMSELVES WHOLE (KORENY)

IF HAD $10 MILLION — WILL NOT BE SHORT (KORENY)

FOF — GW DECLINES CLEAR ACROSS PLAIN

FOF — FOR DAN TEMPLE, CALCULATION OF SHORTFALL BASED ON "IRRIGABLE LAND" ACREAGE CLASSIFIED AS VERSUS "PRODUCTIVE LAND" & FOR EXAMPLE, EXCLUDES CORNERS

FOF — NOT A PG/PE INVOLVED IN REDESIGN EFFORTS

FOF — DRAIN WELL RECTIFICATIONS DONE FOR WQ PURPOSES → NOT FOR SHORTAGE AS ALLEGED IN MOTION TO PROCEED SUC SUMMARY

FOF — THERE HAVE BEEN ENHANCEMENTS

ISAF 825

A&B 1267

1/4/2008

Dan Temple

Diana Warburton

Rick Raymond

Bill Kramber

Tim Luke

Tony Morse

Allan Wylie

John Karony (by Phone)

John Lundgren

Sean Vincent

Neal Farmer

1) zones of productivity
where they lost cuttings

2) drilled ① to lower pump
② loss in productivity

- sometimes found no more water
- no consultant

Loss of withing

- no record of pump tests
- valve back to where well would yield
  staff

since 1997, ~~6~~ - 8 replacement wells
3-4 replacent rotary

how deep to go
most wells deepened in 60, 70s,
- need safe operating yield over pumps intake (maintain head over)
- 47 wells since 1980 deepened

thinks most of yield have been penetrated
west end sediments layered in basalts
most productive part is upper

- deepening done with cable
- abandonment

1/2 3-4 drilled 800' + not good producers
1/2 started 1995 declines decided not to deepen

surface water brought in

max declines in west 1/3

A&B 1270

- sand pumping in west end
  some - east end
- go deeper, then you hit sand
  before 1995 - no sand problem

→ Allan
supply data that shows as you deeper
the yield doesn't go up

} some will show increase
} few they could show

John K
major complaint is District needs to provide
certain amount of water, WT ↓,
need to self mitigate

} sprinklers
pipelines
deeper wells
] → costs to offset declines in GW levels

last 3, 4, 5 years spending $500K/yr
fix them, they drop off the list

Improvements - provide a supply, costly

* get A&B the reclamation CD's

mid 95's each year cost for well rectification
budget → costs for water level declines

A&B 1271

cost share with Reclamation
to close 7 drainage wells

eliminate all returns,
via piping

2000 acres supplied by re-using
returns

now supplement with
production wells

97% sprinkler

not much return flow

2 used

ET data

---

call

acreage served by well systems

UNIT B 66,686.2 total
acres

62,604.3 1948 right

2063 enlargement

64.6 call

1948 + beneficial use - call
64,600

3/4"

Not alleging short - alleging spending tons of $

Dan - there are shortages to keep selves whole

- original polygons
- could have encroached on Burman land
- Reclamation knocks on doors

Gravity / Sprinkler

some mistakes

1500 acres gravity

district has no control over water uses or facilities or crops as long as beneficial uses

calling on their right A&B 1273

not alleging 3/4" on full supply

3/4" inferred inch

1100" cfs — diverted historically

records confirm more than 3/4" historically

acres

.88" acres

1972 1095 cfs

.88 acre

.75 when you start repair re-habilitate

Item 6 - lands where .75 is not delivered

1962/3 completed the project

1987 enlargement claims

Dan
folks Diane

hearsay people are suffering

- cippoletti weirs measuring to determine conveyance
  operational waste
  } wasteway

- paired wells (larger + smaller well)
  run simultaneously if demand required

- sand is a big issue
- crooked well, redrill
  } abandon

- 2 wetlands
  off 2 D & F drainage

A & B paid a portion of improvement, include drain well

drain well rehabilitation

- closure & change delivery system

some wells 50% open discharge

4% loss

IM LUKE
MEETING NOTES

1-4-2008 Mtg w/ DAN Temple A&B Irrig Dist
also participating DIANA (secty) & John Koreny
of HDR (by Phone)
Answers to ques of mine or related

- G wells under 75 is supposed to be synonomous w/ wells shortages by year over last couple of years. Koreny acknowledged there may be a couple of differences. DAN said the G wells under 75 are current as of end of 2006, this last changes based on work they do.

- Drain wells are being eliminated — only ≈ 6 left for they do use some return flows in Re-lift's. Flood water only → No Ag flows

- # Acres ~~per well~~ unit B total 66,686.2
62,604 = 1948 right.
For CALL = 64,600
orig 48 rt + Bu rights
All AB - id Dan said was done by Danielle
Acreage per system does not include expansion & B/U acres.

Not alleging they are tremendously short, just that they are spending tons of money to maintain system.

~~some~~ A&B Acreage/system is irrig land classification - may not represent actual # irrig acres. I used 160 parcel irrig w/ 133 ac pivot w/ no corners, in their analysis, they would use 160 ac as system cars

includes losses?

0.88 is what is needed?

3/4" is not criteria for call, they are

A&B 1277

Pumped Amt - oper spill - est HG div.
est HG means over cip weir.
water spec meters

oper loss = spill water not going to lateral & HG's.

Jeff - Questions
include Bullet on enlargement acres.
maybe encroachment.

Questions for Dan Temple 1-4-08 Mtg. w/ Dan, Diana Warburton & John Koreny (by phone)

1. Define "Low Pump Rate Under Discharge (typical of mid-season pumping rate)" in the Well Systems with Delivery Shortages by Year spreadsheet. How were the rates determined? *(Dan answered this question on 1/2/08)*

2. In the same spreadsheet above, how were conveyance losses determined? Cip weir @ pump & each AB is meas. out to the user.

3. In calculating shortages in the same spreadsheet above, did A&B consider use of any private wells providing water to some or a portion of the same fields?

4. How was the 0.75 miner's inch minimum irrigation requirement determined, or what is the basis for that requirement? Do A&B records confirm that 0.75 inches has historically been delivered to field HG (example, during the 1960's or at any other time)? they say yes

5. How many acres were irrigated by ground water each year since 1960? Are these data available?

6. Explain AB POU shape file, why do the POU's not follow field boundaries and often cut across pivots or other irrigated fields. This same question applies to the Item-G-Lands GIS file. Additionally, why are AB POU shapes/fields and acreages generally different than the fields/acreages given for the shortages? *(Same question will be posed by Tony)*

7. The AB POU GIS shape file shows that the total acres in Unit B is 69,381 (Unit value is null and 6 records = B). System Acreage file shows total acreage to be 66,088, while the Unit B Sprinkler Acres spreadsheet shows the total acres to be 64,600 acres. This represents a spread of 4,781 acres. What is the correct number of acres in Unit B irrigated by ground water? Does the System Acreage file include other systems or water sources besides ground water?

Explain status of 153825 & is comb w/ 15AB825 in POD use

8. For the 39 wells or pump systems that A&B says experience shortages (see G-WellsLandsUnder75.xls) that are also identified in the A&B summary "Well System Delivery Shortages by Year", total acreage is about 17,227 acres (or may be 18,525 including pump system 15AC825, which is identified on the list of 39 wells but not the Shortages by Year spreadsheet). The total acreage identified in the A&B GIS table (Item-G-Lands) for the lands that A&B claims does not provide the minimum amount of water required for irrigation is 22,663 acres. As a result, there is a discrepancy of at least 4,138 acres, or as much as 5,436 acres in the data submitted by A&B.

9. Why are there some differences in total acres reported for pump systems in the Well Systems Shortage spreadsheet and the System Acreage spreadsheet? Is the difference due to the enlargement acres? Is the Acreage per System values in the Well Systems Shortage spreadsheet equivalent to total acres less the enlargement acres? yes

10. Please advise us as to the correct number of acres for pump system 7AB922. The Well Systems Shortage by Year spreadsheet reports 1036 acres from 2004 to 2006, but only

7AB922 - Acres were ↑ to 1036

1 A.921

931 acres in 2007. The total acres reported for this system is 979 in the System Acreage spreadsheet, with enlargement acres being 48.

11. Please provide further explanation of the head gate deliveries in the Headgate Deliveries by Year spreadsheets (text explanation page is confusing).

12. A&B submitted a list of 39 wells it says do not provide minimum irrigation requirement yet the Well Systems with Delivery Shortages by Year spreadsheet includes additional wells. Please explain the discrepancy.

13. Does A&B still operate paired wells that are equipped with pumps having capacities of 1/3 and 2/3 of peak delivery requirements for acreage served by the wells? How does A&B currently operate paired wells?

14. Can you generally describe how irrigations systems and their efficiencies may have changed over time?

15. Are there trends in crop types grown over the period of years? Does A&B either have or can they get crop types for fields that they say are short of water in recent years? Is it possible to get crop yields for any or all of the shorted lands?

16. Ask about valving – could wells be pumped to ponds & re-lift.

0.88" ?

BOR reports say you can't deliver > 0.75"

1 more yes

Ask about 1100 cfs

Valving vs. open Q in old days