8/22/12

Rangen

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Farmer interview

Mary ~~[illegible]~~ – reception at Racine et al

Farmer, Blew, – see notes

Neil, Chuck Brendecke, Bern, Chuck Brockway, Greg S. (phone) Dave Holm (LRE)

7, in our request – he dumped all sorts of stuff to DVD

also on the DVD are – another field guide

– USGS stuff

– NASA Box Canyon study (LIDAR)

– a water symposium field trip he did

the deep aquifer [passive recharge]?

Chuck Brockway

was a Rangen proposal

NN one got drilled 700', the "VofI" on Fig 2

lots of sed, collapsed, made a monitor well of it

no difference in WLs high vs low as drilled

~~[illegible]~~ [show big the log] – open hole, air → ~~[illegible]~~ poor

strat control → sed collapse made cuttings problem on to TD

3 benches in canyon: 1st above river

not sure of strat, not 2nd above Thousand springs

sure of lower basalt 3rd above the rim

is T_b

– thinks very little sediment layer in Smith well.

T_{gf} seds are either eroded off Hangerman bench or

dropped down (graben)

T_{rg} represents the "draining of the lake" (that deposited

T_{gf})

yes, could be a fault scarp along the rim, another at Thousand Springs; both west-side-down pre-Q_b, post T_{gf}

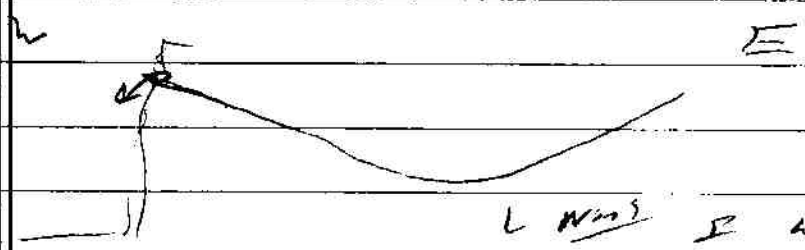
he'd go w/ Gillermen's T_{gf} mapping, noting that it's all inferred from sporadic outcrops exposure

Hagerman valley may be graben (faulting & erosion)

also a monocline SW of Hagerman, dipping down into valley. — see dips in sed beds — obvious in field

angular unconformity between T_{gf} & Yahoo seds, but Yahoo is dipping as well

at Malad:



yes, like this

E had a W-E cross section in one of the tracer studies

Chuck Brockley

T_{gf} further east? would come back up?

Nims

yes comes back up at gorge — don't know here

who? — folks have mapped it clear to Twin Falls / the core wall (USGS)? — "nobody knows if it's T_{gf} or not."

seds accumulate behind lava dams, like every time get a new flow → lots of interbedded seds [w/ small lateral extent]

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Niel says his 3-layer model fits w/ Ralston's [in answer to question from Brockway] as best he remembers

temp LEC data? not much confidence in either

wells ~all domestic → all ~30' below WL →

similar depths for temp & cond., so consistent to that extent

temp map in "Conklin"

warm water ELN is canal/river water

Mehl River is well ag runoff → warm

cold trough extending east is all BLM land →

no warm water input from eng. "This extends

clear to Shoshone." — may suggest an eastward turn

to the paleo-canyon

"Campbell" well is an anomaly [too hot] — would like to try this

one again

EC: "seems erratic" "don't know what drives it"

[what report?] → Brockway "2 aquifers" from DEQ report

Niel the DEQ theorized local & regional flow system

~~current activities~~

younger gray basalts
older brown T_b
then lots of sets,
i.e. within T_b
at Clear ~~Springs~~ waters

yes T_b "is a barrier", "but it's not the end."

the "brown basalt" ~~[illegible]~~ has sets in it, which

carry water. yes, the old basalt has water, but

not much

the well-exposed brown basalt from Clear Springs to Niagara

precludes springs [a barrier]

Brockway
INEL gay figured Tb gets denser & denser w/ depth. "I agree w/ that"

Noel
stories of places where dry holes over and over but did tracer test in perched aquifer on west side across from Hagerman in basalt within Tgf that had ~~[illegible]~~ gw flow like crazy

[find guys?] Brockway
in Blue Gulch area, are high-Q Tb wells
l.s. of Bell Rapids, out towards Murphy

→ Noel
can't think of any high-Q Tb wells [in answer to my question]

his notion of 3-layer "aquifer" is that there is saturated material, and must flow, below Qb
thinks "more potential for k in Tb than folks give them "credit for"
the "Shoestring Basalt" [Tb] on west side
sure isn't tight.

[sounds like most of quickly is not as low k as folks think] [these guys refer to "the ESPA" as the main aquifer.] the Qb

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Fig 12 – "paleosol" because no Tgf characteristics (fossils, cut & fill, fining upwards, cross-bedding, olive green color, clays. Thinks layering in photo is windblown seds (not "bedrock")
Murial sand

Fig 5 – the brown bands were physically wet, i.e. perched aquifers like documented on west side of Snake
spring just north may be coming from channel into Tgf – filled w/ pillow basalt

ask Chuck - what's the Bell Rapids project's "shut off 25,000 acre irrigation" - for salmon -

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his work on vegetation indicators was all on Bell Rapids site (on west side)

[those perched aquifers show kicking out springs on top of low-K layers within Tpf]

current activity - IDWR

- currently drilling 2 monitor wells - Box Canyon parking lot
- East on the rim of Vanis Fisher Lake like east of Ranger

just shallow gw-level wells

- multiple tracer - studies in planning
  - south & east of Malad (try to follow paleo-channel back upstream)
  - down by Clear Springs

☆ "sentinel wells for ESPA"

also want to look due east of gorge

standard, "drop a logger in" wells - never do slug/pump tests

yes Tuana is undulatory too, eg, Ladder Grade & Curren

Tuana can be wide-open, coarse gravel [not like we saw], no problem w/ producing 20 cfs springflow

no program to map out paleo-topography

program is to establish gw flow paths

lost 35-40 staff members at IDWR in recent budget cuts

→ yes, Ranger well is being monitored (ask Sean Vincent)

strategy is to monitor planes in ESPA w/ WL declines and to get good distribution of WL data across the ESPA

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wells in Crows Nest gravel have gone dry since converted from ~~[illegible]~~ flood irrig to sprinkler on "ramp".

Tucker ~~[illegible]~~ spring water is some local, and water coming down the ramp in Qb units

his WL control points on ramp are in Qb

the Yahoo Clay only comes south to Sec. 3) (see NE-SW contours)

all the Thousand Springs & NW along that rim are at Qp/Tp contact — the ramp is what guides both current gw, & Qb basalt flows

Rangen ~~[illegible]~~ propped up by local irrigation seepage

he thinks pillows at Rangen area much more K than at Wendell site → his suggestion for recharge site

Curren Tunnel

has heard 200' back, then tunnel splits

appears ~~[illegible]~~ angles off the north; thats why MW missed it.

his monitor well is off the center of channel.

Brockway — was been talk of extending ~~the~~ the tunnel — not sure would work here

— if tunnel preceded rim irrigation, why flowed at all — Dreyer thinks didn't

Neal — maybe was a spring in gravels [i.e. lower]

he will provide → V of Id geophysics "report" — didn't say much, hole collapsed

→ they never integrated his synoptic WLs in the ESPAM 2008 WL map

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~~[illegible] - check [illegible] data set~~

or will be?

his synoptic data is on the DVD

→ next spring an ESPA-wide synoptic is scheduled

check this [illegible] - should be a subfolder on web for the rest of pages of 2009 Mailed Gauge report.

[✓] - Bern to send list of items to be supplied (to augment the DVD)

run this post check

[✓ synoptic WLs - 2008, ... 2011

✓ geophysics study?

✓ rest of reports (Rangeny Mailed) — ask Emily about links

✓ all Rangeny MW WL data] — ask Emily?

mapping of Tyf to Twins Falls

look in detail at ESPAM2 distribution of net recharge in near-Rangeny cells - cf. Northside data.

✓ PE2 EC report

[ ] followup on the new sentinel wells