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# CONVERSATION RECORD

TIME 11:00

DATE 10/11/85

TYPE  VISIT  CONFERENCE  TELEPHONE

INCOMING  OUTGOING

ROUTING	
NAME/SYMBOL	INT
NColeman	
MFliegel	
JLinehan	
WM File 101	
PJustus	

PDR  
LPDR

Location of Visit/Conference: Richland, WA to Silver Spring, MD

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU: Sue Price, Bill Price, Maury Veatch

WM Reservation (Office, dept., Bureau, etc.): RHO-BWIP

WM Project Docket No.: PDRS, 444-2421

SUBJECT: DRILLING COMPLICATIONS AT DC-23

Distribution: (Return to WM 623-SS)

LPDR

### SUMMARY

In response to my inquiries, RHO returned my calls to communicate recent information from the drilling of DC-23 (Grande Ronde). I told RHO that On-site Rep. F. Robert Cook had informed me earlier that the drilling of DC-23 had been complicated by large mud losses that occurred while drilling through the Rosalia Flow of the Priest Rapids Member of the Upper Wanapum Basalt. According to Veatch, RHO lost more drilling mud than they anticipated indicating the higher transmissivity of the Rosalia Flow. When mud levels dropped in the hole, RHO experienced some caving in the Mabton and Selah Interbeds. RHO then installed an intermittent drill string and cemented the Mabton and Selah Interbeds off to correct the caving. During the corrective measures, which took 4 to 5 days, the average mud loss in the hole was 15 gpm (daily average). The maximum mud loss in any 24 hour period was 600 barrels (25,200 gallons) on September 1985. After the borehole stabilized, RHO continued to drill through the Wanapum Basalt down to the Vantage Interbed using the water drilling technique. Because of the complications during drilling, RHO designated this hole as the shallow (i.e., Wanapum) piezometer borehole. The other borehole in the pair (not drilled yet) will be drilled

### ACTION REQUIRED

CONSIDER FOR AGENDA OF HYDROLOGY MEETING, NOVEMBER, 1985

NAME OF PERSON DOCUMENTING CONVERSATION Michael Weber	SIGNATURE <i>Michael F. Weber</i>	DATE October 11, 1985
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### ACTION TAKEN

PENDING RECEIPT OF PROPOSED AGENDA FROM DOE.

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PDR WASTE  
WM-10 PDR

SIGNATURE <i>Michael F. Weber</i>	TITLE Hydrogeologist	DATE October 11, 1985
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Distribution:

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into the Grande Ronde, even though this hole was originally planned as a shallow hole in the Wanapum Basalt. When completed this deeper hole will be referred to as the DC-23 (Grande Ronde). The hole in which the complication occurred will be referred to as DC-23 (Wanapum). Despite the high mud losses, RHO does not consider that the losses indicate the transmissivity of the Rosalia is anomalously high at the DC-23 location.

In response to my question about the elevations of horizons encountered in the borehole, RHO (Veatch) stated that the horizon elevations do not appear to be anomalous even though they are somewhat different than the pre-drilling projections. Veatch explained that the elevations were projected assuming that interbed thicknesses would thin near the Umtanum Ridge Anticline. Based on the thickness<sup>s</sup> encountered in DC-23, however, the interbeds thicken or stay at about the same thickness as they are in DC-4 and 5. Veatch stated that they (RHO) have no reason to suspect structural offset of the horizons to explain the elevations of the horizon contacts.

RHO will use an air-mist drilling technique down through the Wanapum Basalt in drilling DC-23 (G. R.) and then switch to a water drilling technique through the Grande Ronde. RHO believes that this combination will minimize hydraulic stresses on the basalt units and interbeds in the Wanapum and Grande Ronde Basalts. To date, no perturbations have been detected in the pressures monitored in the nested piezometers (19, 20, 21) in response to the drilling of DC-23 (Wanapum).

RHO indicated that they are evaluating the data collected in response to drilling DC-23 in preparation for the upcoming BWIP Hydrology Meeting scheduled tentatively for some time in November 1985.

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Michael L. Weber 10/11/85