

# CONVERSATION RECORD

TIME  
2:00

DATE  
February 25, 1986

TYPE

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU  
Bruce Hurley (DOE); Sue Price, Ann Tallman, et al (RHO)

ORGANIZATION (Office, dept., bureau, etc.)  
DOE/RHO/BWIP

TELEPHONE NO:

ROUTING

NAME/SYMBOL	INT

SUBJECT

Multiple. Among others it includes: Near-RRL current seismicity; seismic data reports; relevance of recent professional reports; etc.  
SUMMARY

SEE ATTACHMENT

WM Record File

101.2

WM Project 10

Docket No. \_\_\_\_\_

PDR

LPDR  B

8604030293 860307  
PDR WASTE  
WM-10 PDR

Distribution:

(Return to WM, 623-SS)

ACTION REQUIRED DOE is to be notified (through letter from RP) of the NRC requested and of DOE's commitments to provide the NRC with certain information products. Near-RRL seismic activity is to be monitored.

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Harold E. Lefevre/WMGT

*Harold E. Lefevre*

*March 7, 1986*

ACTION TAKEN A follow-up to the Feb. 25, 1986 telecon was made on Feb. 27, 1986 to obtain additional information regarding the two recent earthquake swarms.

SIGNATURE

TITLE

DATE

*Harold E. Lefevre*

Engineering Geologist

*March 7, 1986*

Telephone Conversation Record  
February 25, 1986  
BWIP

A teleconference took place on this date regarding the current status of a number of RRL-related items including:

1. On-going seismic activity within 4-6 miles south and west of the RRL.
2. An NRC request that DOE provide raw data derived from RRL-specific seismic networks.
3. A current Borehole Status Chart and Location Map-availability of.
4. NRC query on the capability of DOE's Accession List.
5. A request by NRC to be appraised of DOE's planned activities resulting from a recent (December, 1985) technical paper dealing with an integrated approach to utilizing various geophysical data sets for developing a Columbia River Basalt Plateau tectonic model.
6. DOE's program plan for addressing the impact on DOE's present structural model(s) of several 1985 technical papers dealing with the Columbia Plateau crustal structure.
7. Status of DOE's program which is developing geosciences-related data set maps.
8. Request that DOE provide to NRC documents that have been officially released, but have not yet appeared on the BWIP Accessions List.

The purpose of the call was to enable DOE/RHO to provide to the NRC information regarding the status of a number of matters that had been identified by the NRC over a period of several weeks. The following individuals participated in the teleconference:

<u>NRC</u> :	M. Blackford, P. Hildenbrand, A. Ibrahim, H. Lefevre, K. McConnell
<u>DOE</u> :	B. Hurley
<u>Rockwell</u> :	F. McDonald, S. Price, N. Rasmussen, A. Rohay, A. Tallman
<u>NRC On-Site Representative</u> :	F. R. Cook

Additional details regarding the above eight items follow:

1. Seismic Activity

A series of earthquakes, the first of which occurred in late January and continuing to the present, have been reported within four to six miles south and west of the reference reporting location. Additional details regarding these events which are confined to two general locations are:

<u>Area</u>	<u>Location</u>	<u>Magnitude</u>	<u>Number of events</u>	<u>Depth</u>
1	T12N,R25E,SEC 26 (4 miles south of RRL)	1.6 Max	14	1-3km
2	T13N,R24E,SEC 33&34 (6 miles west of RRL)	Less than 1.0	6	6-7km

The location of the area #1 events (swarm) is coincident with that of a 1979 "swarm". No events are known to have occurred previously in the vicinity of the area #2 swarm.

RHO is uncertain as to the source (causative mechanism) of the events.

2. Seismic Data

Since data derived from the RHO seismic network is normally unavailable to the NRC for an extended period of months following that particular event, the NRC requested that the raw (uninterpreted) data be provided at regular, established time intervals. It is our understanding that BWIP agreed to provide the following:

1. For each report on earthquakes within the RHO network,
  - a. A station list
  - b. A crustal velocity model
  - c. Other Hypo 71 parameters
 NOTE: An example of this output is shown on Attachment A.
2. For each earthquake,
  - a. As a minimum, the data indicated by the arrow on Attachment B.
  - b. As a maximum, the data presented on the entire Attachment B.

NRC anticipates receiving this information within three months of the quarter end.

3. Borehole Status Chart

BWIP agreed to provide an update of the January 3, 1985 Borehole Status Chart and Locations Maps to include (1) boreholes completed since that date, (2) boreholes currently underway as well as (3) boreholes approved but not yet occupied by the drill rig.

This chart will be available in the near future.

4. Capability of DOE's Accession List

The question was raised by NRC regarding the ability of the DOE's computer-assisted Accessions List to identify by specific subject or keyword (e.g. geomorphology, Saddle Mountain, volcanology, etc.) those items contained in the list that pertain to that subject. BWIP agreed that such a capability would be desirable and worthwhile, but was not a priority item. The Accessions List system is not capable, at the present time, of identifying BWIP documents by keyword. NRC did not pursue the matter.

5. Integrated Approach to a Tectonic Model Using Geophysical Methods

BWIP is aware of a recent paper appearing in "Geophysics" (December, 1985) entitled "Columbia River Basalt Plateau - An integrated approach to interpretation of basalt-covered areas" by C. Prieto, C. Perkins, and E. Berkman. This paper combines interpretations using aeromagnetic, magnetotelluric, and gravity data into a single geologic model. The integration focuses along an east - west section through and eastward of the Saddle Mountains. The model suggests the presence of the Pasayten Fault, the east boundary fault of the Methow graben (a structure exposed at the Columbia River Basalt Margin some ninety miles to the north of the Saddle Mountains) underlying the basalts. BWIP is aware of the paper and has reviewed it in a cursory manner but considers it non-quantitative and consequently subject to speculation. BWIP has no short-term plans for addressing the integrated approach suggested by this paper. Sometime within the next 1½ years BWIP tentatively plans to address this matter in the form of a work product.

6. Columbia Plateau Crustal Structure

Three abstracts dealing with Columbia Plateau crustal structure based on the August, 1984 U.S. Geological Survey 260-kilometer-long refraction

survey centered on the Pasco Basin were presented in the early part of 1985 at the Eastern Section of the Seismological Society of America meeting. Because of staffing limitations, questioned validity of data and the absence of data (the USGS has not yet open-filed some of the data), BWIP has not yet placed this subject on its six month work agenda.

7. Data Set Maps

On numerous occasions both the NRC and the States of Washington, have recognized the need, because of the sheer volume of data, for consolidating data, such as various geologic (faults, lineaments, etc.) and geophysical (gravity, aeromagnetic, etc.) parameters on separate common-scale transparencies. The BWIP also acknowledges potential benefits from having such data sheets available and kept current as new information is acquired. In fact, BWIP has already been selectively entering various types of data into its computer system and presently has the capability of producing "hard" copies of some geophysical data sets. Bruce Harley of DOE indicated that he would look into the matter of data sheet compilation and would, within two-three weeks, advise NRC as to what data sheets are available. Hopefully such compilation sheets would be made available to the NRC.

8. DOE-Released Documents

Recognizing that an indeterminate delay results between the time DOE's Data/Documents Accessions List is available to the NRC, BWIP committed, on a selected basis, to provide the NRC with one, perhaps two, copies of certain critical documents. Cognizance of site-related activities, in a timely manner, is essential for NRC's review mission. This is achieved principally through acquisition of BWIP-sponsored reports. These documents would be provided to NRC when requested through writing. The request should be made of DOE's Mr. James Mecca. A report, recently-released by DOE but not yet appearing on the DOE Document/Data Accessions List, addresses the test seismic reflection survey conducted by DOE in mid-1985. The NRC requested that this report be provided through Mr. Mecca's office. BWIP agreed to do so.

HANFORD DATA FOR TESTING HYP071 1

----- PROGRAM HYP071-1 U OF W JAN 76 -----

	TEST(1)	TEST(2)	TEST(3)	TEST(4)	TEST(5)	TEST(6)	TEST(7)	TEST(8)	TEST(9)	TEST(10)	TEST(11)	TEST(12)	TEST(13)
STANDARD	.1000	10.0000	2.0000	.0500	5.0000	4.0000	-.8700	2.0000	.0035	100.0000	8.0000	.5000	1.0000
L	STN	LAT	LONG	ELV	DELAY	FMGC	XMGC	KL	PRR	CALR	IC	DATE	HRMN
1	MDW	4635.80N	11945.65W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
2	SYR	4651.78N	11937.07W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
3	OTH	4644.34N	11912.99W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
4	WAH	4645.12N	11934.68W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
5	CRF	4649.51N	11923.09W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
6	GBL	4635.86N	11927.59W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
7	ETP	4627.89N	11933.54W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
8	PDG	4614.06N	11919.05W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
9	EUK	4623.75N	11833.72W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
10	PRD	4612.75N	11941.15W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
11	PEN	4536.72N	11845.77W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
12	RSW	4623.47N	11935.32W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
13	WGW	4626.64N	11855.96W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
14	WIW	4625.93N	11917.29W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
15	HER	4550.14N	11922.85W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0
16	MFW	4554.16N	11824.35W	0	-.00	-.00	-.00-0	-.00	-.00-0	-.00-0	-.00-0	-0	-0

CRUSTAL MODEL 1

VELOCITY	DEPTH
3.700	.000
4.700	.800
5.100	1.500
5.700	6.500
6.700	12.000
7.200	24.000

-ZTR XNEAR X FAR POS IO KMS KFM IPUN IMAG --IR IPRN CODE --LATR --LONR--  
 5 50 150 1.78 4 -0 18 -0 1 -0 10\*111\* -0 -.00 -0 -.00

ATTACHMENT #

HANFORD DATA FOR TESTING HYPOTHI

7/1/42 1-5

I	ORIG	LAT N	LONG W	DEPTH	DM	RMS	AVRPS	SKD	CF	ADJUSTMENTS--(KM)			PARTIAL F-VALUES			STANDARD ERRORS			ADJUSTMENTS TAKEN			
										DLAT	DLOX	DZ	DLAT	DLOX	DZ	DLAT	DLOX	DZ	DLAT	DLOX	DZ	
1	4.13	46-36.48	119-44.57	7.90	1	.19	-.00	B0C	2.00	.00	-1.84	-2.41	.88	-2.14	-5.92	.00	1.26	.99	.00	-1.84	-2.41	.00
2	3.93	46-36.48	119-46.01	10.31	1	.09	-.01	A1D	.50	.36	.00	.00	1.30	.42	-1.00	.32	.00	.00	.36	.00	.00	.00
3	3.93	46-36.48	119-46.01	10.31	1	.05	-.00	A1D	.50	.00	-1.18	-.57	.00	-2.18	-1.86	.00	.80	.42	.00	-1.18	-.57	.00
4	3.20	46-36.68	119-46.93	10.88	2	.07	.00	A3D	.50	.00	.00	-.14	-1.00	-1.00	.22	.00	.00	.30	.00	.00	.00	.00
4	3.81	46-36.68	119-46.93	10.88	2	.07	-.00	A2D	2.00	.02	-.26	-.18	.00	-.09	-.20	.36	.88	.39	.00	.00	.00	.00

DATE	ORIGIN	LAT N	LONG W	DEPTH	MAG NO	DM	GAP M	RMS	ERH	ERZ	Q	SDD	ADJ IN	NR	AVR	AAR NM	AVX4	SDX4	NR	AVF4	SDF	
75242	3 5	3.81	46-36.68	119-46.93	10.88	2.65	8 -2 235	1	.07	-1.0	.4	C-A+D	1.31	0-12	.00	.07	0	.0	.0	3	2.7	.2

STN	DIST	AZ4	AIN	PRMK	HRMN	P-SEC	TPORS	TPCAL	DLY/HI	P-RES	P-WT	AMX	PRX	CALX	K	XMAG	RMK	FMP	FMAG	SRMK	S-SEC	TSORS	S-RES	S-WT			
MDA	1.7	82	171	C	3 5	5.86	2.05	2.14	-.00	-.08	1.17	39	0	-.00-0							50	2.5					
WAH	22.1	45	109	D	3 5	8.59	4.78	4.70	-.00	-.08	1.17	25	0	-.00-0							44	2.5					
GHL	24.7	94	106	C	3 5	8.92	5.11	5.15	-.00	-.03	.97	13	0	-.00-0													
RSW	29.6	149	104	D	3 5	9.66	5.85	5.80	-.00	-.05	.94	25	0	-.00-0													
SYR	30.7	24	58	D	3 5	9.99	6.18	6.11	-.00	.07	1.08	20	0	-.00-0								14.45	10.64	-.23	.00		
CRF	38.6	52	58	D	3 5	11.33	7.22	7.29	-.00	-.07	1.11	7	0	-.00-0													
BDG	55.0	140	58	C	3 5	13.63	9.82	9.75	-.00	.08	.79	5	0	-.00-0								21.56	17.75	.40	.00		
ETP	57.9	106	58	D	3 5	13.88	10.07	10.17	-.00	-.09	.78	4	0	-.00-0													
EUK	56.7	104	58	0	3 5	20.74	16.93	15.96	-.00	.97**	.00	7	0	-.00-0								54	2.9	31.82	28.01	-.40	.00

ATTACHMENT B

DISTRIBUTION

WM s/f (101.0)  
WMGT r/f  
PHildenbrand  
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KJohnson  
FRCook, On-site,  
Representative-  
for BWIP  
BWIP Team members