



Department of Energy

Richland Operations Office
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Richland, Washington 99352

WM DOCKET CONTROL CENTER

OCT 31 1984

Dr. Robert J. Wright
Repository Projects Branch
Division of Waste Management
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

WM Record File 101.2

WM Project 10
Docket No.
PDR
LPDR

Dear Dr. Wright:

Distribution:
RWright
SKennedy
J Olson
DKunihira
(Return to WM, 620-88) C2

REGIONAL HYDROLOGIC BASE LINE DATA

In response to your request, I am forwarding the attached water level maps and data files of regional hydrologic base line data. The data reflect water level data from the Saddle Mountain, Wanapum, and Grande Ronde Formations collected by the U.S. Geological Survey (USGS) in the spring of 1983 and 1984. You will note that the 1983 Grande Ronde data is not plotted on the map; there was very little data. In areas of high well density, all data points could not be plotted. It is extremely important to be cognizant that the data is preliminary and is presently under review.

I hope the enclosed material will be sufficient to satisfy your staff's needs so that test plan and EA reviews may be facilitated. If you have any questions, please contact Mr. K. M. Thompson of my staff.

Very truly yours,

O. L. Olson

O. L. Olson, Project Manager
Basalt Waste Isolation Project Office

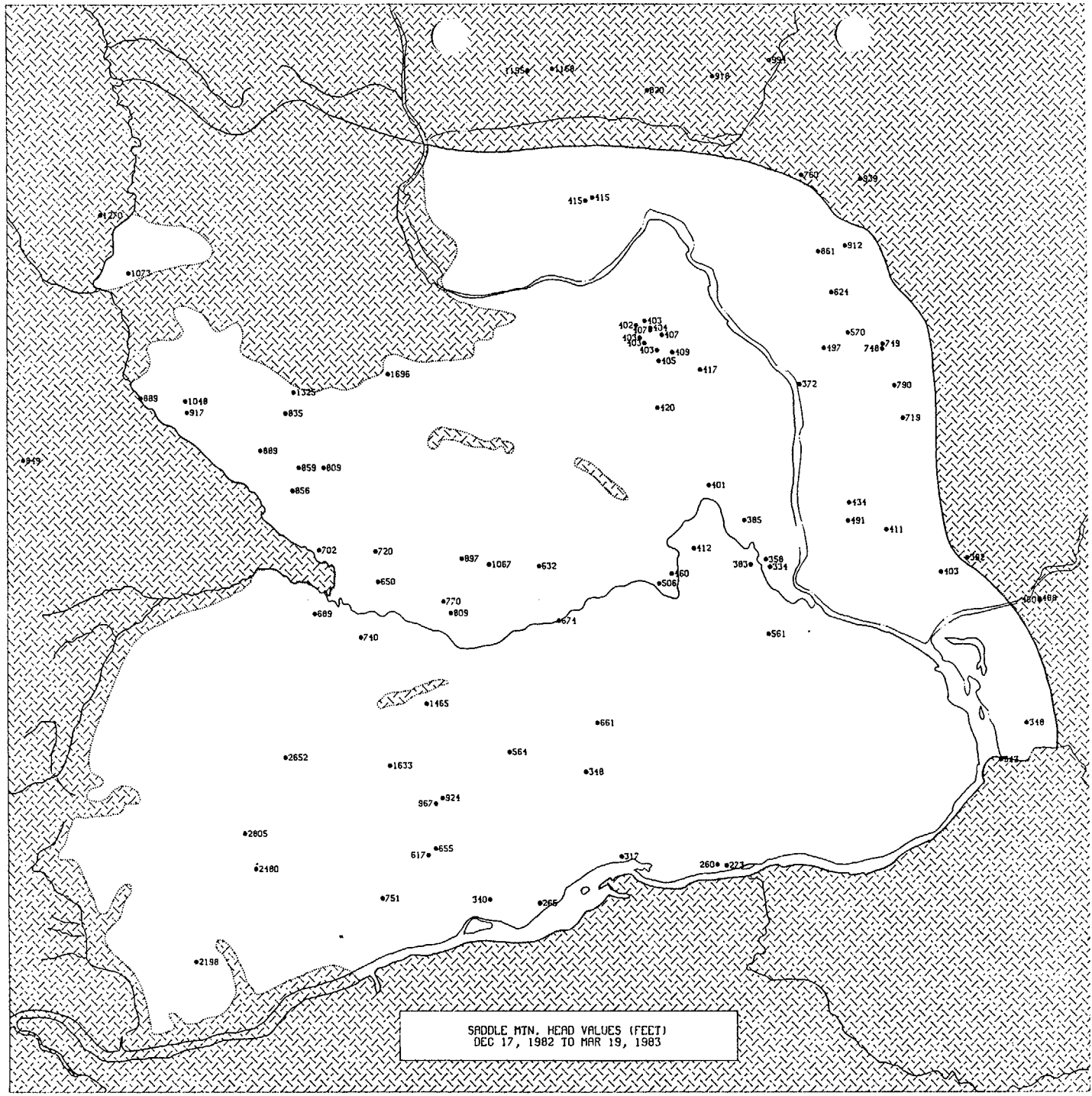
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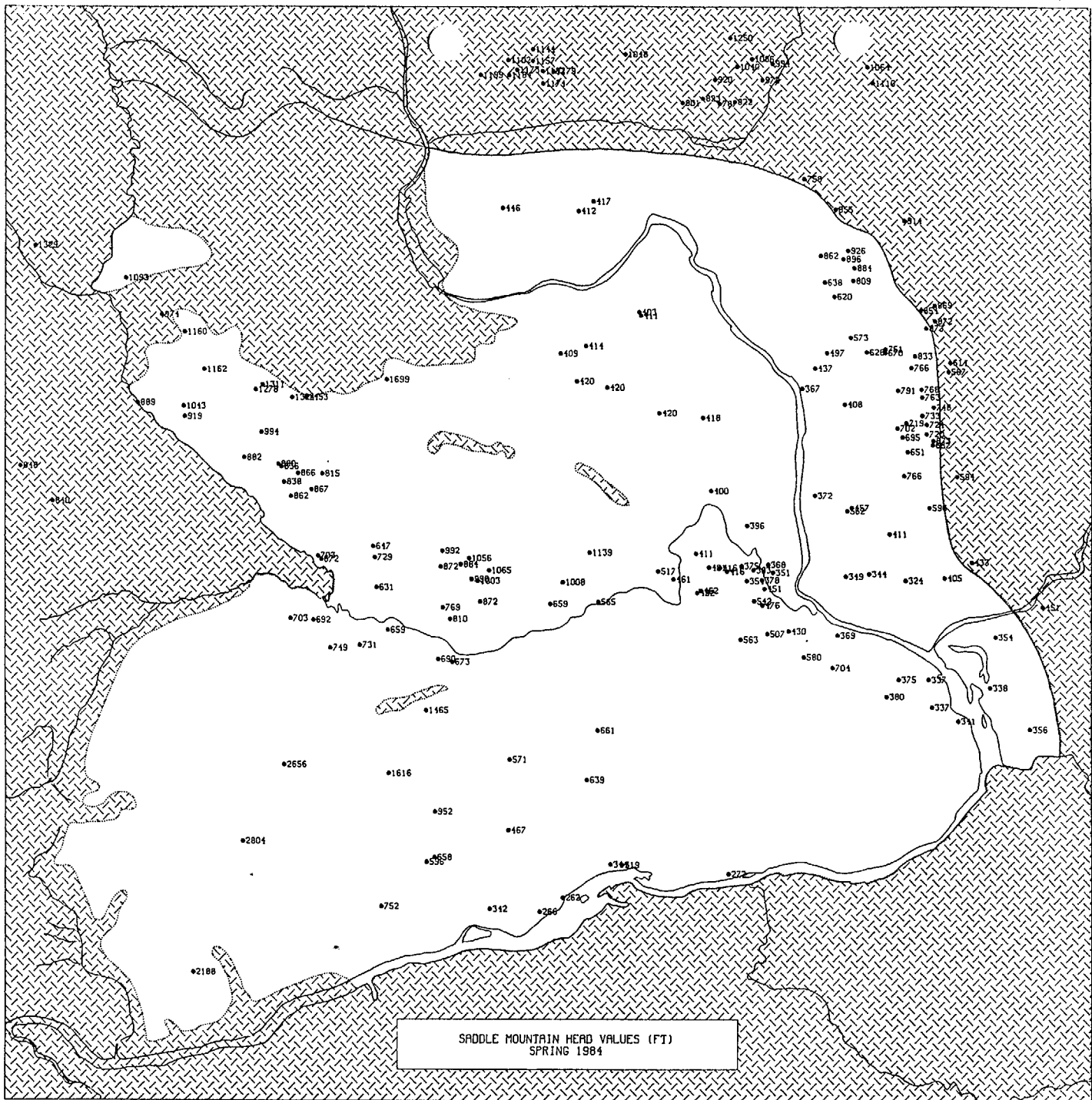
Enclosure

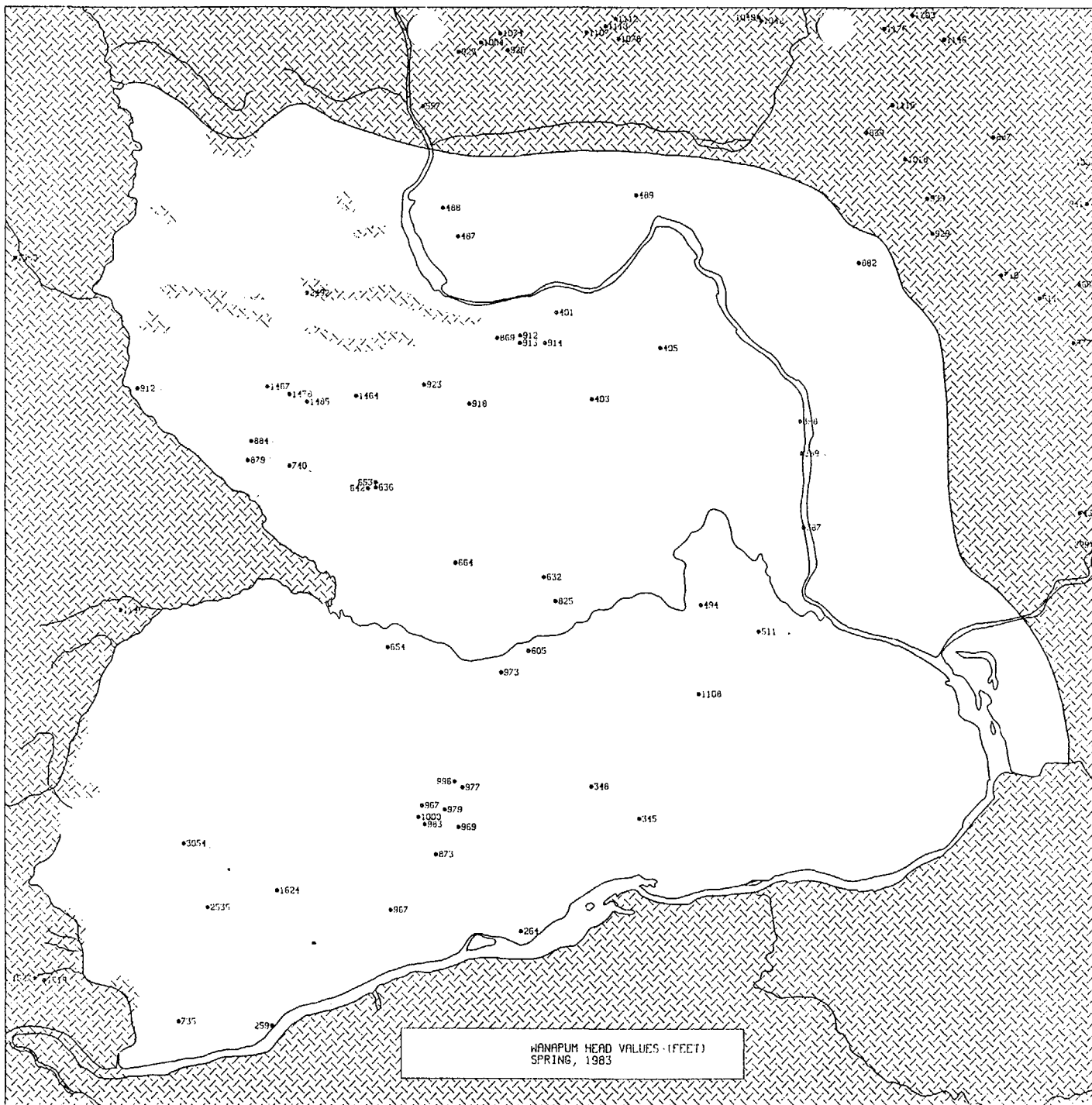
cc: Wm. Meyers, USGS, Tacoma
w/enc.

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WM-10 PDR

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SADDLE MOUNTAINS HEAD VALUES FROM THE SPRING OF 1983

BOREHOLE DESIGNATION	LONGITUDE	LATITUDE	HEAD IN FT, MSL	DATE MEASURED	OPEN HORIZON
15N/29E-26C01	-119.148	46.767	939.40	83.026	SDLM
16N/28E-04B01	-119.310	46.912	994.67	83.035	SDLM
05N/24E-28G01	-119.812	45.888	340.55	83.033	SDLM
05N/27E-11M01	-119.410	45.931	260.89	83.033	SDLM
07N/24E-26B01	-119.777	46.068	564.20	83.031	SDLM
07N/25E-12R01	-119.622	46.104	661.80	83.033	SDLM
07N/25E-36N03	-119.642	46.044	348.00	83.032	SDLM
09N/24E-04H01	-119.814	46.297	1067.10	83.039	SDLM
09N/25E-33B01	-119.690	46.228	674.20	83.053	SDLM
09N/27E-07D01	-119.489	46.286	460.10	83.040	SDLM
09N/28E-04G01	-119.314	46.294	334.00	83.043	SDLM
09N/28E-06A02	-119.348	46.297	383.20	83.043	SDLM
10N/24E-31P01	-119.863	46.304	897.20	83.039	SDLM
09N/30E-02R01	-119.011	46.287	403.00	83.033	SDLM
10N/29E-10D01	-119.173	46.372	434.00	83.036	SDLM
10N/29E-15M01	-119.175	46.350	491.31	83.034	SDLM
10N/30E-19F01	-119.107	46.339	411.17	83.026	SDLM
11N/30E-05B01	-119.076	46.475	719.30	83.036	SDLM
12N/29E-01A01	-119.112	46.560	748.65	83.034	SDLM
12N/29E-05D01	-119.216	46.561	497.40	83.001	SDLM
12N/30E-19A01	-119.091	46.515	790.69	83.034	SDLM
13N/29E-08H01	-119.202	46.629	624.08	83.032	SDLM
13N/29E-34N01	-119.173	46.580	570.88	83.035	SDLM
13N/30E-31N01	-119.111	46.566	749.70	83.033	SDLM
14N/29E-21J01	-119.177	46.686	912.10	83.035	SDLM
15N/25E-35J01	-119.641	46.741	415.20	83.050	SDLM
16N/25E-04N01	-119.701	46.902	1168.23	83.052	SDLM
16N/25E-06N01	-119.745	46.900	1195.96	83.039	SDLM
07N/27E-10H01	-119.412	46.893	918.60	83.049	SDLM
07N/31E-06M01	-118.989	46.115	341.60	83.043	SDLM
04N/20E-20Q01	-120.333	45.810	2198.83	83.033	SDLM
05N/23E-03A01	-119.908	45.950	655.60	83.032	SDLM
05N/23E-03L02	-119.921	45.942	617.00	83.032	SDLM
06N/20E-36B01	-120.248	45.967	2805.98	83.032	SDLM
06N/23E-11Q01	-119.896	46.012	924.00	83.034	SDLM
07N/32E-07M01	-118.863	46.102	348.96	83.078	SDLM
09N/32E-20C	-118.838	46.253	468.20	83.062	SDLM
08N/22E-03K01	-120.042	46.207	740.10	83.046	SDLM
09N/23E-23J01	-119.895	46.251	770.45	83.047	SDLM
09N/23E-25G01	-119.882	46.237	809.96	83.047	SDLM
10N/21E-03H01	-120.167	46.386	856.00	83.076	SDLM
10N/22E-36E01	-120.017	46.312	720.00	83.068	SDLM
11N/17E-24N01	-120.648	46.419	849.33	83.045	SDLM
11N/21E-26F01	-120.156	46.414	859.00	83.070	SDLM
11N/21E-34C01	-120.180	46.480	835.00	83.070	SDLM
12N/20E-32N01	-120.357	46.480	917.20	83.069	SDLM
12N/21E-27A01	-120.166	46.506	1325.00	83.074	SDLM
12N/23E-18E01	-119.996	46.529	1696.80	83.061	SDLM
13N/19E-04D01	-120.464	46.650	1073.30	83.074	SDLM
14N/18E-12B08	-120.515	46.720	1270.00	83.063	SDLM
15N/28E-24L01D1	-119.254	46.772	760.29	83.035	SDLM

10N/22E-31F01	-120.119	46.313	702.00	83.063	SDLM
09N/21E-25J03	-120.126	46.235	689.50	83.047	SDLM
09N/22E-12P01	-120.012	46.275	650.42	83.046	SDLM
09N/32E-20F01	-118.838	46.251	460.85	83.062	SDLM
10N/31E-32L02	-118.964	46.304	392.70	83.035	SDLM
12N/28E-23H01D1	-119.260	46.517	372.94	83.033	SDLM
14N/29E-19Q01	-119.225	46.679	861.68	83.031	SDLM
08N/30E-11A01	-119.014	46.197	340.15	83.064	SDLM
08N/27E-01A01D1	-119.317	46.212	561.50	83.042	SDLM
09N/26E-12N01	-119.511	46.274	506.90	83.041	SDLM
10N/27E-28N01	-119.449	46.317	412.00	83.041	SDLM
15N/25E-36G01	-119.629	46.745	415.60	83.052	SDLM
10N/28E-33N01	-119.321	46.303	358.40	83.042	SDLM
10N/28E-18L01	-119.359	46.351	385.00	83.045	SDLM
11N/22E-30G01	-120.111	46.414	809.00	83.068	SDLM
11N/21E-17N01	-120.225	46.434	889.00	83.070	SDLM
12N/20E-30Q01	-120.360	46.494	1048.20	83.061	SDLM
12N/19E-28J02	-120.440	46.497	889.60	83.061	SDLM
05N/25E-29N01D1	-119.724	45.884	265.53	83.033	SDLM
05N/26E-14F02	-119.530	46.876	820.50	83.049	SDLM
05N/22E-25F02	-120.002	45.889	751.80	83.032	SDLM
05N/21E-18B01	-120.228	45.924	2480.20	83.032	SDLM
05N/27E-11J01	-119.394	45.930	273.35	83.033	SDLM
05N/26E-04N01	-119.580	45.941	317.30	83.033	SDLM
06N/23E-15H03	-119.908	46.005	967.00	83.034	SDLM
07E/22N-36H01	-119.990	46.051	1633.00	83.032	SDLM
07N/21E-28J01	-120.177	46.060	2652.60	83.032	SDLM
07N/23E-03D01	-119.925	46.127	1465.00	83.031	SDLM
07N/31E-27J01	-118.909	46.057	343.70	83.077	SDLM
DB-4	-119.4364	46.5350	417.76	82.351	MBTN
DB-7	-119.4221	46.3940	401.54	82.351	MBTN
DB-13	-119.5133	46.4884	420.88	82.351	MBTN
299-E16- 1	-119.5107	46.5458	405.39	83.046	EMIF
299-E26- 8	-119.5138	46.5590	403.19	83.046	RTSN
299-E33- 12	-119.5364	46.5677	403.37	83.046	RTSN
699- 42- 40C	-119.4862	46.5563	409.60	83.046	RTSN
699- 47- 50	-119.5231	46.5698	404.87	83.046	RTSN
699- 49- 55B	-119.5447	46.5742	403.04	83.046	RTSN
699- 50- 45	-119.5050	46.5777	407.15	83.046	RTSN
699- 50- 48	-119.5152	46.5773	406.71	83.046	RTSN
699- 51- 46	-119.5106	46.5798	406.67	83.046	RTSN
699- 52- 46A	-119.5256	46.5834	407.45	83.046	RTSN
699- 52- 48	-119.5172	46.5816	406.25	83.046	RTSN
699- 53- 50	-119.5256	46.5862	404.73	83.046	RTSN
699- 54- 57	-119.5512	46.5894	402.83	83.046	RTSN
699- 56- 53	-119.5357	46.5949	403.03	83.046	RTSN

SADDLE MOUNTAINS HEAD VALUES
 SPRING 1984

MAP COORDINATES		HEAD IN
X	Y	FT, MSL
83811.6	56706.6	2188.0
105890.8	114580.0	2804.0
168027.3	85917.9	752.0
188136.3	105452.0	596.0
191585.4	107510.1	658.0
124127.6	148303.9	2656.0
126876.2	212733.9	703.0
137137.7	212086.5	692.0
171170.4	144532.5	1616.0
191847.0	127685.8	952.0
216101.8	84785.2	342.0
238366.4	83563.1	266.0
248628.2	89861.1	262.0
224362.3	119452.9	467.0
274847.6	104181.4	319.0
322059.3	100246.7	272.0
144744.2	199787.8	749.0
158333.2	201030.1	731.0
193176.8	194876.8	690.0
199382.4	193615.8	673.0
170787.7	207700.2	659.0
187770.4	172321.4	1465.0
224884.9	150571.3	571.0
259279.7	141665.1	639.0
264116.3	163586.4	661.0
269780.6	104423.1	344.0
455784.4	164118.0	356.0
423972.9	167788.8	341.0
412287.3	173817.3	337.0
392202.8	178447.3	380.0
397504.0	185987.1	375.0
410784.2	185934.4	337.0
438154.5	182308.8	338.0
461377.6	217993.9	451.0
368280.9	191118.3	704.0
355497.5	195879.5	580.0
354102.7	194981.0	569.0
348778.6	207279.1	430.0
339297.2	206069.0	507.0
327432.9	203526.9	563.0
337036.9	218754.8	476.0
333395.2	220519.3	542.0
338067.7	226093.1	451.0
336920.7	229898.8	378.0
330164.0	229486.3	354.0
339704.9	236644.7	368.0
333043.8	235526.8	393.0
333148.3	234322.6	383.0
341840.8	233231.1	351.0
327805.6	236056.6	375.0
330269.8	253734.8	396.0

321373.4	233736.8	416.0
318233.1	235302.4	416.0
318750.3	234230.3	430.0
307539.4	241556.7	411.0
313293.6	235380.0	401.0
313281.0	233757.8	409.0
314984.1	233663.6	434.0
308099.1	224182.3	492.0
309751.1	224627.9	457.0
309699.2	225209.2	462.0
367692.0	191565.3	700.0
370472.8	205464.5	369.0
429816.1	237847.4	433.0
417738.8	230976.1	405.0
400496.2	229834.6	324.0
384510.4	232666.7	344.0
374155.8	231565.7	349.0
374761.3	260356.6	562.0
376727.3	261806.0	457.0
360405.0	267210.4	372.0
393452.2	250128.5	411.0
411003.7	261839.4	596.0
423371.0	275702.9	594.0
290913.6	233771.9	517.0
290910.6	233938.2	531.0
289339.4	233618.9	504.0
297616.5	230232.4	461.0
260515.4	241959.6	1139.0
248546.5	229018.3	1008.0
243986.9	228728.4	1002.0
242952.6	219269.0	659.0
264307.4	220193.3	565.0
198421.8	212521.9	810.0
195176.9	217620.7	769.0
211688.2	220204.7	872.0
210608.3	229542.9	1003.0
215629.9	234166.4	1065.0
207897.7	230284.5	996.0
206820.7	239456.4	1056.0
194978.2	242654.0	992.0
194271.9	235737.5	872.0
203134.0	236770.0	884.0
165760.2	226616.3	631.0
164985.3	239786.2	729.0
164276.7	244597.9	647.0
140724.3	238934.5	672.0
139161.9	240445.3	703.0
141044.9	276703.7	815.0
136064.9	269751.9	867.0
126989.0	266760.8	862.0
130126.3	276965.0	866.0
123929.1	273110.6	838.0
122813.7	279786.5	836.0
121465.4	280926.8	880.0
106268.6	283731.4	882.0
113951.4	295015.5	994.0
170178.2	318359.1	1699.0
133717.7	310509.1	1453.0
127577.3	310440.4	1324.0
111331.5	313891.6	1278.0

114321.9	316066.4	1311.0
88390.0	322795.6	162.0
79135.6	306575.8	1043.0
79675.2	301927.4	919.0
58816.4	308082.3	889.0
79752.0	339401.1	1160.0
69532.3	346994.7	974.0
53556.0	363218.7	1093.0
13213.0	377549.5	1329.0
6534.5	279943.7	848.0
20878.1	264522.1	840.0
221690.8	394145.5	446.0
255576.3	392841.0	412.0
262181.6	397077.0	417.0
244266.9	454398.4	1179.0
233200.3	453658.9	1197.0
211842.6	452901.0	1199.0
224177.1	459319.4	1102.0
224459.0	452836.5	1184.0
228028.0	455146.4	1173.0
235014.2	458973.4	1157.0
235087.9	464131.8	1144.0
239490.2	454645.3	1192.0
239672.2	449117.2	1174.0
276337.6	461753.6	1048.0
322890.0	469161.0	1250.0
332477.2	459809.1	1086.0
325939.2	456447.7	1040.0
337123.3	450618.1	972.0
324969.8	441042.2	822.0
318220.5	440213.9	787.0
310791.7	442575.8	823.0
301780.8	440583.9	801.0
298219.8	440145.8	789.0
316078.8	450905.5	920.0
341683.9	457811.9	994.0
383706.1	456320.8	1064.0
386114.1	449293.8	1110.0
355871.1	407036.3	758.0
369640.3	393559.1	855.0
400020.6	388698.1	914.0
375109.3	375482.7	926.0
363115.3	373229.4	862.0
373099.8	371828.3	896.0
377902.6	367797.1	884.0
377382.2	362090.0	809.0
369040.7	355161.2	620.0
364820.6	361406.9	638.0
413344.0	351423.7	869.0
407160.0	349149.9	854.0
413468.1	344480.4	872.0
409582.8	341291.5	873.0
404616.6	328933.4	833.0
403050.3	323706.5	766.0
420229.0	326094.5	614.0
419472.2	322005.2	567.0
407493.3	314262.3	768.0
407886.2	310859.0	763.0
383381.7	330589.8	628.0
360479.1	323399.3	437.0

365792.3	330273.9	497.0
376294.1	337075.3	573.0
391656.3	331986.1	751.0
391560.8	330362.4	670.0
354870.4	314481.6	367.0
373626.3	307581.8	408.0
397169.7	313744.2	791.0
412904.6	306374.3	748.0
407950.4	302625.4	733.0
400872.4	299295.9	719.0
396971.5	296980.0	702.0
409880.8	294467.0	720.0
412839.7	291442.5	673.0
412541.3	289565.6	682.0
399200.8	292985.8	695.0
401432.5	286538.0	651.0
399919.8	275988.7	766.0
409889.4	298626.1	724.0
440616.9	204728.2	354.0
310666.	301556.	418.51
314283.	269276.	400.88
282462.	348257.	403.65
291416.	303622.	420.47
254785.	317719.	420.72
268278.	314991.	420.34
258896.	333310.	414.07
247518.	329906.	409.50
283311.	346762.	411.44

WANAPUM HEAD VALUES FROM THE SPRING OF 1983

BOREHOLE DESIGNATION	LONGITUDE	LATITUDE	HEAD IN FT, MSL	DATE MEASURED	OPEN HORIZON
15N/30E-08N01	-119.0880	46.7980	1018.20	83.095	WNPM
15N/30E-33A01	-119.0500	46.7510	939.66	83.095	WNPM
15N/32E-13D01	-118.7460	46.7930	1003.90	83.075	WNPM
16N/29E-34R01	-119.1570	46.8300	839.62	83.108	WNPM
16N/30E-19E01	-119.1100	46.8630	1116.84	83.073	WNPM
16N/31E-33P01	-118.9330	46.8240	887.90	83.095	WNPM
05N/24E-35R02	-119.7640	45.8690	264.55	83.092	WNPM
07N/25E-36N04	-119.6420	46.0440	348.00	83.089	WNPM
07N/25E-36N06	-119.6410	46.0440	348.90	83.089	WNPM
08N/24E-01J01	-119.7520	46.2060	605.50	83.116	WNPM
08N/24E-15F01	-119.8000	46.1800	973.30	83.116	WNPM
08N/25E-06K01	-119.7250	46.2950	632.10	83.111	WNPM
09N/25E-17H01	-119.7050	46.2660	825.40	83.116	WNPM
09N/28E-30R01	-119.3490	46.2300	511.40	83.114	WNPM
12N/24E-30B01	-119.8580	46.5030	918.30	83.119	WNPM
13N/24E-36D01	-119.7690	46.5770	913.88	83.168	WNPM
10N/32E-03R01	-118.7870	46.3710	437.90	83.097	WNPM
10N/32E-23J01	-118.7660	46.3330	399.50	83.100	WNPM
13N/32E-07E02	-118.8540	46.6300	611.80	83.149	WNPM
13N/32E-27N01	-118.7950	46.5760	977.10	83.004	WNPM
14N/29E-27E01	-119.1710	46.6740	882.90	83.004	WNPM
14N/30E-10P01	-119.0410	46.7090	929.88	83.092	WNPM
14N/31E-33H01	-118.9210	46.6580	710.70	83.089	WNPM
13N/32E-03C01	-118.7840	46.6460	658.00	83.149	WNPM
14N/33E-17M01	-118.7130	46.7000	849.50	83.092	WNPM
15N/26E-28Q01	-119.5640	46.7550	489.10	83.136	WNPM
16N/23E-21J01	-119.9420	46.8610	557.00	83.133	WNPM
16N/24E-22L01	-119.8050	46.9490	1074.09	83.152	WNPM
16N/24E-29H01	-119.8390	46.9380	1064.29	83.136	WNPM
17N/25E-02B01	-119.6470	46.9990	1087.69	83.149	WNPM
17N/26E-18H01	-119.6000	46.9670	1112.71	83.147	WNPM
17N/26E-19D01	-119.6180	46.9580	1113.40	83.136	WNPM
17N/26E-20N01	-119.5950	46.9430	1078.70	83.136	WNPM
17N/28E-17E01	-119.3410	46.9650	1042.20	83.136	WNPM
17N/29E-12C01	-119.1190	46.9840	1168.85	83.075	WNPM
17N/29E-24C01	-119.1230	46.9550	1176.23	83.144	WNPM
17N/30E-08Q01	-119.0730	46.9710	1203.47	83.114	WNPM
17N/30E-26C01	-119.0180	46.9410	1146.70	83.073	WNPM
03N/14E-25C01	-121.0000	45.7210	1540.72	83.108	WNPM
03N/15E-11N01	-120.9020	45.7530	1573.41	83.111	WNPM
03N/15E-09C01	-120.8140	45.7660	1612.02	83.111	WNPM
03N/17E-05B01	-120.7030	45.7800	1907.78	83.111	WNPM
04N/16E-17H03	-120.8220	45.8340	1579.82	83.114	WNPM
04N/16E-32A01	-120.8230	45.7950	1699.20	83.111	WNPM
05N/15E-15A01	-120.9070	45.9260	2030.64	83.119	WNPM
05N/20E-28B01	-120.3120	45.8950	2535.00	83.092	WNPM
05N/23E-30D01	-119.9910	45.8940	967.00	83.089	WNPM
06N/23E-16F01	-119.9430	46.0060	1000.40	83.089	WNPM
06N/23E-34H01	-119.9120	45.9610	873.00	83.095	WNPM
06N/32E-01C01	-118.7520	46.0360	421.90	83.212	WNPM
06N/33E-01K01	-118.6210	46.0240	449.18	83.207	WNPM

06N/33E-07J02	-119.7220	46.0140	463.19	83.212	WNPM
07N/33E-21Q01	-119.6850	46.0650	378.60	83.210	WNPM
08N/22E-01G02	-119.9990	46.2100	654.80	83.127	WNPM
09N/19E-20L01	-120.4700	46.2510	1146.46	83.130	WNPM
10N/23E-36G01	-119.8800	46.3120	664.00	83.188	WNPM
11N/20E-13R01	-120.2500	46.4330	879.00	83.193	WNPM
12N/21E-25D01	-120.1460	46.5040	1485.00	83.089	WNPM
17N/34E-23F02	-118.5040	46.9510	1463.93	83.130	WNPM
11N/21E-22G02	-120.1760	46.4270	740.00	83.196	WNPM
11N/21E-07F01	-120.2440	46.4560	884.20	83.210	WNPM
12N/21E-17Q01	-120.2160	46.5220	1467.00	83.168	WNPM
13N/21E-12D01	-120.1470	46.6350	2492.80	83.108	WNPM
04N/14E-01B01D2	-120.9950	45.8680	1419.30	83.119	WNPM
13N/24E-27M04	-119.8090	46.5830	869.50	83.119	WNPM
05N/16E-27M02	-120.7990	45.8870	1927.50	83.116	WNPM
06N/23E-24B01	-119.8730	45.9940	969.00	83.095	WNPM
09N/27E-16M01	-119.4500	46.2620	494.50	83.147	WNPM
15N/32E-35E05	-118.7680	46.7430	941.70	83.004	WNPM
15N/32E-35E06	-118.7680	46.7430	948.40	83.004	WNPM
05N/23E-35P01	-119.9060	46.7390	488.50	83.136	WNPM
05N/21E-16L04	-120.1910	45.9160	1624.70	83.089	WNPM
05N/21E-16L05	-120.1910	45.9160	1624.70	83.089	WNPM
05N/21E-16L06	-120.1910	45.9160	1624.70	83.089	WNPM
14N/23E-13A01	-119.8780	46.7050	487.80	83.133	WNPM
11N/22E-35D01	-120.0350	46.4010	642.00	83.188	WNPM
11N/22E-35A01	-120.0210	46.4020	636.00	83.193	WNPM
06N/26E-15M01	-119.5580	46.0050	345.70	83.095	WNPM
07N/25E-36N05	-119.6420	46.0440	348.90	83.089	WNPM
03N/20E-07F01	-120.3600	45.7570	735.40	83.092	WNPM
04N/18E-30H01	-120.5950	45.8040	1519.09	83.119	WNPM
04N/18E-30E01	-120.6120	45.8060	1527.71	83.119	WNPM
04N/17E-06M01	-120.7350	45.8600	1802.30	83.114	WNPM
11N/22E-26J01D1	-120.0220	46.4080	653.00	83.188	WNPM
12N/21E-22L01	-120.1770	46.5130	1478.00	83.168	WNPM
12N/19E-21B02	-120.4450	46.5180	912.00	83.210	WNPM
12N/23E-16J01	-119.9380	46.5260	923.10	83.168	WNPM
04N/17E-28B01	-120.7070	46.5930	1462.70	83.171	WNPM
14N/17E-26K01	-120.6640	46.6730	1380.00	83.210	WNPM
07N/23E-36R01	-119.8660	46.0420	977.00	83.086	WNPM
13N/25E-32D03	-119.7250	46.5770	914.54	83.056	WNPM
17N/24E-27R02	-119.7920	46.9290	926.80	83.136	WNPM
17N/25E-23F01	-119.6520	46.9500	1107.79	83.147	WNPM
17N/28E-18A01	-119.3450	46.9690	1040.30	83.136	WNPM
18N/30E-32N01	-119.0800	46.9990	1155.84	83.138	WNPM
03N/21E-09N01D1	-120.1970	45.7530	259.10	83.092	WNPM
03N/21E-09N02	-120.1980	45.7510	254.30	83.092	WNPM
06N/20E-30P02	-120.3550	45.9710	3054.70	83.092	WNPM
06N/23E-16R01D1	-119.9320	45.9970	983.50	83.089	WNPM
06N/23E-11Q02D2	-119.8970	46.0150	979.20	83.095	WNPM
06N/23E-09G01	-119.9370	46.0200	967.60	83.089	WNPM
07N/23E-36E01	-119.8800	46.0490	996.35	83.086	WNPM
08N/27E-29A02	-119.4540	46.1550	1108.10	83.092	WNPM
17N/28E-17M01	-119.3420	46.9630	1043.38	83.136	WNPM
12N/22E-22M01	-120.0580	46.5120	1464.00	83.089	WNPM
10N/32E-24R01	-118.7420	46.3290	434.60	83.171	WNPM
07N/33E-28J01	-118.6790	46.0570	381.87	83.210	WNPM
17N/23E-36A01	-119.8790	46.9270	923.97	83.116	WNPM
DB-1	-119.2740	46.4443	389.1	82.940	PRPD
DB-2	-119.2765	46.4827	388.97	82.962	PR/R
DB-12	-119.7040	46.6138	401.95	82.995	PRPD

WANAPUM HEAD VALUES
 SPRING 1984

MAP COORDINATES		HEAD IN
X	Y	FT, MSL
76834.6	37823.7	737.00
17284.0	55769.5	1525.00
13134.4	56291.7	1534.00
20646.1	64679.1	1578.00
23716.3	73961.5	1730.00
19597.8	86413.1	2028.00
120132.7	95123.1	1623.00
78652.3	115891.1	3056.00
170682.1	87113.7	956.00
227915.0	77637.2	263.00
200848.9	112142.9	627.00
190609.3	111142.2	875.00
200634.8	123239.9	778.00
185531.3	124878.2	966.00
182738.8	128066.5	941.00
184500.3	133103.5	877.00
202381.4	141245.2	967.00
198762.6	143681.7	984.00
280205.8	126995.3	344.00
259115.3	141617.4	347.00
306343.3	182141.6	1097.00
332850.8	209399.3	521.00
267314.5	230436.4	674.00
231238.1	200560.0	690.00
219044.3	191154.5	973.00
237941.1	232802.1	626.00
198929.0	239074.5	662.00
168816.6	201493.0	667.00
163865.8	271924.4	634.00
163565.2	274292.3	648.00
160176.8	271451.1	664.00
124964.5	281314.6	875.00
108038.6	291964.7	884.00
50464.3	217727.5	1148.00
204766.2	308347.6	918.00
217039.5	337621.4	908.00
184740.5	316531.8	921.00
156864.9	317823.3	1834.00
153249.4	309951.8	1465.00
124788.9	312196.8	1464.00
117600.3	315366.1	1424.00
115111.1	315563.0	1461.00
120049.3	333997.8	1499.00
132561.7	355957.3	2496.00
81462.3	309222.9	1026.00
56340.8	316138.0	914.00
16470.0	300501.8	841.00
37028.2	351134.7	1060.00
10651.2	360662.8	1399.00
4608.7	367328.4	1353.00
3639.1	370940.3	1371.00
18873.6	377324.7	1329.00
53117.6	380300.5	1192.00
54202.6	378767.3	1162.00
66286.6	384805.4	1623.00

199970.9	381148.9	475.00
278274.1	399903.8	89.00
268965.2	404227.6	497.00
184003.5	438480.7	628.00
199783.5	462491.2	916.00
218121.0	470593.2	1079.00
221346.8	463167.1	945.00
231167.0	446126.7	1147.00
256401.5	470469.2	1109.00
270472.4	467828.9	1071.00
256438.5	461948.5	1041.00
285057.6	461366.8	1117.00
344552.5	465782.9	1075.00
344121.5	460003.4	1074.00
334957.6	450070.8	981.00
321735.2	448309.1	964.00
314507.3	441419.3	1857.00
389506.6	466477.8	1121.00
408064.6	462028.0	1148.00
396154.8	444518.8	1129.00
399392.5	443867.8	1164.00
406247.9	441029.7	1174.00
406751.0	439785.0	1172.00
454763.7	433302.4	980.00
429226.3	430988.0	910.00
417731.1	423082.1	1179.00
401385.1	433900.9	1117.00
404267.2	429175.0	1119.00
404909.0	424647.2	1087.00
405760.2	419663.1	1038.00
403792.4	414375.7	1014.00
398875.9	410031.5	1001.00
395648.8	408230.1	1033.00
393338.8	424472.1	1034.00
386525.8	427060.9	1032.00
379763.3	427613.3	763.00
380487.2	423252.2	690.00
374699.7	418945.7	868.00
382868.6	409712.3	907.00
365533.0	390558.3	902.00
360495.5	385423.8	922.00
376820.0	370032.7	885.00
406637.2	399133.8	941.00
399889.7	386676.3	920.00
409067.8	383806.8	956.00
417955.8	390412.8	1078.00
419656.5	390337.2	939.00
432692.7	377675.1	926.00
438886.4	364858.5	729.00
455599.4	355496.0	661.00
473241.7	361309.1	656.00
435893.1	271032.7	443.00
473343.7	261428.3	439.00
478670.0	247818.1	400.00
351399.	287670.	392.19
350744.	301633.	386.92
352348.	255246.	390.14
238723.	335517.	920.99
243749.	349345.	403.97
259184.	311413.	398.89
227713.	335676.	920.57
227596.	339269.	917.84
235418.	339293.	601.01

225038.	339067.	918.37
289581.	333804.	22.70
268154.	315073.	399.84
258713.	333109.	400.66
247638.	329974.	400.50

GRANDE RONDE HEAD VALUES FROM THE SPRING OF 1983

BOREHOLE DESIGNATION	LONGITUDE	LATITUDE	HEAD IN FT, MSL	DATE MEASURED	OPEN HORIZON
17N/31E-12D01	-118.8740	46.9830	1122.00	83.127	GDRD
11N/22E-30C01	-120.1160	46.4190	705.70	83.188	GDRD
16N/20E-07Q01	-120.3670	46.8850	1831.70	83.155	GDRD
17N/20E-16J01	-120.3270	46.8850	1844.70	83.158	GDRD
17N/22E-23K01	-120.0350	46.9480	1017.50	83.155	GDRD
17N/23E-30H01	-119.9880	46.9380	560.20	83.155	GDRD
03N/18E-09N01	-120.5720	45.7520	498.33	83.199	GDRD
06N/31E-04P01	-118.9390	46.0240	336.75	83.212	GDRD
11N/16E-34K02	-120.8040	46.3940	818.00	83.127	GDRD
16N/17E-34J01D1	-120.6780	46.8330	2021.61	83.130	GDRD
14N/16E-13B01	-120.7670	46.7060	1848.68	83.130	GDRD
14N/16E-15F01D1	-120.8130	46.5300	1732.00	83.171	GDRD
15N/32E-35E02	-118.7680	46.7430	664.00	83.004	GDRD
15N/32E-35E03	-118.7680	46.7430	663.10	83.004	GDRD
05N/21E-16L02	-120.1910	45.9160	1624.30	83.089	GDRD
13N/26E-35G03	-119.5210	46.5720	406.70	83.059	GDRD
13N/26E-35G04	-119.5210	46.5720	411.85	83.059	GDRD
13N/26E-35G05	-119.5210	46.5720	412.98	83.059	GDRD
13N/26E-35G06	-119.5210	46.5720	411.79	83.059	GDRD
12N/22E-13Q01	-120.0090	46.5220	1480.00	83.089	GDRD
14N/16E-25D01	-120.7790	46.6770	1939.00	83.201	GDRD
17N/20E-06K02	-120.3760	46.9910	1751.18	83.155	GDRD
17N/20E-06K01	-120.3760	46.9920	1751.55	83.155	GDRD

GRANDE RONDE HEAD VALUES
SPRING 1984

MAP COORDINATES		HEAD IN
X	Y	FT, MSL
-7145.3	29381.0	366.00
23073.5	36923.9	509.00
-4633.8	317497.2	1522.00
7121.3	418397.1	2095.00
677.3	431019.3	2031.00
54883.6	400154.2	1204.00
78656.0	449231.0	1670.00
161289.8	471567.3	1019.00
212173.9	401125.7	557.00
317582.9	466956.2	1095.00
331305.6	401260.6	409.00
432936.1	419349.3	792.00
451646.2	361527.8	393.00
461326.5	419143.4	660.00
470844.5	429809.1	981.00
476661.0	463803.6	1033.00
140231.3	279266.1	705.00
289581.	333840.	408.51
253483.	335757.	413.09
253555.	335824.	408.61
323119.	300651.	402.66
323091.	300696.	400.38
284436.	296265.	402.01
352478.	270349.	402.93
268154.	315073.	400.01
258713.	333109.	402.66
247638.	329974.	401.96