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US GEOLOGICAL SURVEY, DENVER, COLORADO RADIOCARBON DATES V

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INTRODUCTION

This list contains the results of measurements of 172 radiocarbon samples made between January 1983 and December 1985. An additional 152 samples were measured, but these were submitted without detailed information, such as sample location and sampling depth; therefore, they were excluded from the list.

^{14}C ages were computed using the radiocarbon half-life of 5568 ± 30 years. Statistical errors quoted herein are 1σ counting errors, including sample, background, and standard counting rates. The age limit reported is calculated on the basis of 3σ activity. The $\delta^{13}C$ values in Table 1 were measured in an isotope laboratory of the US Geological Survey in Menlo Park, California, and calculated relative to Craig's Peedee Belemnite (PDB) limestone standard (Craig, 1957). Total alkalinity as bicarbonate values reported in Table 1 was determined using techniques described by Brown, Skougstad and Fishman (1970). Unless otherwise stated, all samples were collected and submitted by personnel of the US Geological Survey. Sample preparation and counting technique remain as previously reported (Yang & Emerson, 1980; Yang, McAvoy & Emerson, 1981; Yang, 1984). Most of the samples from Nevada were collected as part of the Nevada Nuclear Waste Storage Investigations conducted in cooperation with the US Department of Energy, Nevada Operations Office, under Interagency Agreement DE-AI08-78ET44802.

GROUNDWATER SAMPLES

United States

Arkansas

DE-236. Well near Piggot **>38,100**

Sample coll July 26, 1984, from Clay Co (36° 22′ 25″ N, 090° 12′ 08″ W).

DE-237. Well 19NO4E01BDB1 **39,900 ± 1700**

Sample coll Aug 1, 1984, from Clay Co (36° 19′ 09″ N, 090° 35′ 59″ W). Alt of well head, 85.3m asl.

California

Franklin Lake series

DE-238. Well 5 **28,700 ± 840**

Sample coll Nov 21, 1983, from Franklin Lake near Death Valley Junction, Inyo Co (36° 14′ 06″ N, 116° 17′ 32″ W). Hole drilled to 10.7m.

DE-239. Well 10 **13,100 ± 150**

Sample coll Nov 21, 1983 (36° 14′ 06″ N, 116° 17′ 39″ W). Hole drilled to 12.2m.

DE-240. Well GS-8 **12,350 ± 180**

Sample coll Nov 19, 1983 (36° 17′ 27″ N, 116° 17′ 09″ W). Hole drilled to 10.1m.

DE-241. Well 15 **5800 ± 140**

Sample coll Nov 21, 1983 (36° 18′ 51″ N, 116° 17′ 00″ W).

DE-242. Well No. 14 **25,600 ± 530**

Sample coll July 25, 1985, from Inyo Co (36° 14′ 15″ N, 116° 23′ 00″ W). Static water level, 1.4m below land surface.

DE-243. Well No. 16 **5900 ± 130**

Sample coll July 29, 1985, from Inyo Co (36° 18′ 00″ N, 116° 17′ 30″ W).

DE-244. Charcoal **1100 ± 90**

Sample coll July 13, 1985, from Gravel Ck Valley, sec 36, NE¼, T 42 N, R 3 W.

DE-245. Charcoal **550 ± 90**

Sample coll July 10, 1984, from lower Gravel Ck, sec 21, SW¼, T 42 N, R 2 W.

DE-246. Charcoal **2300 ± 900**

Sample coll July 10, 1984, from Mt Shasta fluvial deposits, sec 21 SE¼, T 42 N, R 2 W. Sample depth 1.6m.

DE-247. Charcoal **Modern**

Sample coll July 13, 1984, from debris-flow deposit in Gravel Ck Valley near Mt Shasta, sec 31 NW¼, T 42 N, R 2 W.

Colorado

DE-248. Well S(B-7-103) 32ADB-1 **10,500 ± 220**

Sample coll Aug 31, 1983, from Moffat Co (40° 31′ 08″ N, 108° 59′ 19″ W).

DE-249. Well SC00609417CAD1 **34,300 ± 1400**

Sample coll Oct 28, 1983, from Moffat Co (40° 28′ 03″ N, 107° 57′ 10″ W).

Rio Blanco series

Samples coll March 24, 1983, from Rio Blanco Co (39° 48′ 26″ N, 108° 13′ 28″ W).

DE-250. Well SC00309712ABD1 **12,400 ± 260**

Sample coll at depth 203.9m.

DE-251. Well SC00309712ABDZ **20,700 ± 730**
Sample coll at depth 356.6m.

DE-252. Well SC00309712ABD3 **21,600 ± 760**
Sample coll at depth 402.3m.

DE-253. Well SC00309712ABD4 **23,200 ± 810**
Sample coll at depth 451.1m.

DE-254. Well SC00309712ABD5 **20,500 ± 720**
Sample coll at depth 487m.

DE-255. Well SC00309712ACB1 **22,600 ± 800**
Sample coll (39° 48′ 28″ N, 108° 13′ 27″ W) at depth 445m.

DE-256. Well SC00209736ACA1 **5300 ± 110**
Sample coll Oct 9, 1983 (39° 50′ 10″ N, 108° 13′ 29″ W). Hole drilled to 22.7m.

DE-257. Well SC00209736ABC2 **19,300 ± 400**
Sample coll Oct 10, 1983 (39° 50′ 13″ N, 108° 13′ 31″ W).

DE-258. Well SC00209803ABD TH75-11A **26,100 ± 910**
Sample coll Aug 26, 1983 (39° 54′ 39″ N, 108° 22′ 33″ W). Hole drilled to 356.6m. Alt of well head, 2039.4m asl.

DE-259. Well TH 75-11B (C2-98-30 DBA2) **29,000 ± 1000**
Sample coll Aug 30, 1983 (39° 54′ 39″ N, 108° 22′ 33″ W). Hole drilled to 521.2m.

DE-260. Well TH 75-68 (Cl-98-14 ADC2) **30,000 ± 1300**
Sample coll Oct 6, 1983 (39° 57′ 55″ N, 108° 21′ 14″ W). Hole drilled to 533.4m.

DE-261. Well SC00109614ADCD2 **34,900 ± 1500**
Sample coll Oct 4, 1983 (39° 57′ 55″ N, 108° 21′ 14″ W). Hole drilled to 533.4m.

DE-262. Spring SC00400907DCCD1 **9500 ± 200**
Sample coll July 18, 1983 (39° 42′ 36″ N, 108° 32′ 40″ W).

DE-263. Spring SC00409910DBA1 **6200 ± 130**
Sample coll Aug 22, 1983 (39° 42′ 56″ N, 108° 29′ 10″ W).

DE-264. Spring SC00209736ACB1 (P-16) **6000 ± 130**
Sample coll March 24, 1983 (39° 50′ 10″ N, 108° 13′ 31″ W).

DE-265. Well SB00509830DBD-1 **27100 ± 1200**

Sample coll Feb 7, 1984, from Moffat Co (40° 06′ 12″ N, 108° 26′ 30″ W). Static water level, 204.2m below land surface.

DE-266. Redstone Corp Well **25,300 ± 640**

Sample coll Sept 13, 1984, from Garfield Co (39° 33′ 13″ N, 107° 20′ 04″ W).

Iowa

DE-290. Well 07227W10CDCA 21135 1968 Town of Murray **>39,900**

Sample coll July 10, 1984, from Clarke Co (41° 01′ 35″ N, 93° 56′ 49″ W). Hole drilled to 932.7m. Alt of well head, 371.8m asl.

DE-291. Well 07623W31DADD 23702 1976 Indianola City No. 11 **>39,900**

Sample coll July 11, 1984, from Warren Co (41° 20′ 25″ N, 93° 32′ 22″ W). Hole drilled to 740.7m. Alt of well head, 258m above asl.

DE-292. Well 08321W08ACCA 10934 1959 Town of Colo No. 3 **>38,800**

Sample coll July 9, 1984, from Story Co (42° 00′ 59″ N, 93° 19′ 03″). Hole drilled to 236.2m. Alt of well head, 312.4m above asl.

DE-293. Well 08721W33ABCB 02162 1945 Hubbard Town Well No. 2 **8700 ± 100**

Sample coll July 7, 1984, from Hardin Co (42° 18′ 33″ 17′ 56″ W). Hole drilled to 146.3m. Alt of well head, 333.5m asl.

DE-294. Well 09114W03CABB Waverly 5 **2400 ± 70**

Sample coll July 11, 1984, from Bremer Co (42° 43′ 19″ N, 92° 28′ 34″ W). Hole drilled to 47.8m.

DE-295. Well 09114W02BADC 00055 Waverly 2 **33,200 ± 1700**

Sample coll July 11, 1984, from Bremer Co (42° 43′ 37″ N, 92° 28′ 03″ W). Hole drilled to 384m. Alt of well head, 279.5m asl.

DE-296. Well 09221W31DBBD 1939 Coulter Iowa No. 1 **6900 ± 80**

Sample coll July 6, 1984, from Franklin Co (42° 44′ 13″ N, 93° 22′ 06″ W). Hole drilled to 191.4m. Alt of well head, 379.2m asl.

DE-297. Well 09420W03ABCC 13838 1962 Rockwell Town 2 **>39,900**

Sample coll July 6, 1984, from Cerro Gordo Co (42° 59′ 23″ N, 93° 11′ 06″ W). Hole drilled to 139.9m. Alt of well head, 346.6m asl.

DE-298. Well 09513W12ABDD 15936 1964 New Hampton No. 5 **38,800 ± 3800**

Sample coll July 5, 1984, from Chickasaw Co (43° 3′ 49″ N, 92° 19′ 23″ W). Hole drilled to 402.3m. Alt of well head, 353.6m asl.

DE-299. Well 09516W01AAB 04869 1950 Charles City Well No. 5 **6600 ± 90**

Sample coll July 5, 1984, from Floyd Co (43° 04′ 58″ N, 92° 40′ 37″ W). Hole drilled to 57m. Alt of well head, 308.7m asl.

DE-300. Well 09608W10ADDC 13842 1962 Ossian **27,400 ± 770**

Sample coll July 3, 1984, from Winneshiek Co (43° 08′ 52″ N, 91° 45′ 59″ W). Hole drilled to 307.8m. Alt of well head, 387.1m asl.

DE-301. Well 09709W19CADA 11755 1960 Spillville **1500 ± 70**

Sample coll July 3, 1984, from Winneshiek Co (43° 12′ 09″ N, 91° 57′ 16″ W). Hole drilled to 110.3m. Alt of well head, 324.9m asl.

DE-302. Well 098-05W-30ACC2 Waukon Creamery No. 3 **2800 ± 70**

Sample coll July 3, 1984, from Allamakee Co (43° 16′ 38″ N, 91° 28′ 41″ W).

DE-303. Well 10020W29DDDC 1931 Northwood No. 2 **3800 ± 70**

Sample coll July 6, 1984, from Worth Co (43° 26′ 42″ N, 93° 13′ 21″ W). Hole drilled to 49.3m. Alt of well head, 374.9m asl.

DE-304. Well West Upton-Jordan WFCC **>37,700**

Sample coll July 12, 1984, from Fayette Co (42° 57′ 23″ N, 91° 48′ 44″ W).

DE-305. Well Collins-Jordan **>38,900**

Sample coll July 9, 1984, from Story Co (41° 54′ 04″ N, 93° 18′ 11″ W).

Missouri

Dunklin Co series

Samples from Dunklin Co.

DE-306. Well T16N R09E 08ACD1 **39,900 ± 4500**

Sample coll Aug 3, 1984 (36° 02′ 25″ N, 90° 06′ 40″ W). Hole drilled to 560.8m. Alt of well head, 75m asl.

DE-307. Well Cardwell #3 **>39,900**

Sample coll Aug 1, 1984 (36° 02′ 25″ N, 90° 18′ 15″ W). Hole drilled to 499.9m. Alt of well head, 75.3m asl.

DE-308. Well T18N R10E 02AAD1 **>39,900**

Sample coll July 30, 1984 (36° 14′ 05″ N, 90° 03′ 15″ W). Hole drilled to 463.3m. Alt of well head, 80.8m asl.

DE-321. Well Holcomb T20N R10E 06BDD1 **>38,100**

Sample coll July 26, 1984 (36° 24′ 18″ N, 90° 01′ 31″ W). Hole drilled to 378.0m. Alt of well head, 84.1m asl.

DE-322. Well Senath No. 2 **>39,300**

Sample coll July 30, 1984 (36° 08′ 11″ N, 90° 09′ 49″ W). Hole drilled to 521.2m.

New Madrid Co series

Samples from New Madrid Co.

DE-309. Well City of Marston **19,200 ± 400**

Sample coll Nov 2, 1983 (36° 31′ 07″ N, 89° 36′ 34″ W). Hole drilled to 502.9m. Alt of well head, 87.8m asl.

DE-310. Well City of Marston **21,100 ± 1100**

Sample coll Aug 2, 1984 (36° 31′ 07″ N, 89° 36′ 34″ W). Hole drilled to 502.9m. Alt of well head, 87.8m asl.

DE-312. Well City of Gideon **27,600 ± 970**

Sample coll Oct 13, 1983 (36° 27′ 05″ N, 89° 54′ 50″ W). Hole drilled to 399.2m. Alt of well head, 80.8m asl.

DE-313. Well City of Risco **25,100 ± 880**

Sample coll Oct 27, 1983 (36° 33′ 09″ N, 89° 49′ 20″ W). Hole drilled to 353.6m. Alt of well head, 84.1m asl.

DE-314. Well City of Parma No. 1 **5900 ± 80**

Sample coll Sept 26, 1984 (36° 36′ 45″ N, 89° 49′ 05″ W). Hole drilled to 144.8m. Alt of well head, 86.3m asl.

DE-311. Well Fred Scherer, Bell City **27,400 ± 4400**

Sample coll July 31, 1984, from Stoddard Co (36° 55′ 29″ N, 89° 44′ 38″ W). Hole drilled to 121.9m. Alt of well head, 97.5m asl.

Pemiscot Co series

Samples from Pemiscot Co.

DE-315. Well Steele No. 2—Deep well **23,300 ± 770**

Sample coll Sept 25, 1984 (36° 49′ 55″ N, 89° 49′ 58″ W). Hole drilled to 710.2m. Alt of well head, 79.2m asl.

DE-316. Artesian Well—Hayti No. 3 **35,500 ± 1500**

Sample coll Oct 12, 1983 (36° 14′ 18″ N, 89° 45′ 02″ W). Hole drilled to 655.3m. Alt of well head, 82.3m asl.

DE-317. Artesian Well—Hayti No. 3 **39,900 ± 1700**

Sample coll Oct 14, 1983 (36° 16′ 00″ N, 89° 49′ 50″ W). Hole drilled to 655.3m. Alt of well head, 82.3m asl.

DE-318. Well Pemiscot PWSD 2 at Pascola **31,000 ± 1300**

Sample coll Oct 12, 1983 (36° 16′ 00″ N, 89° 49′ 50″ W). Hole drilled to 591.3m. Alt of well head, 80.5m asl.

DE-324. Well Hayti No. 7 **20,200 ± 450**

Sample coll Sept 25, 1984 (36° 14′ 18″ N, 89° 45′ 02″ W).

DE-319. Well Sikeston No. 4 **6200 ± 120**

Sample coll Sept 26, 1984, from Scott Co (36° 59′ 39″ N, 89° 35′ 28″ W). Hole drilled to 114.3m. Alt of well head, 99.7m asl.

DE-320. Well T28N R13E 18DBB1 **1200 ± 90**

Sample coll Oct 25, 1983, from Scott Co (37° 05′ 00″ N, 89° 39′ 01″ W). Hole drilled to 27.4m. Alt of well head, 102.1m asl.

DE-323. Well Charleston No. 4 **6400 ± 200**

Sample coll Sept 27, 1984, from Mississippi Co (36° 55′ 33″ N, 89° 20′ 57″ W).

Nevada

Clarke Co series

Samples from Clark Co.

DE-330. Spring, Sandstone Spring No. 1 **5600 ± 120**

Sample coll June 25, 1985 (36° 03′ 47″ N, 115° 28′ 09″ W).

DE-331. Well BLM Visitor's Center **6200 ± 130**

Sample coll June 30, 1985 (36° 07′ 44″ N, 115° 26′ 03″ W). Alt of well head, 1152.1m asl.

DE-332. Red Spring **3700 ± 270**

Sample coll June 26, 1985 (36° 08′ 40″ N, 115° 25′ 10″ W). Alt of land surface, 1115.6m asl.

DE-333. Manse Well **6100 ± 130**

Sample coll June 27, 1985 (36° 09′ 17″ N, 115° 53′ 42″ W). Alt of well head, 865.6m asl.

DE-334. Well Sky Mt Resort **1400 ± 100**

Sample coll June 28, 1985 (36° 10′ 13″ N, 115° 34′ 44″ W).

DE-336. Spring, Dry Lake **28,200 ± 1100**

Sample coll July 1, 1985 (36° 27′ 18″ N, 114° 50′ 38″ W). Alt of land surface, 638.3m asl.

DE-342. White Rock Spring **26,800 ± 1400**

Sample coll June 26, 1985 (36° 10′ 27″ N, 115° 28′ 43″ W). Alt of land surface, 115.6m asl.

Nye Co series

Samples from Nye Co.

DE-325. Well USW H-3 **13,700 ± 130**

Sample coll March 13, 1984 (36° 49′ 42″ N, 116° 28′ 00″ W). Hole drilled to 1219.2m.

DE-326. Well UE-25c No. 3 **14,900 ± 160**

Sample coll May 9, 1984 (36° 49′ 47″ N, 116° 25′ 43″ W). Hole drilled to 914.4m.

DE-335. Well Near Pahrump Spring **10,800 ± 230**

Sample coll June 27, 1985 (36° 12′ 27″ N, 115° 59′ 01″ W). Alt of well head, 823m asl.

DE-337. Well USW H-3 **13,700 ± 130**

Sample coll March 14, 1984 (36° 49′ 42″ N, 116° 28′ 00″ W). Static water level, 751m below land surface. Also see sample DE-325.

DE-339. Well UE-25c No. 1 **15,200 ± 320**

Sample coll Sept 30, 1983 (36° 49′ 47″ N, 116° 25′ 43″ W). Hole drilled to 914.4m.

DE-340. Well UE-25c No. 2 **15,100 ± 210**

Sample coll March 13, 1984 (36° 49′ 47″ N, 116° 25′ 43″ W). Hole drilled to 914.4m.

DE-341. Duckwater Spring Railroad V **27,900 ± 980**

Sample coll June 13, 1983 (38° 57′ 01″ N, 115° 42′ 06″ W). Alt of land surface, 1708.1m asl.

DE-343. Fortymile Wash at well site J-13 **900 ± 60**

Charcoal coll Dec 12, 1983 (36° 48′ 34″ N, 116° 24′ 03″ W). Sample from mud plaster on canyon wall, 1.2m above stream bed.

DE-344. Well SP11 Fortymile Canyon **1600 ± 50**

Sample coll June 1, 1984 (36° 55′ 31″ N, 116° 22′ 31″ W). Static water level, 18.0m below land surface.

DE-345. Well USW H-6 **16,800 ± 310**

Sample coll July 6, 1984 (36° 50′ 49″ N, 116° 28′ 55″ W). Static water level, 627m below land surface.

DE-346. Fortymile Wash at well site J-13 **200 ± 90**

Vegetal fragments from mud plaster on canyon wall coll June 20, 1984 (36° 48′ 34″ N, 116° 24′ 03″ W), 1.2m above stream bed.

DE-347. Well USW H-6 **18,500 ± 220**

Sample coll June 20, 1984 (36° 50′ 49″ N, 116° 28′ 55″ W). Static water level, 794m below land surface.

DE-348. Busted Butte Wash **850 ± 150**

Surface water coll Aug 15, 1984 (36° 48′ 25″ N, 116° 23′ 39″ W).

DE-349. Fortymile Wash at Rd "H" **1400 ± 80**

Surface water coll Aug 15, 1984 (36° 48′ 29″ N, 116° 23′ 34″ W).

White Pine Co series

Samples from White Pine Co.

DE-327. Preston Big Spring **15,900 ± 330**

Sample coll June 16, 1983 (38° 55′ 40″ N, 115° 04′ 57″ W). Alt of land surface, 1737.4m asl.

DE-328. 02ACAB1 Preston Big Spring **17,600 ± 830**

Sample coll June 26, 1984 (38° 55′ 40″ N, 115° 04′ 57″ W). Alt of land surface, 1737.4m asl.

DE-329. 25CCCC1 Well at Alligator Ridge **33,200 ± 4600**

Sample coll April 24, 1984 (39° 44′ 27″ N, 115° 30′ 43″ W). Hole drilled to 200.9m. Alt of well head, 2023.9m asl.

DE-338. Amoco Expl Well Newark V **14,600 ± 250**

Sample coll April 22, 1985 (39° 50′ 43″ N, 115° 39′ 31″ W). Alt of well head, 1795.3m asl.

Puerto Rico

DE-373. Well Sabana Hoyos No. 3 Arecibo **000 ± 80**

Sample coll March 23, 1984, from Caguas Co (18° 24′ 21″ N, 66° 36′ 02″ W). Hole drilled to 213.4m.

DE-374. Well Prasa Monte Encantado Moca **1300 ± 70**

Sample coll March 24, 1984, from Caguas Co (18° 24′ 58″ N, 67° 02′ 15″ W). Hole drilled to 61m.

DE-375. Well Prasa Sabana NR Pike **8300 ± 160**

Sample coll March 23, 1984, from Barceloneta Co (18° 25′ 04″ N, 66° 35′ 01″ W).

DE-376. Well Prasa Artesian Crule Davila **7900 ± 90**

Sample coll March 20, 1984, from Cayey Co (18° 25′ 55″ N, 66° 34′ 02″ W). Hole drilled to 374.9m.

DE-377. Zanja Fria Spring Arecibo **3800 ± 80**

Sample coll March 27, 1984, from Caguas Co (18° 27′ 24″ N, 66° 39′ 20″ W).

DE-378. Well Garrochales No. 3 Barceloneta **4800 ± 70**

Sample coll March 23, 1984, from Cayey Co (18° 27′ 35″ N, 66° 36′ 57″ W). Hole drilled to 24.4m.

DE-379. Pampanos Well **6600 ± 70**

Sample coll May 1, 1984, from Vega Alta Co (18° 23′ 15″ N, 66° 18′ 59″ W).

DE-380. Well Prasa Florida No. 3 **3600 ± 60**

Sample coll March 26, 1984, from Arecibo Co (18° 21′ 50″ N, 66° 35′ 40″ W).

DE-381. La Pollero Well **5000 ± 80**

Sample coll March 23, 1984, from Barceloneta Co (18° 26′ 41″ N, 66° 34′ 56″ W).

South Carolina

DE-382. Well BFT-210 Sea Pines Windmill **30,200 ± 3900**

Sample coll May 21, 1985, from Beaufort Co (32° 08′ 35″ N, 80° 47′ 22″ W), at depth 39.6 to 48.8m. Alt of well head, 1.8m asl.

DE-383. Well JAS-136 Co Rd 92 **>34,000**

Sample coll June 26, 1985, from Jasper Co (32° 09′ 08″ N, 80° 59′ 49″ W), at depth 61.0 to 74.7m. Alt of well head, 6.1m asl.

DE-384. Well BFT-439 Seapines South **>32,000**

Sample coll July 23, 1985, from Beaufort Co (32° 09′ 10″ N, 80° 47′ 20″ W), at depth 55.5 to 59.4m. Alt of well head, 2.4m asl.

DE-385. Well BFT-565 TH No. 4 Parris Islands **16,400 ± 950**

Sample coll May 22, 1985, from Beaufort Co (32° 19′ 23″ N, 80° 40′ 21″ W), at depth 27.1 to 63.1m. Alt of well head, 3.3m asl.

DE-386. Well HAM-122 Rd 20 **7900 ± 350**

Sample coll June 25, 1985, from Hampton Co (32° 39′ 49″ N, 81° 19′ 30″ W), at depth 25.0 to 53.0m. Alt of well head, 22.9m asl.

Tennessee

Shelby Co series

Samples from Shelby Co.

DE-387. Well SH:J-146 MLGW-DAVIS **3800 ± 70**

Sample coll Aug 22, 1984 (35° 01′ 14″ N, 90° 07′ 17″ W). Hole drilled to 135.9m.

DE-388. Well SH:L-36 MLGW-LICHTERMAN **4400 ± 100**

Sample coll Aug 24, 1984 (35° 02′ 18″ N, 89° 51′ 17″ W). Hole drilled to 172.8m.

DE-389. Well SH:L-37 MLGW-LICHTERMAN **23,000 ± 80**

Sample coll April 25, 1985 (35° 02′ 30″ N, 89° 51′ 23″ W). Hole drilled to 116.4m.

DE-390. Well SH:K-74 SHEAHAN SOUTH WELL FIELD **1400 ± 70**

Sample coll April 25, 1985 (35° 05′ 16″ N, 89° 55′ 38″ W). Hole drilled to 83.2m.

DE-391. WELL SH:K-73 MLGW-SHEAHAN **1300 ± 60**

Sample coll Aug 20, 1984 (35° 05′ 18″ N, 89° 55′ 44″ W). Hole drilled to 83.2m.

DE-392. WELL SH:P-99 OVERTON PARK-2 **1900 ± 60**

Sample coll Aug 28, 1984 (35° 08′ 57″ N, 89° 59′ 14″ W). Hole drilled to 18m.

DE-393. SH:O-223 MALLORY WELL FIELD **2100 ± 60**

Sample coll April 26, 1985 (35° 09′ 13″ N, 90° 00′ 58″ W). Hole drilled to 235.3m.

DE-394. WELL SH:O-207 MLGW #120 **1700 ± 60**

Sample coll Aug 14, 1984 (35° 09′ 13″ N, 90° 10′ 08″ W). Hole drilled to 231m.

DE-395. WELL SH:P-23 BUCKEYE **21,000 ± 340**

Sample coll Aug 30, 1984 (35° 09′ 30″ N, 89° 57′ 45″ W). Hole drilled to 429.8m.

DE-397. WELL SH:O-169 MLGW-MALLORY **39,900 ± 1700**

Sample coll Oct 11, 1983 (35° 09′ 08″ N, 90° 01′ 46″W). Hole drilled to 810.8m.

DE-399. WELL AR:N-5 **10,600 ± 110**

Sample coll Aug 21, 1984 (35° 08′ 39″ N, 90° 10′ 44″ W). Hole drilled to 135.6m.

DE-396. WELL 20N08E15BAA1 **>39,900**

Sample coll July 26, 1984, from Clay Co (36° 22′ 25″ N, 90° 12′ 08″ W). Hole drilled to 323.1m. Alt of well head, 109.7m asl.

DE-398. WELL HY:J-1 Paris, TN **11,300 ± 110**

Sample coll Aug 17, 1984, from Henry Co (36° 18′ 04″ N, 88° 19′ 45″ W). Hole drilled to 161.2m. Alt of well head, 150.0m asl.

Utah

San Juan Co series

Samples from San Juan Co.

DE-400. WELL (D-40-24) 17 DBD-1 **>37,900**

Sample coll Oct 25, 1984 (37° 18′ 30″ N, 109° 17′ 50″ W). Hole drilled to 281.9m. Alt of well head, 139.6m asl.

DE-401. WELL (D-39-25) 5ACA-2 **33,200 ± 1700**

Sample coll June 19, 1984 (37° 25′ 39″ N, 109° 11′ 34″ W). Hole drilled to 396.2m. Alt of well head, 1450.8 asl.

DE-402. WELL (D-39-25) 5ACA-1 **24,000 ± 500**

Sample coll June 19, 1984 (37° 25′ 40″ N, 109° 11′ 34″ W). Hole drilled to 113.4m. Alt of well head, 1452.7m asl.

DE-403. WELL (D-38-25) 35 BDX-1 **32,300 ± 1500**

Sample coll June 20, 1984 (37° 26′ 28″ N, 109° 08′ 38″ W). Alt of well head, 1478.3m asl.

DE-404. WELL (D-37-24) 25BBD-1 **32,300 ± 1500**

Sample coll June 6, 1984 (37° 32′ 50″ N, 109° 14′ 20″ W). Hole drilled to 217m. Alt of well head, 1520.9m asl.

DE-405. WELL (D-36-24) 14DBA-1 **22,700 ± 560**

Sample coll June 7, 1984 (37° 39′ 27″ N, 109° 14′ 46″ W). Hole drilled to 74.7m. Alt of well head, 1639.8m asl.

DE-406. WELL (D-35-24) 14CCA-1 **21,900 ± 370**

Sample coll June 7, 1984, from Utah Co (37° 42′ 00″ N, 109° 16′ 00″ W).

DE-407. WELL (D-38-25) 07DBB01 **27,200 ± 740**

Sample coll June 21, 1984, from Utah Co (38° 29′ 47″ N, 109° 12′ 46″ W).

SOIL SAMPLES

United States

Indiana

Cowles Bog series

Samples coll Oct 5, 1983, from Cowles Bog, Indiana Dunes Natl Lakeshore, Porter Co, sec 22, T 37 N, R 6 W (41° 38′ N, 87° 06′ W).

DE-267. **1000 ± 70**

Fibrous peat; hole drilled to 0.30 to 0.50m below peat surface.

DE-268. **2000 ± 80**

Fibrous peat; hole drilled to 1.30 to 1.50m below peat surface.

DE-269. **3500 ± 70**

Fibrous peat; hole drilled to 2.3 to 2.5m below peat surface.

DE-270. **5600 ± 160**

Marly lake sediment; hole drilled to 3.6 to 3.7m below peat surface.

DE-271. **7800 ± 450**

Marly and sandy lake sediment; hole drilled to 4.9 to 5.0m below peat surface.

DE-287. **6000 ± 230**

Marl mixed with organic particles coll Oct 5, 1983 (41° 38′ 39″ N, 87° 06′ 40″ W), at depth 4.5 to 4.65m.

DE-289. **Modern**

Fibrous peat coll Aug 30, 1984 (41° 38′ 30″ N, 87° 05′ 36″ W), at depth 5.6 to 5.8m.

Miller Woods series

Samples coll Oct 20, 1983, from Miller Woods, Indiana Dunes Natl Lakeshore, Lake Co, sec 1, T 36 N, R 8 W (41° 36′ N, 87° 17′ W).

DE-272. Pond 56 **2400 ± 70**

Sandy peat; hole drilled to 0.94 to 1.10m below sediment surface.

DE-273. Pond 39 **2100 ± 80**

Sandy peat; hole drilled to 1.25 to 1.40m below sediment surface.

DE-274. Pond 53 **2700 ± 70**

Sandy peat; hole drilled to 10.7 to 12.6m below sediment surface.

DE-275. Pond 53 **1400 ± 90**

Sandy peat coll Oct 19, 1983. Hole drilled to 0.60 to 0.77m below sediment surface.

DE-276. Pond 53 **2200 ± 70**

Sandy peat coll Oct 19, 1983. Hole drilled to 0.12 to 27m below sediment surface.

DE-286. Pond 5 **2100 ± 120**

Marly organic lake mud coll May 8, 1984 (41° 37′ 00″ N, 87° 16′ 00″ W), at depth 0.85 to 0.90m.

DE-288. Pond 53 **3000 ± 90**

Organic lake sediment mixed with sand coll May 8, 1984 (41° 36′ 20″ N, 87° 17′ 12″ W), at depth 1.35 to 1.45m.

Pinhook Bog series

Samples coll Nov 1, 1983, from Pinhook Bog, Indiana Dunes Natl Lakeshore, La Porte Co, sec 35, T 37 N, R 4 W (41° 36′ N, 86° 50′ W).

DE-277. **2400 ± 80**

Fibrous peat; hole drilled to 2.15 to 2.4m below peat surface.

DE-278. **2200 ± 90**

Fibrous peat; hole drilled to 1.45 to 1.65m below peat surface.

DE-279. **1000 ± 70**

Fibrous peat; hole drilled to 0.65 to 0.80m below peat surface.

DE-280. **2200 ± 70**

Fibrous woody peat coll at depth 5.49 to 5.69m. *Comment:* samples DE-280 to -285 coll Oct 31, 1983 (41° 37′ 00″ N, 86° 51′ 41″ W).

DE-281. **4200 ± 80**

Fibrous peat coll at depth 7.8 to 7.9m.

DE-282. **5500 ± 90**

Fibrous peat coll at depth 9.14 to 9.29m.

DE-283. **8300 ± 100**

Fine organic detritus mixed with clay coll at depth 10.65 to 10.75m.

DE-284. **10,500 ± 150**

Clay mixed with fine organic detritus coll at depth 11.9 to 12.0m.

DE-285. **1200 ± 230**

Clay mixed with fine organic detritus coll at depth 12.95 to 13.05m.

Nevada

Walker Lake sediment series, Nye Co

All sample depths indicated are below water-sediment interface.

DE-350. WLC-4, seg 2, organic **1600 ± 190**

Sample coll Sept 7, 1984, from depth 0.60 to 0.69m.

DE-351. WLC-4(3)-2, organic **550 ± 150**
Sample coll Sept 7, 1984, from depth 1.10 to 1.18m.

DE-352. WLC-4(4)-3, organic **600 ± 160**
Sample coll Sept 7, 1984, from depth 1.05 to 1.12m.

DE-353. WLC-4(5)-4, organic **4000 ± 280**
Sample coll Sept 7, 1984, from depth 2.68 to 2.75m.

DE-354. WLC-4(7)-5, inorganic **5400 ± 250**
organic **14,000 ± 730**
Sample coll Sept 7, 1984, from depth 16.04 to 16.17m.

DE-355. WLC-4(9)-6, organic **14,200 ± 1300**
Sample coll Sept 7, 1984, from depth 22.35 to 22.45m.

DE-356. WLC-4(10)-7, organic **15,700 ± 680**
Sample coll Sept 7, 1984, from depth 24.60 to 24.67m.

DE-357. WLC-4(11)-8, organic **16,800 ± 1000**
Sample coll Sept 7, 1984, from depth 26.16 to 26.24m.

DE-358. WLC-4(12)-9, inorganic **16,500 ± 1000**
organic **18,700 ± 1100**
Sample coll Sept 7, 1984, from depth 30.41 to 30.62m.

DE-359. WLC-4(13)-10, inorganic **19,500 ± 1000**
organic **21,000 ± 1100**
Sample coll Sept 7, 1984, from depth 32.48 to 32.62m.

DE-360. WLC-4(14)-11, inorganic **26,700 ± 1100**
organic **32,100 ± 3900**
Sample coll Sept 7, 1984, from depth 35.09 to 35.18m.

DE-361. WLC-4(16)-12, organic **30,900 ± 6000**
Sample coll Sept 7, 1984, from depth 39.91 to 39.98m.

DE-362. WLC-4(17)-13, inorganic **24,900 ± 1900**
organic **>36,100**
Sample coll Sept 7, 1984, from depth 42.36 to 42.43m.

DE-363. WLC-4(19)-4, organic **>33,700**
Sample coll Sept 7, 1984, from depth 44.81 to 44.88m.

DE-364. WLC-5(5)-16, inorganic **24,000 ± 1300**
organic **>29,960**
Sample coll Nov 30, 1984, from depth 36.20 to 36.32m.

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DE-365. WLC-5(6)-17, organic **31,400 ± 8400**

Sample coll Nov 30, 1984, from depth 39.71 to 39.83m.

DE-366. WLC-6(1)-18, inorganic **350 ± 100**
organic **360 ± 170**

Sample coll Nov 30, 1984, from depth 1.0 to 1.15m.

DE-367. WLC-8(2A)-19, inorganic **1700 ± 180**
organic **1300 ± 170**

Sample coll Nov 30, 1984, from depth 2.83 to 2.99m.

DE-370. WLC-8(4)-20, inorganic **3800 ± 200**
organic **3500 ± 200**

Sample coll Nov 30, 1984, from depth 6.92 to 7.07m.

DE-371. WLC-8(8)-21, inorganic **4700 ± 220**
organic **4700 ± 220**

Sample coll Nov 30, 1984, from depth 10.00 to 10.24m.

DE-368. WLC-4(8)-23, organic **8700 ± 310**

Sample coll June 6, 1985, from depth 19.65 to 19.89m.

DE-369. WLC-8(9)-29, inorganic **4700 ± 230**
organic **4700 ± 110**

Sample coll June 6, 1985, from depth 10.90 to 11.15m.

DE-372. WLC-8(2B)-30, inorganic **1900 ± 170**
organic **2600 ± 170**

Sample coll June 6, 1985, from depth 4.23 to 4.39m.

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TABLE 1
Summary of $\delta^{13}C$ and alkalinity for water sources

Sample no.	Colln date	$\delta^{13}C$ (‰ PDB) Inorg carbon	Total alkalinity as bicarbonate (mg/L)	Water source by state
DE-236	7/26/84	−12.44	306	Arkansas
-237	8/01/84	−11.6	402	"
-238	11/21/83	—	1930	California
-239	11/21/83	—	2010	"
-240	11/19/83	—	587	"
-241	11/21/83	—	433	"
-242	7/25/85	—	—	"
-243	7/29/85	—	—	"
-244	7/13/85	—	—	"
-245	7/10/84	—	—	"
-246	7/10/84	—	—	"
-247	7/13/84	—	—	"
-248	8/31/83	−8.3	—	Colorado
-249	10/28/83	−3.8	—	"
-250	3/24/83	−6.5	—	"
-251	3/24/83	−0.4	—	"
-252	3/24/83	−3.9	—	"
-253	3/24/83	−4.5	—	"
-254	3/24/83	−3.5	—	"
-255	3/24/83	−4.7	—	"
-256	10/9/83	−4.5	—	"
-257	10/10/83	−9.4	—	"
-258	8/26/83	−7.1	—	"
-259	8/30/83	−3.6	—	"
-260	10/6/83	−6.3	—	"
-261	10/4/83	−1.3	—	"
-262	7/18/83	−9.3	—	"
-263	8/22/83	−11.3	—	"
-264	3/24/83	−2.5	—	"
-265	2/7/84	−10.4	—	"
-266	9/13/84	—	580	"
-267	10/5/83	—	—	Indiana
-268	10/5/83	—	—	"
-269	10/5/83	—	—	"
-270	10/5/83	—	—	"
-271	10/5/83	—	—	"
-272	10/20/83	—	—	"
-273	10/20/83	—	—	"
-274	10/20/83	—	—	"
-275	10/19/83	—	—	"
-276	10/19/83	—	—	"
-277	11/1/83	—	—	"
-278	11/1/83	—	—	"
-279	11/1/83	—	—	"
-280	10/31/83	—	—	"
-281	10/31/83	—	—	"
-282	10/31/83	—	—	"
-283	10/31/83	—	—	"
-284	10/31/83	—	—	"
-285	10/31/83	—	—	"
-286	5/8/84	—	—	"
-287	10/5/84	—	—	"
-288	5/8/84	—	—	"
-289	8/30/84	−27.2	—	"

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TABLE 1 (continued)

Sample no.	Colln date	$\delta^{13}C$ (‰ PDB) Inorg carbon	Total alkalinity as bicarbonate (mg/L)	Water source by state
DE-290	7/10/84	—	—	Iowa
-291	7/11/84	—	—	"
-292	7/9/84	—	294	"
-293	7/7/84	—	234	"
-294	7/11/84	—	224	"
-295	7/11/84	—	286	"
-296	7/6/84	—	370	"
-297	7/6/84	—	283	"
-298	7/5/84	—	218	"
-299	7/5/84	—	218	"
-300	7/3/84	—	213	"
-301	7/3/84	—	244	"
-302	7/3/84	—	280	"
-303	7/6/84	—	312	"
-304	7/12/84	—	226	"
-305	7/9/84	—	301	"
-306	8/3/84	—	554	Missouri
-307	8/1/84	−12.5	332	"
-308	7/30/84	−11.9	474	"
-309	11/2/83	—	115	"
-310	8/2/84	−11.5	118	"
-311	7/31/84	−13.3	167	"
-312	10/13/83	−13.2	—	"
-313	10/27/83	−14.1	—	"
-314	9/26/84	−14.3	176	"
-315	9/25/84	−14.6	85	"
-316	10/12/83	−13.1	—	"
-317	10/14/83	—	—	"
-318	10/12/83	−16.6	—	"
-319	9/26/84	−13.5	131	"
-320	10/25/83	−16.1	—	"
-321	7/26/84	−13.9	276	"
-322	7/30/84	−11.6	356	"
-323	9/27/84	—	112	"
-324	9/25/84	—	100	"
-325	3/13/84	−4.9	—	Nevada
-326	5/9/84	−7.5	—	"
-327	6/16/83	−5.9	—	"
-328	6/26/84	−5.7	—	"
-329	4/24/84	−3.5	—	"
-330	6/25/85	—	—	"
-331	6/30/85	—	—	"
-332	6/26/85	—	—	"
-333	6/27/85	—	—	"
-334	6/28/85	—	—	"
-335	6/27/85	—	—	"
-336	7/1/85	—	—	"

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TABLE 1 (continued)

Sample no.	Colln date	$\delta^{13}C$ (‰ PDB) Org carbon	$\delta^{13}C$ (‰ PDB) Inorg carbon	Total alkalinity as bicarbonate (mg/L)	Water source by state
DE-337	3/14/84	—	—	—	Nevada
-338	4/22/85	—	—	—	"
-339	9/30/83	—	−7.1	113	"
-340	3/13/84	—	−7.0	117	"
-341	6/13/83	—	−4.4	—	"
-342	6/26/85	—	−12.0	—	"
-343	12/12/83	—	—	—	"
-344	6/1/84	—	—	112	"
-345	7/6/84	—	—	192	"
-346	6/20/84	—	—	—	"
-347	6/20/84	—	—	178	"
-348	8/15/84	—	—	—	"
-349	8/15/84	—	—	—	"
-350	9/7/84	−26.9	—	—	"
-351	9/7/84	−24.7	—	—	"
-352	9/7/84	−27.1	—	—	"
-353	9/7/84	−27.7	—	—	"
-354	9/7/84	−24.9	+1.0	—	"
-355	9/7/84	−24.3	—	—	"
-356	9/7/84	−23.9	—	—	"
-357	9/7/84	−24.1	—	—	"
-358	9/7/84	−24.1	−0.7	—	"
-359	9/7/84	−22.5	−0.3	—	"
-360	9/7/84	−27.1	+1.1	—	"
-361	9/7/84	−24.9	—	—	"
-362	9/7/84	−24.1	−2.8	—	"
-363	9/7/84	−24.2	—	—	"
-364	11/30/84	−22.9	−1.4	—	"
-365	11/30/84	−24.2	—	—	"
-366	11/30/84	−22.9	+0.5	—	"
-367	11/30/84	−25.6	−2.7	—	"
-368	6/6/85	−25.0	−3.8	—	"
-369	6/6/85	−22.7	+2.1	—	"
-370	11/30/84	−25.5	−0.9	—	"
-371	11/30/84	−25.9	+0.0	—	"
-372	6/6/85	−23.4	−0.3	—	"
-373	3/23/84	—	−14.7	274	Puerto Rico
-374	3/24/84	—	−12.9	237	"
-375	3/23/84	—	−13.6	263	"
-376	3/20/84	—	−11.6	287	"
-377	3/27/84	—	−13.4	289	"
-378	3/23/84	—	−13.3	314	"
-379	5/1/84	—	−9.45	393	"
-380	3/26/84	—	−12.2	293	"
-381	3/23/84	—	−13.1	257	"
-382	5/21/85	—	−1.8	120	South Carolina
-383	6/26/85	—	−3.0	101	"
-384	7/23/85	—	−1.6	115	"
-385	5/22/85	—	−9.6	257	"
-386	6/25/85	—	−10.5	155	"

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TABLE 1 (continued)

Sample no.	Colln date	$\delta^{13}C$ (‰ PDB) Inorg carbon	Total alkalinity as bicarbonate (mg/L)	Water source by state
DE-387	8/22/84	−20.8	70	Tennessee
-388	8/24/84	−21.6	39	"
-389	4/25/85	−21.0	32	"
-390	4/25/85	−20.5	50	"
-391	8/20/84	−21.2	66	"
-392	8/28/84	−16.8	294	"
-393	4/26/85	−19.5	68	"
-394	8/14/84	−20.3	66	"
-395	8/30/84	−15.1	89	"
-396	7/26/84	−12.4	306	"
-397	10/11/83	—	755	"
-398	8/17/84	−17.0	32	"
-399	8/21/84	—	96	"
-400	10/25/84	—	754	Utah
-401	6/19/84	−5.7	504	"
-402	6/19/84	−6.1	372	"
-403	6/20/84	−6.0	494	"
-404	6/6/84	−7.2	290	"
-405	6/7/84	−8.2	218	"
-406	6/7/84	—	363	"
-407	6/21/84	−6.0	243	"

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