

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Davis Oil Company's LaCoy-Federal Well 1 drilled in the  
W1/2SW1/4 (1320 feet FSL, 3965 feet FEL) of sec. 6, T 20 N, R 110 W, Sweetwater County, Wyoming

Surface elevation: 6,539 feet

Kelly Bushing elevation: 6,560 feet

| Sample number  |         | Run<br>No. | Yield of product |       |               |                | Specific<br>gravity<br>of oil at<br>60°/60° F | Properties of<br>spent shale<br>Tendency to<br>coke | Remarks |      |
|----------------|---------|------------|------------------|-------|---------------|----------------|---|---|---------|------|
|                |         |            | Weight percent   |       | Gas +<br>loss | Gal per ton    |   |   |         |      |
| Laramie        | Their   |            | Oil              | Water |               | Spent<br>shale |   | Oil <sup>1/</sup>                                   | Water   |      |
| SBR76-11702    | 70-80   |            |                  |       |               |                | b   |   |         |      |
| SBR76-11703-04 | 80-100  |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11705-15 | 100-210 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11716    | 210-220 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11717    | 220-230 |            |                  |       |               |                | c   |   |         |      |
| SBR76-11718-21 | 230-270 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11722    | 270-280 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11723-24 | 280-300 |            |                  |       |               |                | c   |   |         |      |
| SBR76-11725-26 | 300-320 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11727    | 320-330 |            |                  |       |               |                | b   |   |         |      |
| SBR76-11728-41 | 330-470 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11742    | 470-480 | 24354      | 0.0              | 3.5   | 95.5          | 1.0            | No oil  | 8.3   | None    |      |
| SBR76-11743    | 480-490 | 24355      | .0               | 3.5   | 96.0          | .5             | No oil  | 8.5   | None    |      |
| SBR76-11744    | 490-500 | 24356      | .0               | 3.8   | 95.9          | .3             | No oil  | 9.2   | None    |      |
| SBR76-11745    | 500-510 | 24357      | .0               | 3.0   | 95.0          | 2.0            | Trace   | 7.2   | None    |      |
| SBR76-11746    | 510-520 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11747-51 | 520-570 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11752-57 | 570-630 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11758    | 630-640 |            |                  |       |               |                | c   |   |         |      |
| SBR76-11759-60 | 640-660 |            |                  |       |               |                | b   |   |         |      |
| SBR76-11761    | 660-670 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11762-64 | 670-700 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11765-67 | 700-730 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11768-72 | 730-780 |            |                  |       |               |                | b   |   |         |      |
| SBR76-11773    | 780-790 |            |                  |       |               |                | Trace   |   |         |      |
| SBR76-11774-81 | 790-870 |            |                  |       |               |                | No oil  |   |         |      |
| SBR76-11782    | 870-880 | 24358      | 2.2              | 2.3   | 94.4          | 1.1            | 5.8   | 5.5   | 0.905   | None |
| SBR76-11783    | 880-890 | 24359      | 2.1              | 2.3   | 94.6          | 1.0            | 5.6   | 5.5   | .904    | None |
| SBR76-11784    | 890-900 | 24360      | .6               | 2.6   | 96.0          | .8             | 1.6a  | 6.2   |         | None |
| SBR76-11785    | 900-910 | 24361      | .4               | 2.7   | 96.4          | .5             | 1.0a  | 6.5   |         | None |

See footnote at end of table.

Drill cuttings received August 30, 1976; assays made on air-dried samples

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Davis Oil Company's LaCoy-Federal Well 1

Surface elevation: 6,539 feet

| Sample number   |           | Run No. | Yield of product |       |             |            | Specific gravity of oil at 60°/60° F | Properties of spent shale |                   | Remarks |
|-----------------|-----------|---------|------------------|-------|-------------|------------|--------------------------------------|---------------------------|-------------------|---------|
|                 |           |         | Weight percent   |       | Spent shale | Gas + loss |                                      | Gal per ton               |                   |         |
| Laramie         | Their     |         | Oil              | Water |             |            |                                      |                           | Oil <sup>1/</sup> | Water   |
| SBR76-11786     | 910-920   | 24362   | 0.7              | 2.0   | 96.5        | 0.8        | 1.8a                                 | 4.8                       |                   | None    |
| SBR76-11787     | 920-930   | 24363   | 1.1              | 2.9   | 95.4        | .6         | 2.7a                                 | 7.0                       |                   | None    |
| SBR76-11788     | 930-940   | 24364   | .8               | 3.0   | 95.8        | .4         | 2.1a                                 | 7.2                       |                   | None    |
| SBR76-11789     | 940-950   | 24365   | .4               | 2.8   | 95.4        | 1.4        | 1.1a                                 | 6.7                       |                   | None    |
| SBR76-11790     | 970-980   | 24366   | .4               | 2.6   | 96.3        | .7         | 1.1a                                 | 6.3                       |                   | None    |
| SBR76-11791     | 980-990   | 24367   | .9               | 3.2   | 94.4        | 1.5        | 2.4a                                 | 7.7                       |                   | None    |
| SBR76-11792     | 990-1000  |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11793     | 1000-1010 | 24368   | 2.3              | 2.8   | 93.7        | 1.2        | 6.0                                  | 6.7                       | 0.906             | None    |
| SBR76-11794     | 1010-1020 | 24369   | .9               | 2.7   | 95.1        | 1.3        | 2.4a                                 | 6.5                       |                   | None    |
| SBR76-11795     | 1020-1030 | 24370   | 1.8              | 2.1   | 95.0        | 1.1        | 4.7a                                 | 5.0                       |                   | None    |
| SBR76-11796     | 1030-1040 | 24371   | 1.4              | 2.9   | 94.8        | .9         | 3.7a                                 | 7.0                       |                   | None    |
| SBR76-11797     | 1040-1050 | 24372   | .5               | 3.0   | 95.7        | .8         | 1.3a                                 | 7.2                       |                   | None    |
| SBR76-11798     | 1050-1060 |         |                  |       |             |            | c                                    |                           |                   |         |
| SBR76-11799-800 | 1060-1080 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11801     | 1080-1090 | 24373   | 4.5              | 2.6   | 91.3        | 1.6        | 12.0                                 | 6.2                       | .895              | None    |
| SBR76-11802     | 1090-1100 | 24374   | 1.9              | 1.1   | 95.1        | 1.9        | 5.1                                  | 2.6                       | .892              | None    |
| SBR76-11803     | 1100-1110 | 24375   | .4               | 2.5   | 96.5        | .5         | 1.2a                                 | 6.0                       |                   | None    |
| SBR76-11804     | 1110-1120 | 24376   | 1.4              | 1.8   | 96.1        | .7         | 3.6a                                 | 4.3                       |                   | None    |
| SBR76-11805     | 1120-1130 |         |                  |       |             |            | c                                    |                           |                   |         |
| SBR76-11806     | 1130-1140 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11807     | 1140-1150 |         |                  |       |             |            | Trace                                |                           |                   |         |
| SBR76-11808     | 1150-1160 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11809     | 1160-1170 |         |                  |       |             |            | Trace                                |                           |                   |         |
| SBR76-11810-11  | 1170-1190 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11812     | 1190-1200 | 24378   | .8               | 1.1   | 97.2        | .9         | 2.1a                                 | 2.5                       |                   | None    |
| SBR76-11813     | 1200-1210 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11814     | 1210-1220 | 24379   | .3               | 1.7   | 97.8        | .2         | .7a                                  | 4.1                       |                   | None    |
| SBR76-11815     | 1220-1230 | 24380   | 2.7              | .1    | 95.3        | 1.9        | 7.0a                                 | .1                        |                   | None    |
| SBR76-11816     | 1230-1240 |         |                  |       |             |            | b                                    |                           |                   |         |
| SBR76-11817-18  | 1240-1260 |         |                  |       |             |            | c                                    |                           |                   |         |

See footnote at end of table.

Drill cuttings received August 30, 1976; assays made on air-dried samples

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Davis Oil Company's LaCoy-Federal Well 1

Surface elevation: 6,539 feet

| Sample number |           | Run No. | Yield of product |       |             |            | Specific gravity of oil at 60°/60° F | Properties of spent shale |                   | Remarks |
|---------------|-----------|---------|------------------|-------|-------------|------------|--------------------------------------|---------------------------|-------------------|---------|
|               |           |         | Weight percent   |       | Spent shale | Gas + loss |                                      | Gal per ton               |                   |         |
| Laramie       | Their     |         | Oil              | Water |             |            |                                      |                           | Oil <sup>1/</sup> | Water   |
| SBR76-11819   | 1260-1270 | 24381   | 0.1              | 1.4   | 97.6        | 0.9        | 0.4a                                 | 3.4                       |                   | None    |
| SBR76-11820   | 1270-1280 | 24382   | .8               | .8    | 97.7        | .7         | 2.2a                                 | 1.9                       |                   | None    |
| SBR76-11821   | 1280-1290 | 24383   | 3.9              | 2.3   | 92.3        | 1.5        | 10.4                                 | 5.5                       | 0.906             | None    |
| SBR76-11822   | 1290-1300 | 24384   | 2.0              | 3.4   | 92.7        | 1.9        | 5.5                                  | 8.1                       | .888              | None    |
| SBR76-11823   | 1300-1310 | 24385   | 5.2              | 2.1   | 90.9        | 1.8        | 13.8                                 | 5.0                       | .909              | None    |
| SBR76-11824   | 1310-1320 | 24386   | 7.0              | 2.9   | 87.8        | 2.3        | 18.4                                 | 7.0                       | .910              | None    |
| SBR76-11825   | 1320-1330 | 24387   | 5.4              | 2.8   | 89.3        | 2.5        | 14.3                                 | 6.7                       | .909              | None    |
| SBR76-11826   | 1330-1340 | 24388   | 4.3              | 1.8   | 92.2        | 1.7        | 11.4                                 | 4.3                       | .903              | None    |
| SBR76-11827   | 1340-1350 | 24389   | 4.5              | 3.5   | 90.1        | 1.9        | 12.0                                 | 8.4                       | .905              | None    |
| SBR76-11828   | 1350-1360 | 24390   | 3.3              | 7.0   | 86.6        | 3.1        | 8.7                                  | 16.8                      | .907              | None    |
| SBR76-11829   | 1360-1370 | 24391   | 3.4              | 4.7   | 88.8        | 3.1        | 9.1                                  | 11.3                      | .903              | None    |
| SBR76-11830   | 1370-1380 | 24393   | 6.8              | 2.8   | 85.5        | 4.9        | 18.1                                 | 6.7                       | .905              | None    |
| SBR76-11831   | 1380-1390 | 24394   | 2.9              | 2.2   | 92.5        | 2.4        | 7.8                                  | 5.3                       | .903              | None    |
| SBR76-11832   | 1390-1400 | 24395   | 3.7              | 2.4   | 89.1        | 4.8        | 9.5a                                 | 5.8                       |                   | None    |
| SBR76-11833   | 1400-1410 | 24396   | 4.2              | 3.1   | 88.8        | 3.9        | 11.2                                 | 7.4                       | .903              | None    |
| SBR76-11834   | 1410-1420 | 24397   | 6.3              | 2.5   | 88.4        | 2.8        | 16.6                                 | 6.0                       | .903              | None    |
| SBR76-11835   | 1420-1430 | 24398   | 6.8              | 1.6   | 88.6        | 3.0        | 18.1                                 | 3.9                       | .905              | None    |
| SBR76-11836   | 1430-1440 | 24399   | 5.0              | 1.8   | 89.5        | 3.7        | 13.2                                 | 4.3                       | .905              | None    |
| SBR76-11837   | 1440-1450 | 24400   | 2.5              | 1.9   | 93.0        | 2.6        | 6.7                                  | 4.5                       | .904              | None    |
| SBR76-11838   | 1450-1460 | 24401   | 2.3              | 1.9   | 94.2        | 1.6        | 6.0a                                 | 4.4                       |                   | None    |
| SBR76-11839   | 1460-1470 | 24402   | 2.8              | 1.9   | 93.5        | 1.8        | 7.6                                  | 4.5                       | .900              | None    |
| SBR76-11840   | 1470-1480 | 24403   | 3.4              | 2.6   | 91.5        | 2.5        | 8.9                                  | 6.3                       | .904              | None    |
| SBR76-11841   | 1480-1490 | 24404   | 2.5              | 3.7   | 91.6        | 2.2        | 6.4a                                 | 8.9                       |                   | None    |
| SBR76-11842   | 1490-1500 | 24405   | 2.1              | 2.1   | 94.1        | 1.7        | 5.3a                                 | 5.0                       |                   | None    |
| SBR76-11843   | 1500-1510 | 24406   | 7.0              | 2.5   | 88.3        | 2.2        | 18.3                                 | 6.0                       | .909              | None    |
| SBR76-11844   | 1510-1520 | 24407   | 6.6              | 1.4   | 88.8        | 3.2        | 17.4                                 | 3.4                       | .907              | None    |
| SBR76-11845   | 1520-1530 | 24408   | 6.6              | 2.6   | 87.3        | 3.5        | 17.3                                 | 6.2                       | .911              | None    |
| SBR76-11846   | 1530-1540 | 24409   | 5.4              | 4.7   | 87.4        | 2.5        | 14.3                                 | 11.3                      | .907              | None    |
| SBR76-11847   | 1540-1550 | 24410   | 5.3              | 1.2   | 90.9        | 2.6        | 14.0                                 | 2.9                       | .906              | None    |
| SBR76-11848   | 1550-1560 | 24411   | 4.3              | 1.3   | 91.4        | 3.0        | 11.2                                 | 3.3                       | .911              | None    |

See footnote at end of table.

Drill cuttings received August 30, 1976; assays made on air-dried samples

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Davis Oil Company's LaCoy-Federal Well 1

Surface elevation: 6,539 feet

| Sample number   |           | Run No. | Yield of product |       |             |             |                   |       | Specific gravity of oil at 60°/60° F | Properties of spent shale<br>Tendency to coke | Remarks |
|-----------------|-----------|---------|------------------|-------|-------------|-------------|-------------------|-------|--------------------------------------|---|---------|
|                 |           |         | Weight percent   |       |             | Gal per ton |                   |       |                                      |   |         |
| Laramie         | Their     |         | Oil              | Water | Spent shale | Gas + loss  | Oil <sup>1/</sup> | Water |                                      |   |         |
| SBR76-11849     | 1560-1570 | 24412   | 6.5              | 3.7   | 87.7        | 2.1         | 17.1              | 8.9   | 0.907                                | None  |         |
| SBR76-11850     | 1570-1580 | 24413   | 5.2              | 1.6   | 91.6        | 1.6         | 13.8              | 3.8   | .902                                 | None  |         |
| SBR76-11851     | 1580-1590 | 24414   | 5.7              | 1.5   | 89.8        | 3.0         | 15.2              | 3.6   | .902                                 | None  |         |
| SBR76-11852     | 1590-1600 | 24415   | 1.9              | 1.9   | 95.4        | .8          | 5.1a              | 4.7   |                                      | None  |         |
| SBR76-11853     | 1600-1610 | 24416   | 2.4              | 2.7   | 93.5        | 1.4         | 6.4               | 6.4   | .903                                 | None  |         |
| SBR76-11854     | 1610-1620 | 24417   | 2.8              | 2.0   | 93.3        | 1.9         | 7.5               | 4.8   | .904                                 | None  |         |
| SBR76-11855     | 1620-1630 | 24418   | 2.5              | 1.8   | 94.0        | 1.7         | 6.8               | 4.3   | .902                                 | None  |         |
| SBR76-11856     | 1630-1640 | 24419   | 2.4              | 1.6   | 94.4        | 1.6         | 6.4               | 3.8   | .903                                 | None  |         |
| SBR76-11857     | 1640-1650 | 24420   | 3.0              | 1.8   | 93.5        | 1.7         | 8.0               | 4.3   | .904                                 | None  |         |
| SBR76-11858     | 1650-1660 | 24421   | 3.3              | 2.0   | 92.9        | 1.8         | 8.8               | 4.8   | .904                                 | None  |         |
| SBR76-11859     | 1660-1670 | 24422   | 1.1              | 1.1   | 96.2        | 1.6         | 2.9a              | 2.6   |                                      | None  |         |
| SBR76-11860     | 1670-1680 | 24423   | 2.4              | 1.8   | 94.1        | 1.7         | 6.4               | 4.3   | .903                                 | None  |         |
| SBR76-11861     | 1680-1690 | 24424   | 2.5              | 3.5   | 92.2        | 1.8         | 6.7               | 8.4   | .906                                 | None  |         |
| SBR76-11862     | 1690-1700 | 24425   | 4.2              | 2.1   | 90.6        | 3.1         | 11.1              | 5.0   | .909                                 | None  |         |
| SBR76-11863     | 1700-1710 | 24426   | 3.9              | 1.6   | 92.1        | 2.4         | 10.4              | 3.8   | .908                                 | None  |         |
| SBR76-11864     | 1710-1720 | 24427   | 4.1              | 3.4   | 89.9        | 2.6         | 10.9              | 8.1   | .907                                 | None  |         |
| SBR76-11865     | 1720-1730 | 24428   | 2.1              | 1.7   | 95.1        | 1.1         | 5.5               | 4.2   | .907                                 | None  |         |
| SBR76-11866     | 1730-1740 | 24429   | 2.3              | 1.8   | 94.2        | 1.7         | 6.0               | 4.3   | .907                                 | None  |         |
| SBR76-11867     | 1740-1750 | 24430   | 1.0              | 1.5   | 96.3        | 1.2         | 2.8a              | 3.5   |                                      | None  |         |
| SBR76-11868     | 1750-1760 | 24431   | 1.4              | 3.3   | 93.8        | 1.5         | 3.7a              | 7.9   |                                      | None  |         |
| SBR76-11869     | 1760-1770 |         |                  |       |             |             | No oil            |       |                                      |   |         |
| SBR76-11870-77  | 1780-1860 |         |                  |       |             |             | No oil            |       |                                      |   |         |
| SBR76-11878     | 1860-1870 |         |                  |       |             |             | Trace             |       |                                      |   |         |
| SBR76-11879     | 1870-1880 |         |                  |       |             |             | b                 |       |                                      |   |         |
| SBR76-11880     | 2090-2100 |         |                  |       |             |             | c                 |       |                                      |   |         |
| SBR76-11881-935 | 2180-2730 |         |                  |       |             |             | No oil            |       |                                      |   |         |
| SBR76-11936     | 2730-2740 |         |                  |       |             |             | Trace             |       |                                      |   |         |
| SBR76-11937-38  | 2740-2760 |         |                  |       |             |             | b                 |       |                                      |   |         |
| SBR76-11939     | 2760-2770 |         |                  |       |             |             | c                 |       |                                      |   |         |
| SBR76-11940-46  | 2770-2840 |         |                  |       |             |             | b                 |       |                                      |   |         |

See footnote at end of table.

Drill cuttings received August 30, 1976; assays made on air-dried samples

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Davis Oil Company's LaCoy-Federal Well 1

Surface elevation: 6,539 feet

| Sample number  |           | Run No. | Yield of product |       |             |            | Specific gravity of oil at 60°/60° F | Properties of spent shale<br>Tendency to coke | Remarks |
|----------------|-----------|---------|------------------|-------|-------------|------------|--------------------------------------|---|---------|
|                |           |         | Weight percent   |       | Gal per ton |            |                                      |   |         |
| Laramie        | Their     |         | Oil              | Water | Spent shale | Gas + loss | Oil <sup>1/</sup>                    | Water   |         |
| SBR76-11947-48 | 2840-2860 |         |                  |       |             |            | Trace                                |   |         |
| SBR76-11949-50 | 2860-2880 |         |                  |       |             |            | b                                    |   |         |
| SBR76-11951    | 2880-2890 |         |                  |       |             |            | Trace                                |   |         |
| SBR76-11952-55 | 2890-2930 |         |                  |       |             |            | b                                    |   |         |
| SBR76-11956-57 | 2930-2950 |         |                  |       |             |            | Trace                                |   |         |
| SBR76-11958    | 2950-2960 |         |                  |       |             |            | c                                    |   |         |
| SBR76-11959    | 2960-2970 |         |                  |       |             |            | b                                    |   |         |
| SBR76-11960    | 2970-2980 |         |                  |       |             |            | c                                    |   |         |
| SBR76-11961    | 2980-2990 |         |                  |       |             |            | b                                    |   |         |

<sup>1/</sup> "a"--indicates specific gravity estimated as 0.92. Oil yields were estimated by a rapid test-tube method: "No oil," "Trace," "b"--less than 1 gal oil/ton, "c"--1 to 3 gal oil/ton.

Drill cuttings received August 30, 1976; assays made on air-dried samples