

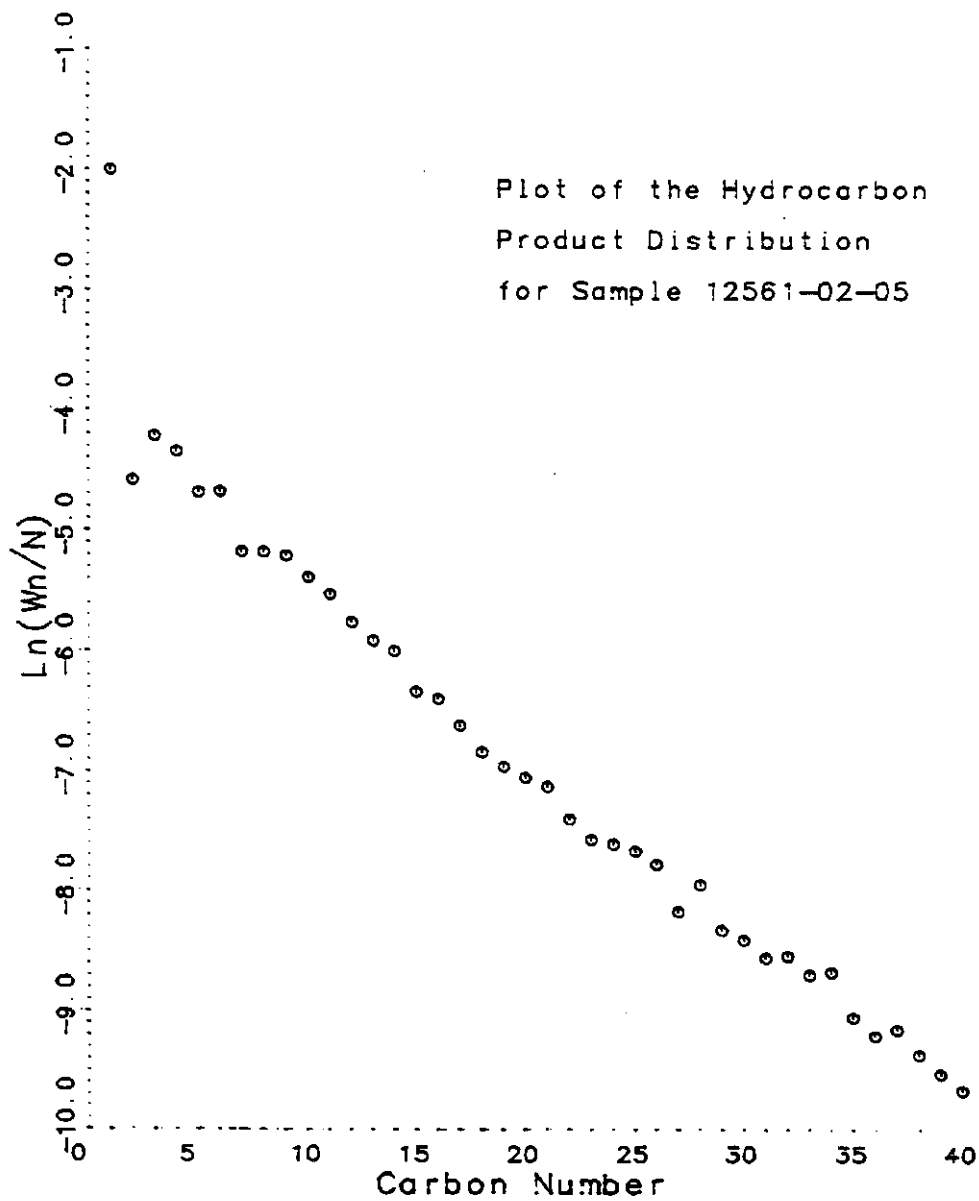


Fig. B112

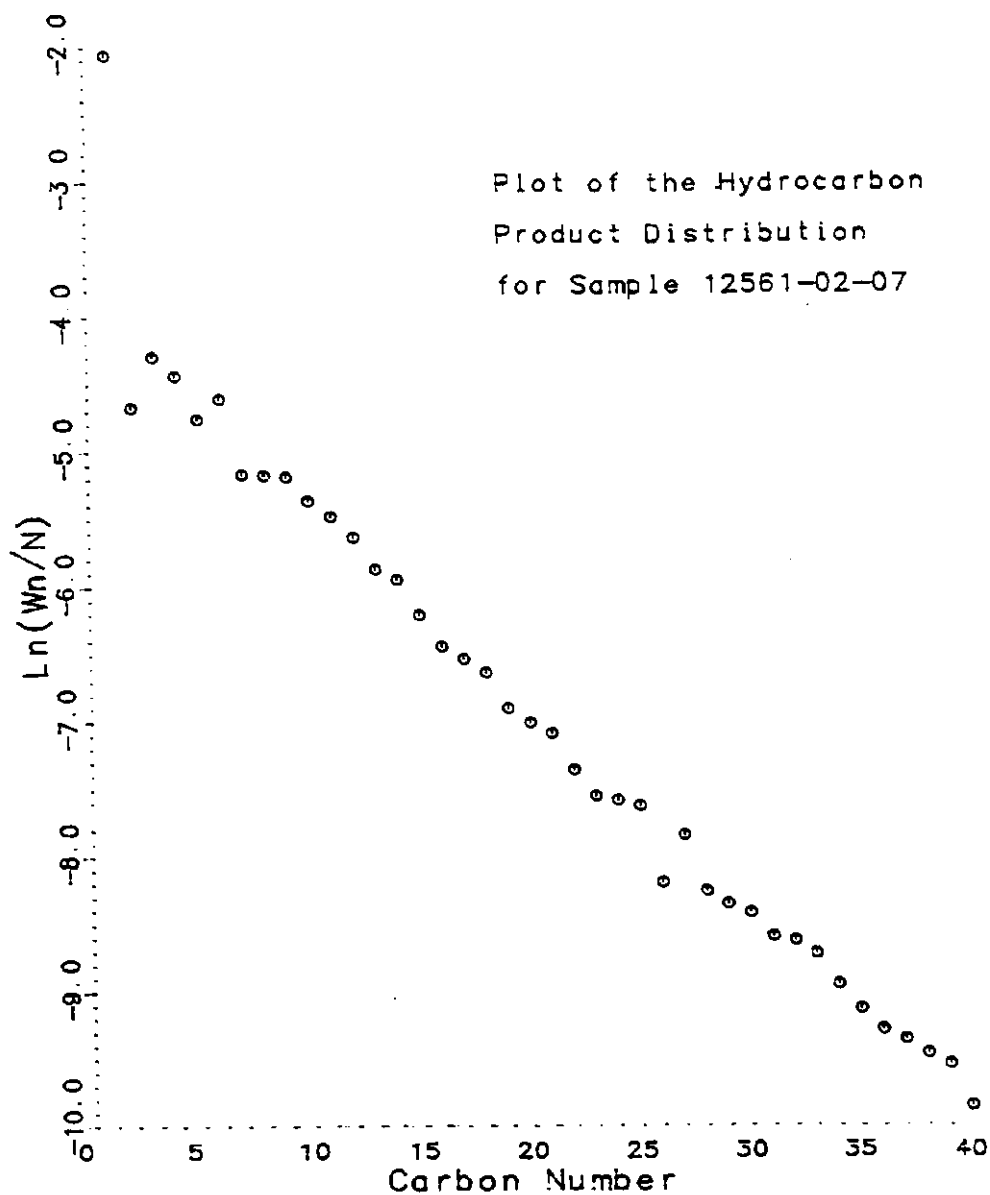


Fig. B113

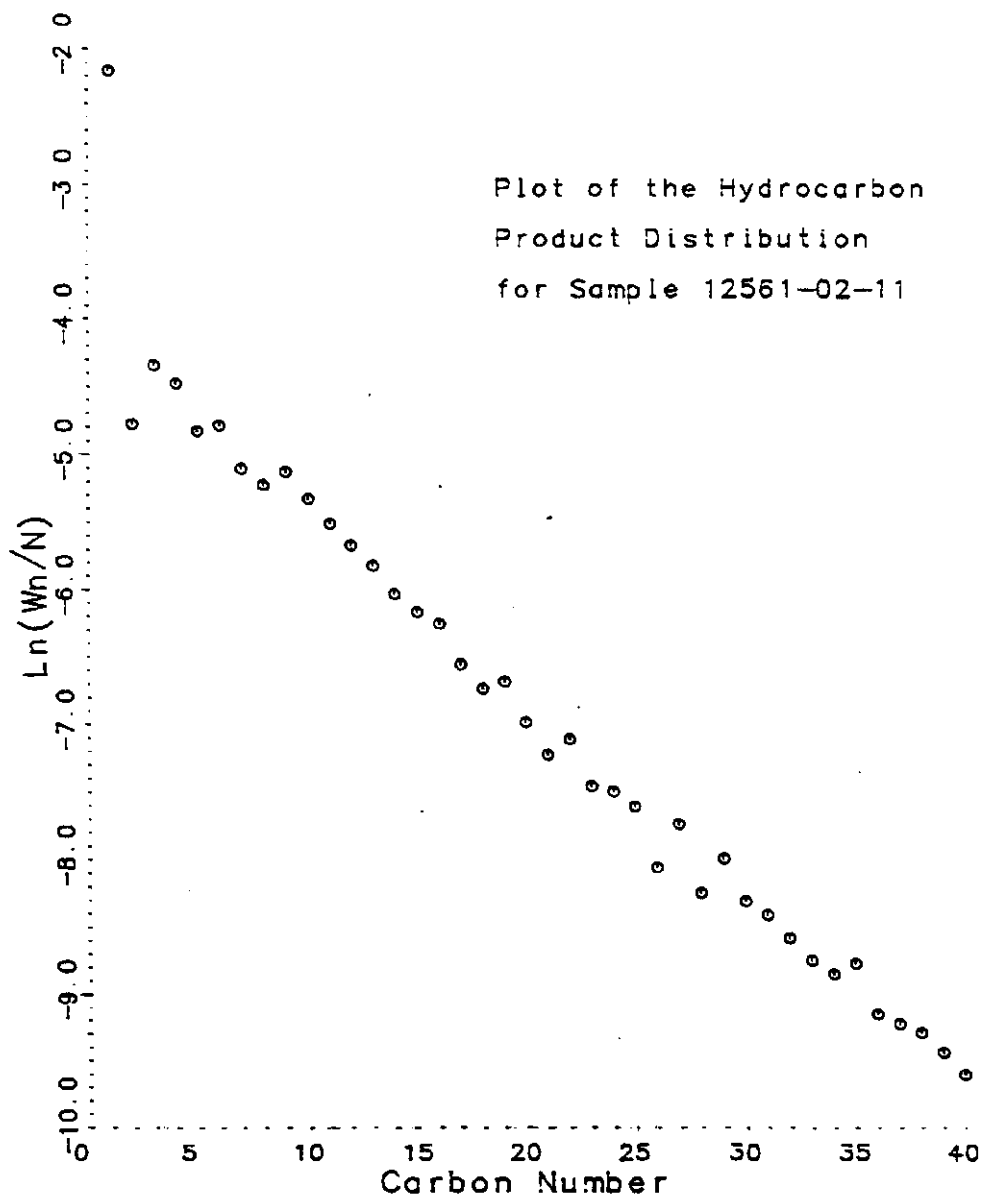


Fig. B114

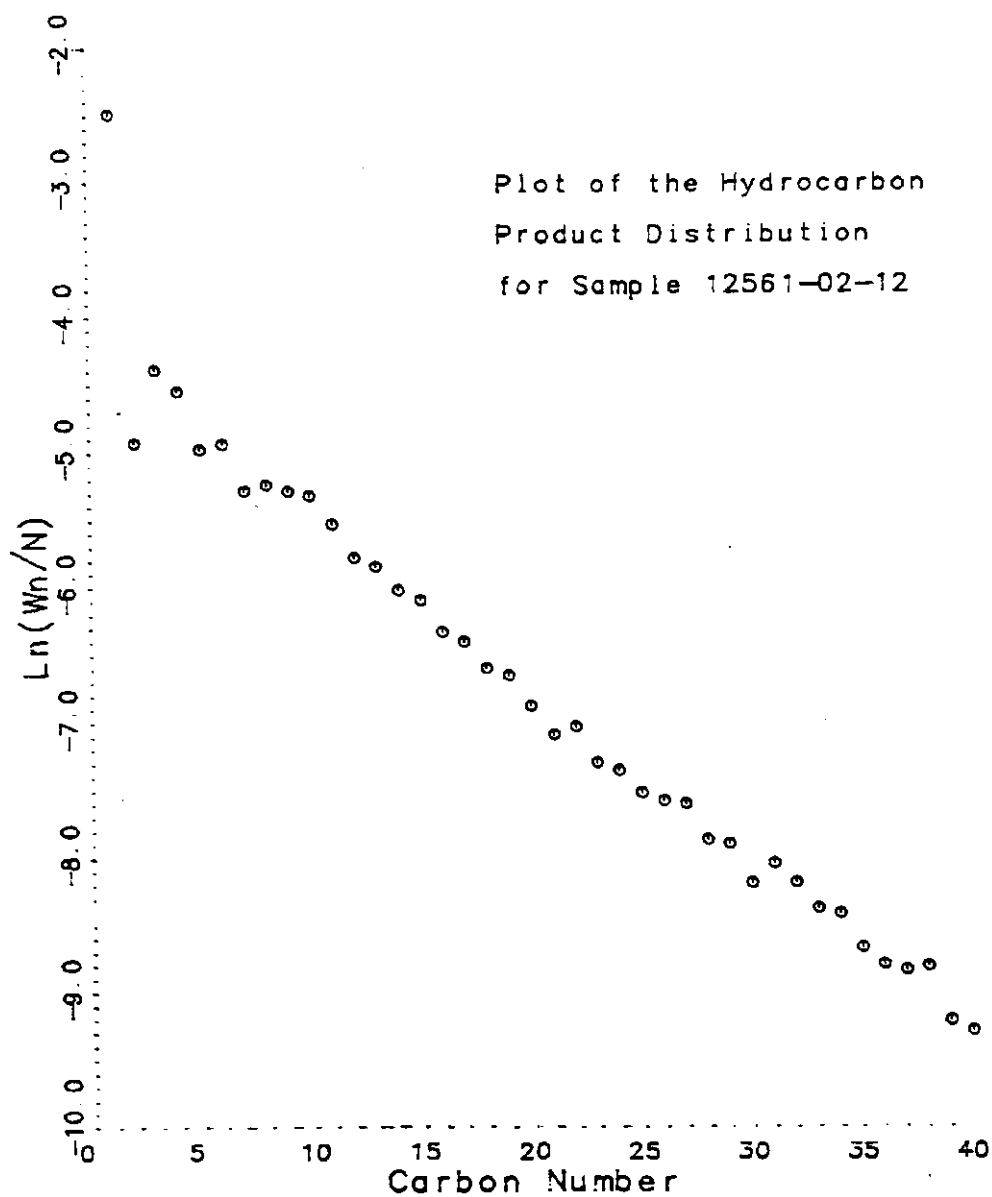


Fig. B115

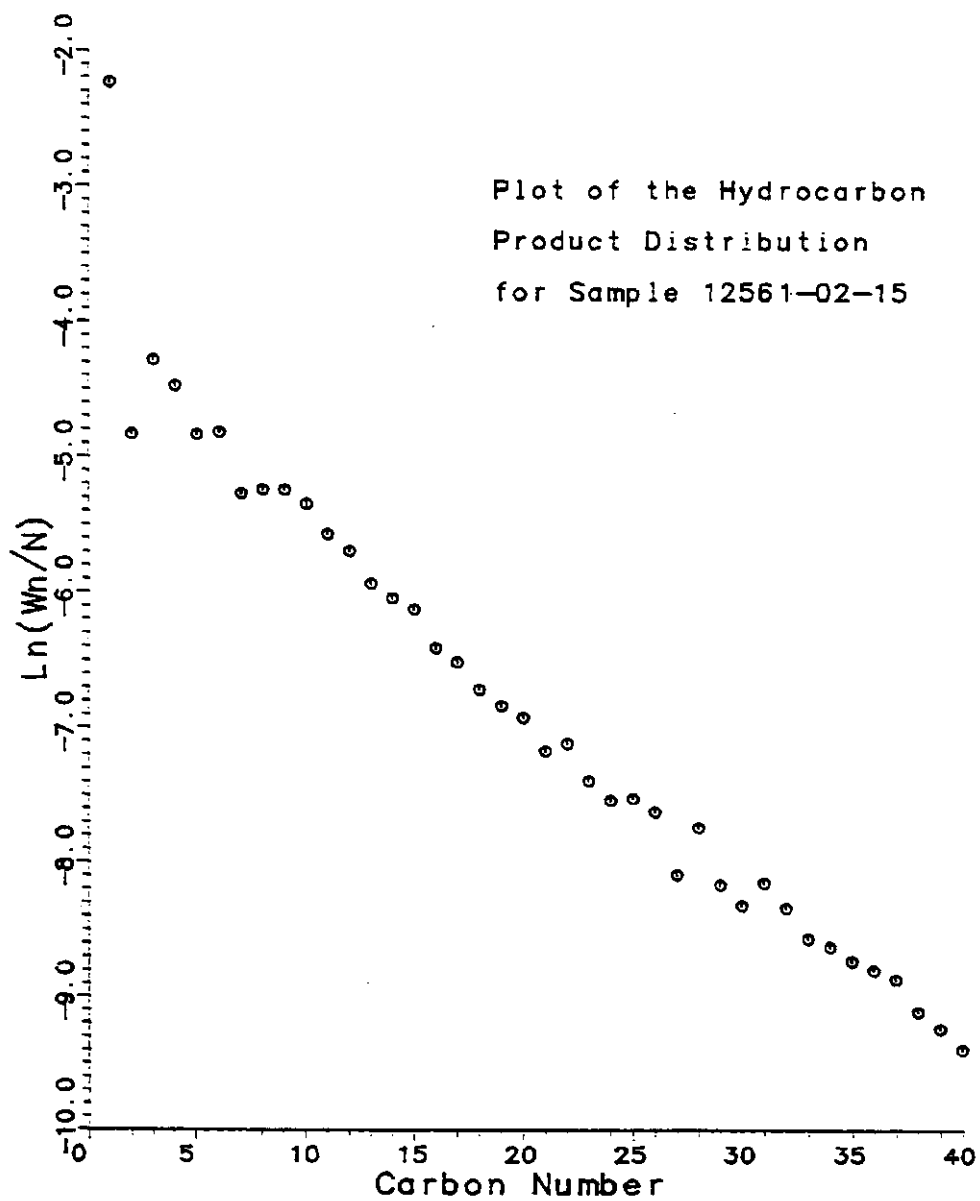


Fig. B116

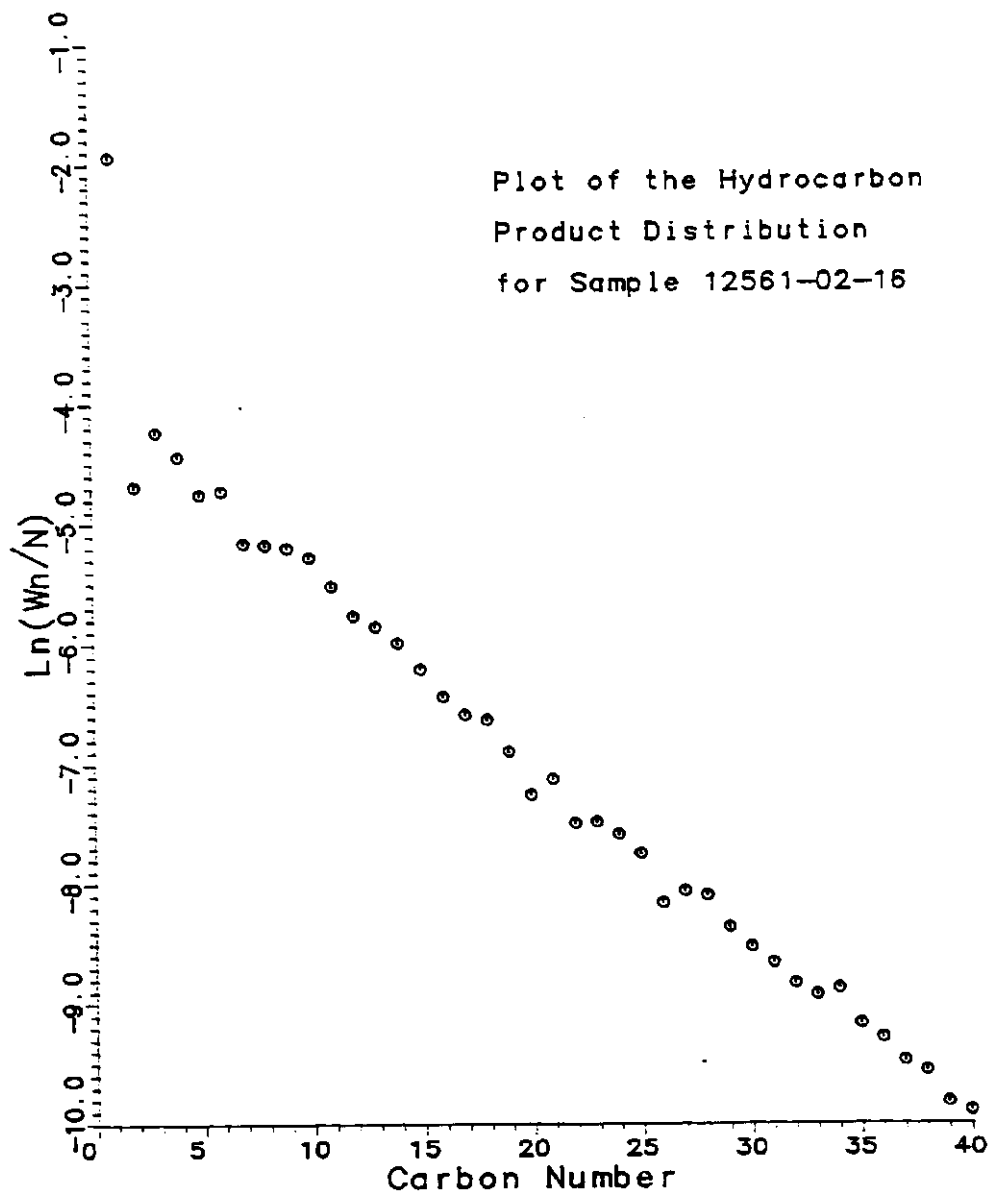


Fig. B117

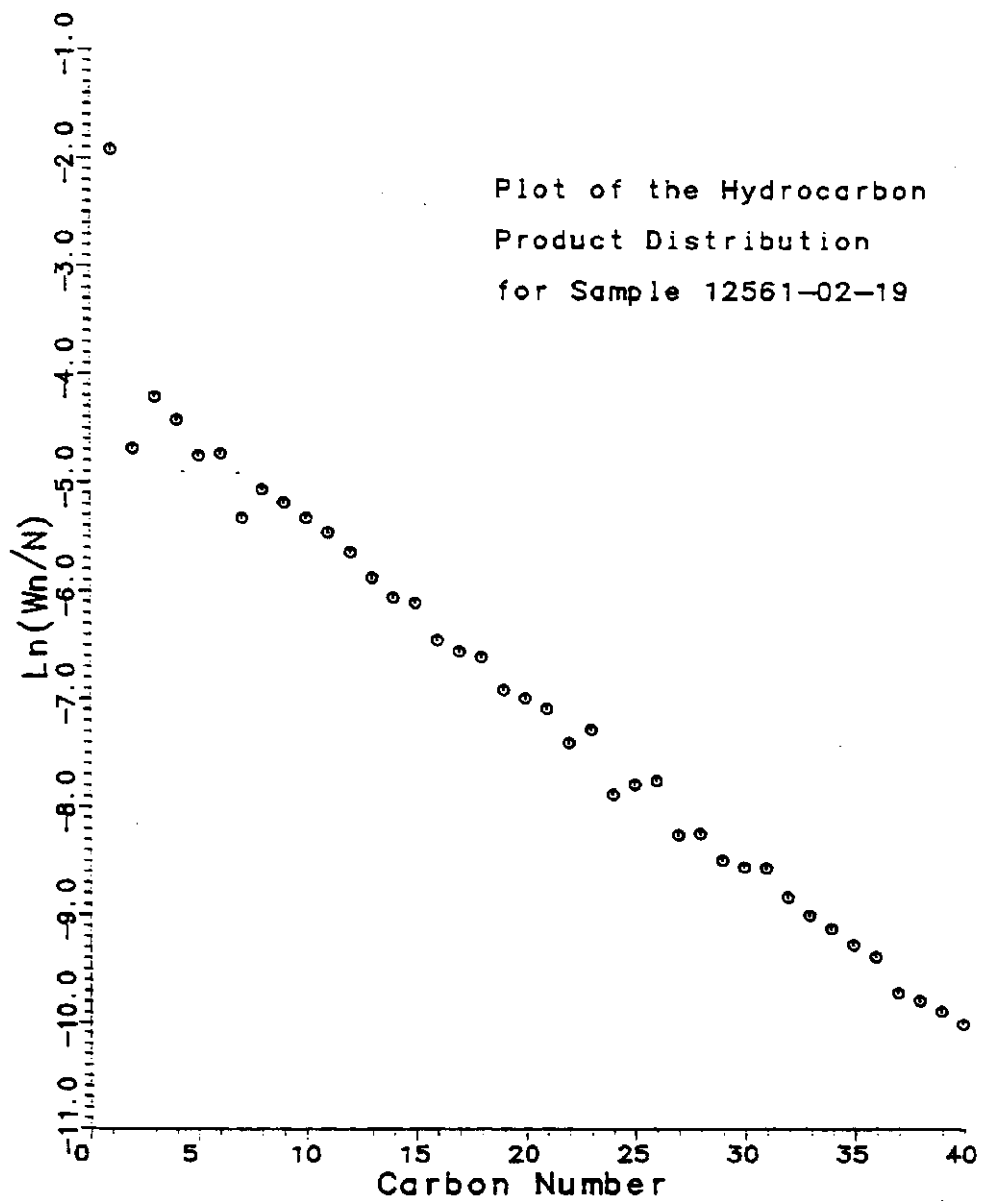


Fig. B118

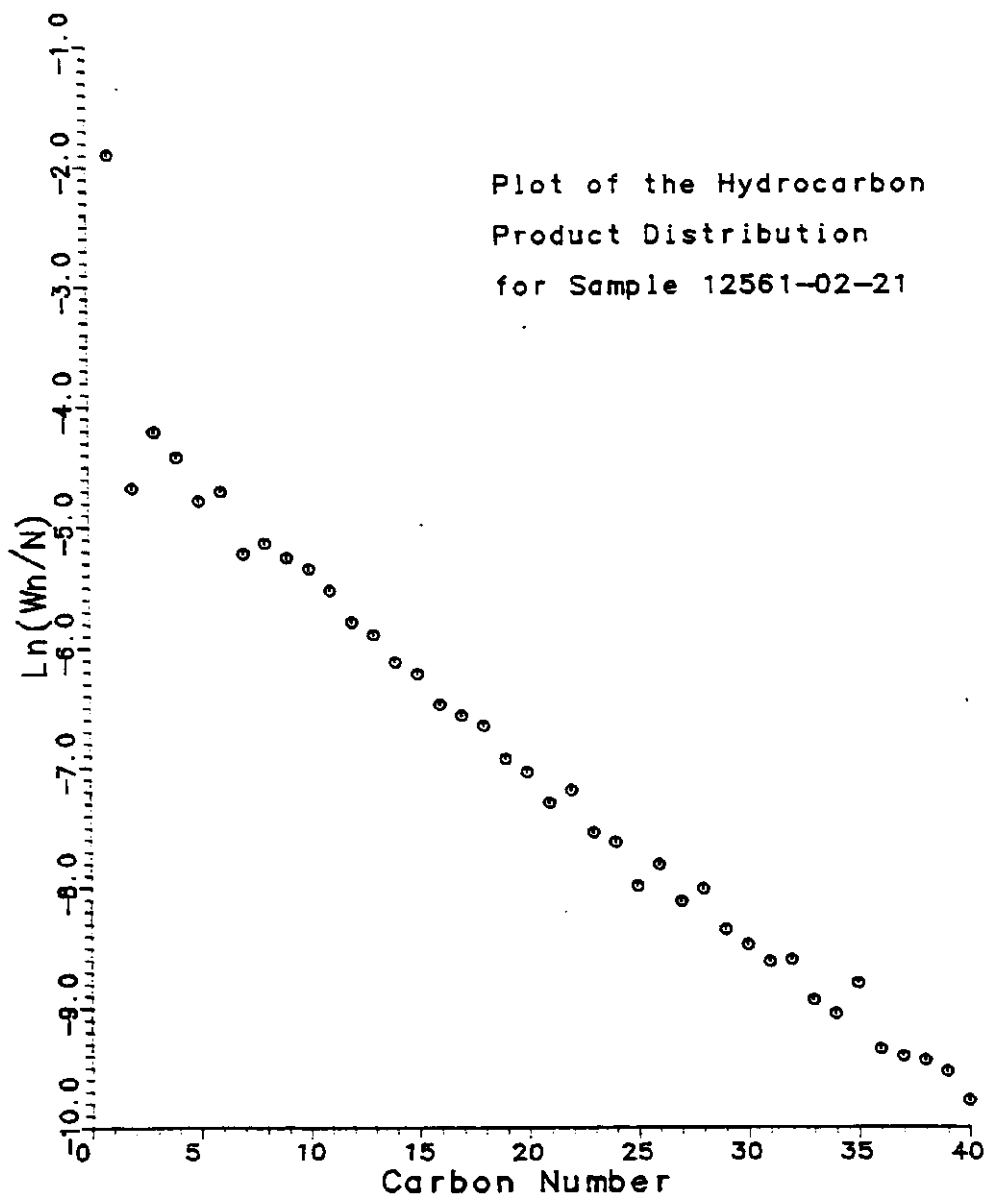


Fig. B119

1153

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00

Fig. B120

064

OVER TEMP NOT RECORDED

ST: 11100 0.10

ST: 11100 1100=2000 11100=3000 11100=4000

ST: 11100 1100=2000 11100=3000 11100=4000

ST: 11100 1100=2000 11100=3000 11100=4000

ST: 11100 1100=2000 11100=3000 11100=4000

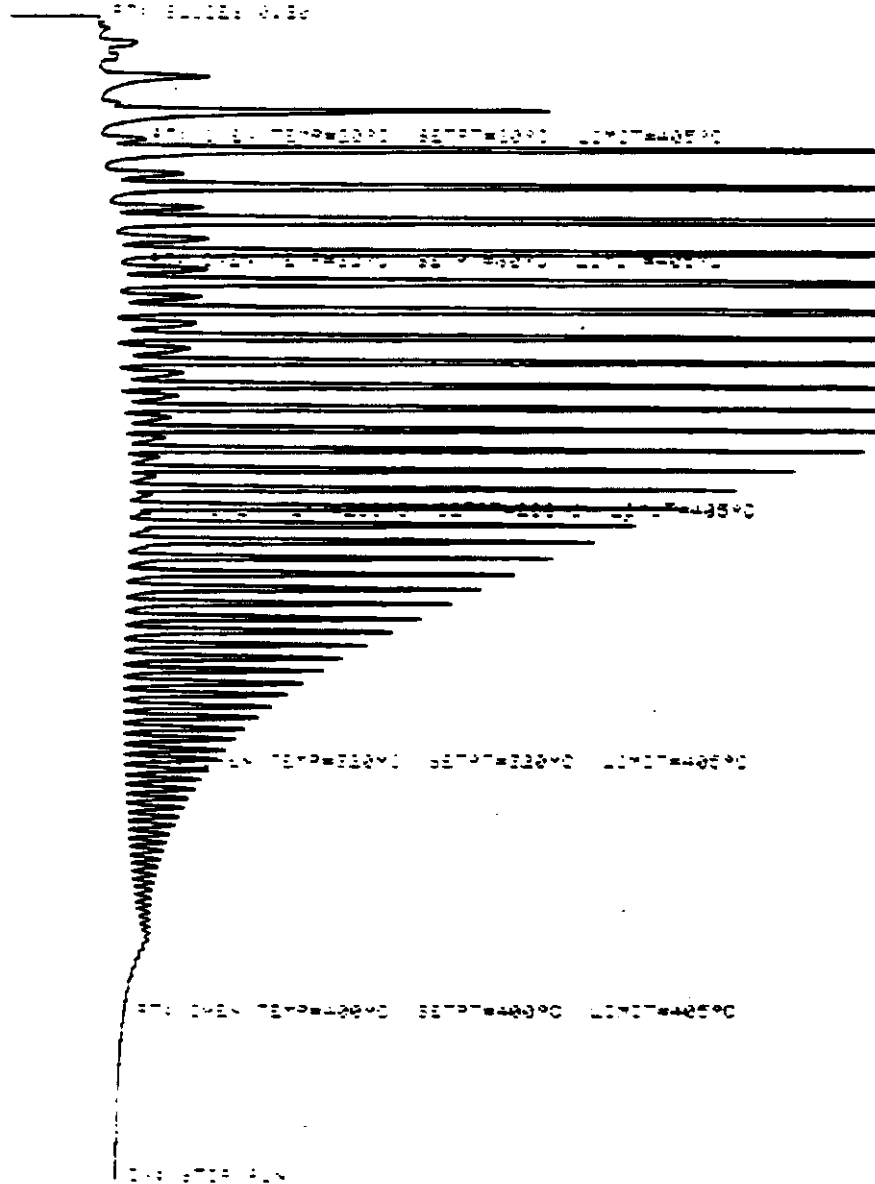
ST: 11100 1100=2000 11100=3000 11100=4000

ST: 11100 0.10

11100-01-00

Fig. B121

Figure 1

[illegible]

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

Fig. B122

Ubb

1/25-72-0 107 12-12

ST: 1.122: 0.12

ST: 1.12: 12-12-12 12-12-12 12-12-12

ST: 1.12: 12-12-12 12-12-12 12-12-12

ST: 1.12: 12-12-12 12-12-12 12-12-12

ST: 1.12: 12-12-12 12-12-12 12-12-12

ST: 1.12: 12-12-12 12-12-12 12-12-12

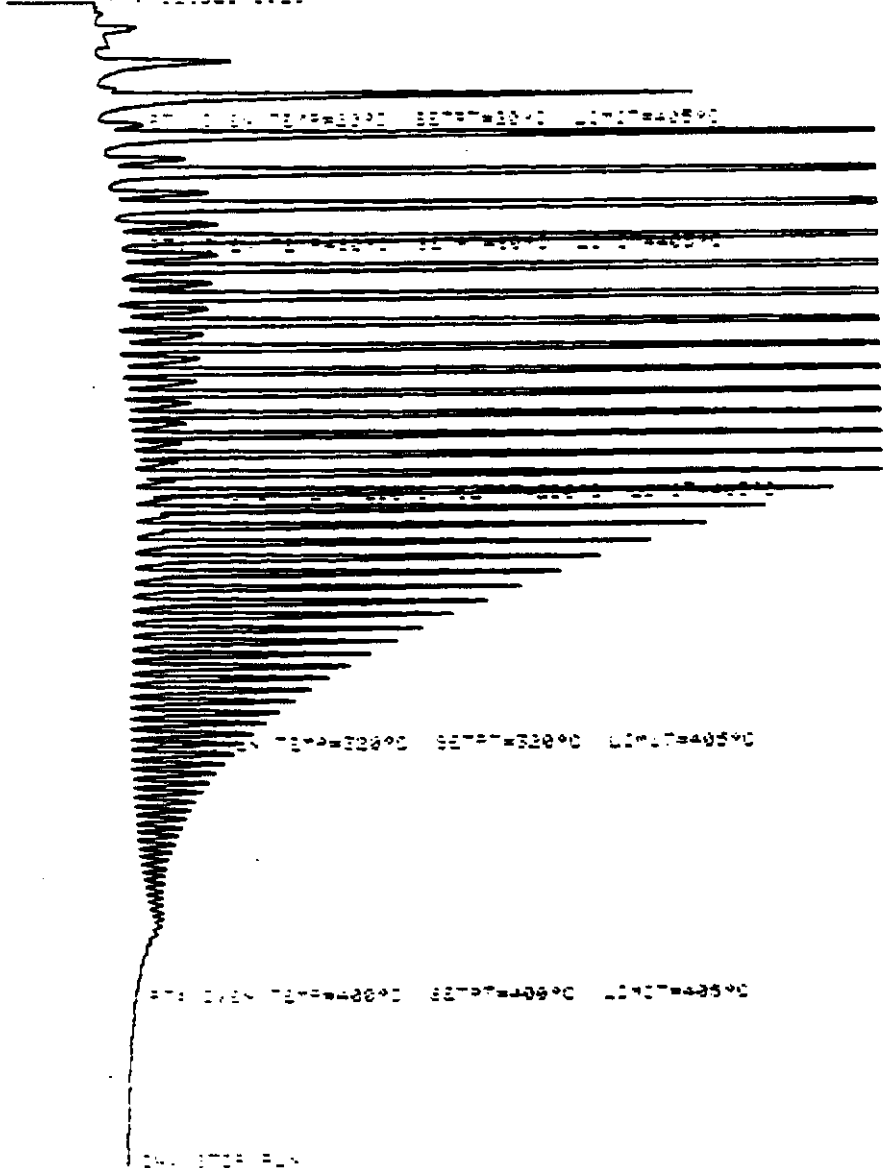
ST: 1.12: 12-12-12

1/25-72-0 107 12-12-12

Fig. B123

OPEN TEMP. AT 114.1

FT. ELDER: 0.10



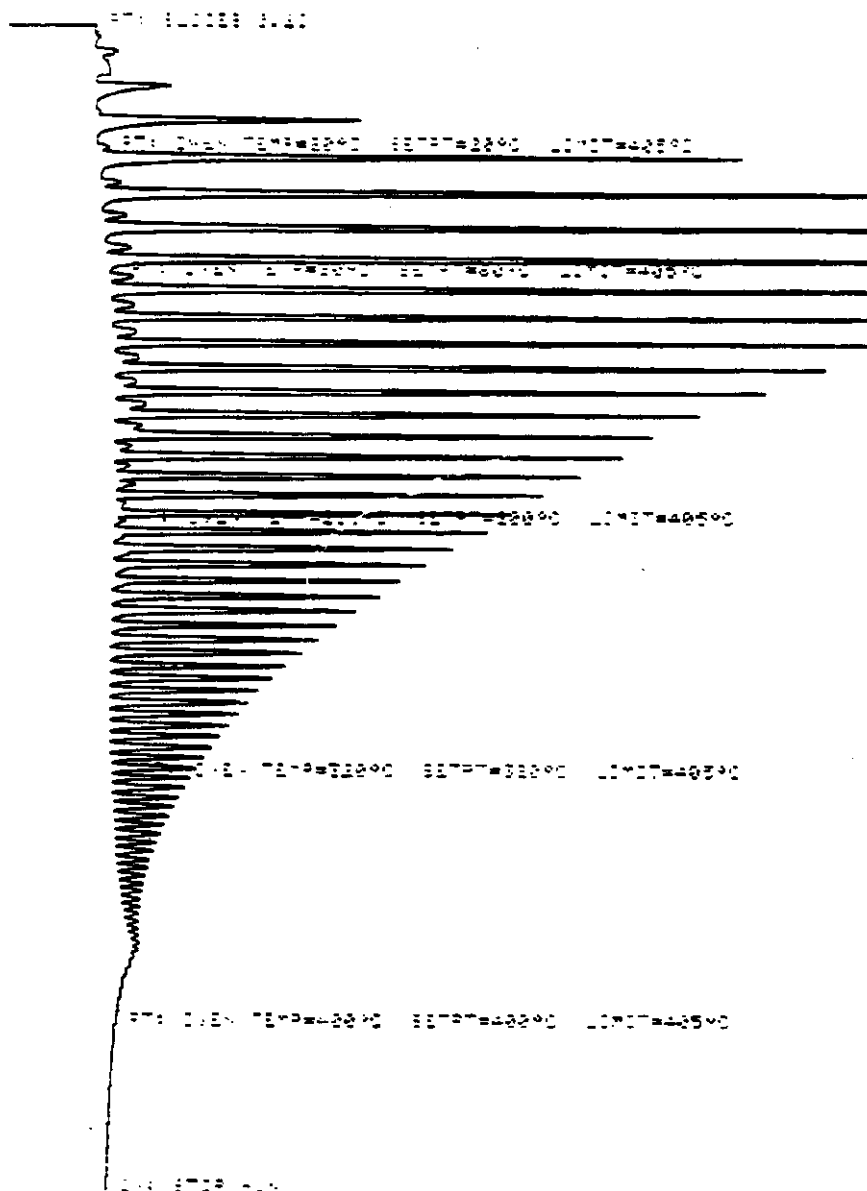
11.0=320°C 12.0=320°C 13.0=405°C

14.0=320°C 15.0=320°C 16.0=405°C

IN. 1700 FLY

Fig. B124

0159



2010年12月10日

Fig. B125

671

1964 FEB 10 10 02:40

1000 1000 0.00

1000 1000 0.00 1000 1000 0.00

1000 1000 0.00 1000 1000 0.00

1000 1000 0.00 1000 1000 0.00

1000 1000 0.00 1000 1000 0.00

1000 1000 0.00 1000 1000 0.00

1000 1000 0.00

1964 FEB 10 10 02:40

Fig. B127

- B165 -

097

178. 727 107 2140

178. 11021 1.10

178. 1.10 727=1000 827=1000 1107=1000

178. 1.10 727=1000 827=1000 1107=1000

178. 1.10 727=1000 827=1000 1107=1000

178. 1.10 727=1000 827=1000 1107=1000

178. 1.10 727=1000 827=1000 1107=1000

178. 1.10 727=1000

178. 1.10 727=1000

Fig. B128

860

DATE: 1970-11-11

TIME: 11:00:00

TEMP=1000 SETPT=2000 LIMIT=4000

TEMP=1000 SETPT=2000 LIMIT=4000

TEMP=1000 SETPT=2000 LIMIT=4000

TEMP=1000 SETPT=2000 LIMIT=4000

TEMP=1000 SETPT=2000 LIMIT=4000

TIME: 11:00:00

1970-11-11-00-00

Fig. B129

Table B14

FILE: 1256102A DATA A1

RESULT OF SYNGAS OPERATION

| | | | | | |
|-----------------------|---|-----------|-----------|-----------|-----------|
| RUN NO. | 12561-02 | | | | |
| CATALYST | CO/X11-TC133 80 CC 39.3 G AFTER USE:57.4 (+18.1 G) | | | | |
| FEED | H2:CO OF 50:50 @ 400 CC/MN OR 300 GHSV (CAT#12524-20) | | | | |
| RUN & SAMPLE NO. | 12561-02-01 | 561-02-02 | 561-02-03 | 561-02-04 | 561-02-05 |
| FEED H2:CO:AR | 50:50: 0 | 50:50: 0 | 50:50: 0 | 50:50: 0 | 60:40: 0 |
| HRS ON STREAM | 48.0 | 72.0 | 144.5 | 170.0 | 194.5 |
| PRESSURE.PSIG | 300 | 300 | 300 | 300 | 300 |
| TEMP. C | 241 | 242 | 242 | 242 | 242 |
| FEED CC/MIN | 400 | 400 | 400 | 400 | 400 |
| HOURS FEEDING | 48.00 | 24.00 | 72.50 | 25.50 | 23.00 |
| EFFLNT GAS LITER | 535.00 | 301.10 | 911.40 | 328.60 | 226.50 |
| GM AQUEOUS LAYER | 124.87 | 55.94 | 173.64 | 59.19 | 66.50 |
| GM OIL | 55.52 | 41.92 | 115.00 | 43.79 | 39.20 |
| MATERIAL BALANCE | | | | | |
| GM ATOM CARBON % | 78.88 | 94.78 | 91.24 | 96.15 | 95.30 |
| GM ATOM HYDROGEN % | 92.31 | 103.67 | 102.05 | 105.32 | 100.05 |
| GM ATOM OXYGEN % | 86.94 | 91.03 | 90.72 | 91.75 | 90.08 |
| RATIO CHX/(H2O+CO2) | 0.7533 | 1.1249 | 1.0170 | 1.1491 | 1.1144 |
| RATIO X IN CHX | 2.2404 | 2.2216 | 2.2252 | 2.2245 | 2.4038 |
| USAGE H2/CO PRODT | 2.2272 | 1.8483 | 1.9707 | 1.8633 | 1.9212 |
| FEED H2/CO FRM EFFLNT | 1.1703 | 1.0938 | 1.1186 | 1.0953 | 1.5747 |
| RESIDUAL H2/CO RATIO | 0.6414 | 0.6416 | 0.6579 | 0.6486 | 1.1216 |
| RATIO CO2/(H2O+CO2) | 0.0515 | 0.0598 | 0.0429 | 0.0478 | 0.0679 |
| K SHIFT IN EFFLNT | 0.0348 | 0.0408 | 0.0295 | 0.0326 | 0.0817 |
| SPECIFIC ACTIVITY SA | 2.4277 | 2.7473 | 2.4176 | 2.5985 | 2.2046 |
| CONVERSION | | | | | |
| ON CO % | 33.35 | 37.48 | 35.09 | 36.78 | 56.67 |
| ON H2 % | 63.47 | 63.33 | 61.82 | 62.57 | 69.14 |
| ON CO+H2 % | 49.60 | 50.98 | 49.21 | 50.26 | 64.30 |
| PRDT SELECTIVITY,WT % | | | | | |
| CH4 | 6.31 | 5.29 | 5.39 | 5.34 | 13.54 |
| C2 HC'S | 1.31 | 0.96 | 1.03 | 0.99 | 2.04 |
| C3H8 | 1.37 | 1.13 | 1.18 | 1.30 | 3.21 |
| C3H6= | 2.58 | 2.09 | 2.15 | 2.37 | 1.22 |
| C4H10 | 1.61 | 1.33 | 1.39 | 1.49 | 3.36 |
| C4H8= | 3.17 | 2.59 | 2.70 | 2.90 | 1.82 |
| C5H12 | 2.00 | 1.62 | 1.63 | 1.71 | 3.56 |
| C5H10= | 2.68 | 2.09 | 2.20 | 2.08 | 1.05 |
| C6H14 | 2.93 | 2.32 | 2.34 | 2.53 | 4.49 |
| C6H12- & CYCLO'S | 1.56 | 1.23 | 1.22 | 1.43 | 0.68 |
| C7+ IN GAS | 7.83 | 5.75 | 5.40 | 6.01 | 6.33 |
| LIQ HC'S | 66.66 | 73.60 | 73.36 | 71.87 | 58.72 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SUB-GROUPING | | | | | |
| C1 -C4 | 16.34 | 13.39 | 13.85 | 14.38 | 25.19 |
| C5 -420 F | 39.46 | | | 33.15 | 36.24 |
| 420-700 F | 31.40 | | | 29.46 | 23.25 |
| 700-END PT | 12.80 | | | 23.00 | 15.33 |

Table B14 (continued)

FILE: 1256102A DATA

A1

| | | | | | |
|-----------------------|---------|---------|---------|---------|---------|
| C5+-END PT | 83.66 | 86.61 | 86.15 | 85.62 | 74.81 |
| ISO/NORMAL MOLE RATIO | | | | | |
| C4 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0230 |
| C5 | 0.0449 | 0.0459 | 0.0422 | 0.0421 | 0.0533 |
| C6 | 0.2396 | 0.2247 | 0.2388 | 0.2561 | 0.2072 |
| C4= | 0.0274 | 0.0285 | 0.0291 | 0.0285 | 0.0939 |
| PARAFFIN/OLEFIN RATIO | | | | | |
| C3 | 0.5091 | 0.5164 | 0.5210 | 0.5220 | 2.5102 |
| C4 | 0.4910 | 0.4954 | 0.4985 | 0.4941 | 1.7823 |
| C5 | 0.7271 | 0.7536 | 0.7189 | 0.7990 | 3.2919 |
| SCHULZ-FLORY DISTRBTN | | | | | |
| ALPHA (EXP(SLOPE)) | 0.8503 | 0.8131 | 0.8053 | 0.8766 | 0.8534 |
| RATIO CH4/(1-A)**2 | 2.8125 | 1.5133 | 1.4223 | 3.5122 | 6.3003 |
| ALPHA FRM CORRELATION | 0.8335 | | | 0.8329 | 0.8062 |
| ALPHA (EXPTL/CORR) | 1.0201 | | | 1.0525 | 1.0585 |
| WYCH4 FRM CORRELATION | 15.3167 | | | 15.7283 | 24.0068 |
| WYCH4 (EXPTL/CORR) | 0.4118 | | | 0.3398 | 0.5640 |
| LIQ HC COLLECTION | | | | | |
| PHYS. APPEARANCE | CLD OIL | CLD OIL | OIL WAX | OIL WAX | OIL WAX |
| DENSITY | | | | | |
| N. REFRACTIVE INDEX | | | | | |
| SIMULT'D DISTILATN | | | | | |
| 10 WT % @ DEG F | 298 | | | 331 | 296 |
| 16 | 340 | | | 371 | 335 |
| 50 | 510 | | | 567 | 513 |
| 84 | 729 | | | 849 | 803 |
| 90 | 829 | | | 928 | 891 |
| RANGE(16-84 %) | 389 | | | 478 | 468 |
| WT % @ 420 F | 33.70 | | | 27.00 | 34.30 |
| WT % @ 700 F | 80.80 | | | 68.00 | 73.90 |

Table B15

FILE: 1256102B DATA A1

RESULT OF SYNGAS OPERATION

RUN NO. 12561-02
 CATALYST CO/X11-TC133 80 CC 39.3 G AFTER USE:57.4 (+18.1 G)
 FEED H2:CO OF 60:40 @ 400 CC/MN OR 300 GHSV (CAT#12524-20)

| RUN & SAMPLE NO. | 12561-02-06 | 561-02-07 | 561-02-09 | 561-02-10 | 561-02-11 |
|-------------------------|-------------|-----------|-----------|-----------|-----------|
| FEED H2:CO:AR | 60:40: 0 | 60:40: 0 | 60:40: 0 | 60:40: 0 | 60:40: 0 |
| HRS ON STREAM | 215.5 | 240.0 | 286.8 | 312.0 | 336.0 |
| PRESSURE, PSIG | 300 | 300 | 300 | 300 | 300 |
| TEMP. C | 242 | 242 | 241 | 242 | 241 |
| FEED CC/MIN | 400 | 400 | 400 | 400 | 400 |
| HOURS FEEDING | 21.00 | 24.50 | 25.50 | 25.25 | 24.00 |
| EFFLNT GAS LITER | 206.00 | 239.70 | 248.00 | 259.10 | 233.10 |
| GM AQUEOUS LAYER | 61.73 | 74.85 | 80.41 | 80.78 | 74.51 |
| GM OIL | 40.04 | 43.19 | 47.61 | 46.41 | 42.78 |
| MATERIAL BALANCE | | | | | |
| GM ATOM CARBON % | 97.17 | 94.65 | 95.51 | 97.95 | 92.92 |
| GM ATOM HYDROGEN % | 102.30 | 101.49 | 102.79 | 105.16 | 100.67 |
| GM ATOM OXYGEN % | 90.00 | 91.54 | 92.44 | 95.80 | 91.38 |
| RATIO CHX/(H2O+CO2) | 1.1557 | 1.0652 | 1.0631 | 1.0433 | 1.0323 |
| RATIO X IN CHX | 2.3767 | 2.3871 | 2.3615 | 2.3735 | 2.3605 |
| USAGE H2/CO PRDCT | 1.9007 | 1.9685 | 1.9811 | 1.9992 | 2.0142 |
| FEED H2/CO FRM EFFLNT | 1.5792 | 1.6083 | 1.6143 | 1.6105 | 1.6252 |
| RESIDUAL H2/CO RATIO | 1.1413 | 1.1385 | 1.1336 | 1.1298 | 1.1416 |
| RATIO CO2/(H2O+CO2) | 0.0609 | 0.0588 | 0.0500 | 0.0508 | 0.0461 |
| K SHIFT IN EFFLNT | 0.0740 | 0.0711 | 0.0597 | 0.0605 | 0.0552 |
| SPECIFIC ACTIVITY SA | 2.2553 | 2.1500 | 2.3154 | 2.0960 | 2.1762 |
| CONVERSION | | | | | |
| ON CO % | 57.66 | 56.61 | 56.72 | 55.29 | 55.42 |
| ON H2 % | 69.40 | 69.28 | 69.61 | 68.64 | 68.68 |
| ON CO+H2 % | 64.85 | 64.42 | 64.68 | 63.53 | 63.63 |
| PRDCT SELECTIVITY, WT % | | | | | |
| CH4 | 12.27 | 12.78 | 11.53 | 12.13 | 11.52 |
| C2 HC'S | 1.86 | 1.88 | 1.77 | 1.81 | 1.69 |
| C3H8 | 2.88 | 3.01 | 2.77 | 2.89 | 2.78 |
| C3H6= | 1.06 | 1.10 | 1.11 | 1.15 | 1.13 |
| C4H10 | 2.95 | 3.09 | 2.87 | 2.95 | 2.84 |
| C4H8= | 1.60 | 1.68 | 1.70 | 1.72 | 1.70 |
| C5H12 | 3.14 | 3.33 | 3.09 | 3.13 | 3.05 |
| C5H10= | 0.91 | 0.98 | 0.97 | 0.98 | 0.97 |
| C6H14 | 3.95 | 4.36 | 4.08 | 4.05 | 3.96 |
| C6H12= & CYCLO'S | 0.53 | 0.67 | 0.67 | 0.79 | 0.78 |
| C7+ IN GAS | 5.90 | 6.16 | 5.96 | 5.87 | 5.97 |
| LIQ HC'S | 62.95 | 60.96 | 63.47 | 62.55 | 63.62 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SUB-GROUPING | | | | | |
| C1 -C4 | 22.62 | 23.54 | 21.75 | 22.64 | 21.67 |
| C5 -420 F | | 37.50 | | | 35.35 |
| 420-700 F | | 24.87 | | | 21.83 |
| 700-END PT | | 14.08 | | | 16.16 |

Table B15 (continued)

FILE: 1256102B DATA

A1

| | | | | | |
|-----------------------|---------|---------|---------|---------|---------|
| C5+-END PT | 77.38 | 76.46 | 78.25 | 77.36 | 78.33 |
| ISO/NORMAL MOLE RATIO | | | | | |
| C4 | 0.0206 | 0.0178 | 0.0183 | 0.0172 | 0.0174 |
| C5 | 0.0500 | 0.0491 | 0.0476 | 0.0458 | 0.0451 |
| C6 | 0.2019 | 0.2026 | 0.2056 | 0.2103 | 0.2097 |
| C4= | 0.0867 | 0.0883 | 0.0831 | 0.0822 | 0.0822 |
| PARAFFIN/OLEFIN RATIO | | | | | |
| C3 | 2.5984 | 2.6224 | 2.3736 | 2.4057 | 2.3531 |
| C4 | 1.7743 | 1.7756 | 1.6335 | 1.6554 | 1.6133 |
| C5 | 3.3644 | 3.3172 | 3.0829 | 3.1155 | 3.0667 |
| SCHULZ-FLORY DISTRTBN | | | | | |
| ALPHA (EXP(SLOPE)) | 0.8163 | 0.8519 | 0.8343 | 0.8277 | 0.8581 |
| RATIO CH4/(1-A)**2 | 3.6365 | 5.8299 | 4.2012 | 4.0857 | 5.7230 |
| ALPHA FRM CORRELATION | | 0.8055 | | | 0.8054 |
| ALPHA (EXPTL/CORR) | | 1.0576 | | | 1.0654 |
| W%CH4 FRM CORRELATION | | 24.2335 | | | 24.0299 |
| W%CH4 (EXPTL/CORR) | | 0.5275 | | | 0.4794 |
| LIQ HC COLLECTION | | | | | |
| PHYS. APPEARANCE | OIL WAX | OIL WAX | OIL WAX | OIL WAX | OIL WAX |
| DENSITY | | | | | |
| N, REFRACTIVE INDEX | | | | | |
| SIMULT'D DISTILATN | | | | | |
| 10 WT % @ DEG F | | 292 | | | 296 |
| 16 | | 323 | | | 336 |
| 50 | | 510 | | | 514 |
| 84 | | 778 | | | 797 |
| 90 | | 861 | | | 881 |
| RANGE(16-84 %) | | 455 | | | 461 |
| WT % @ 420 F | | 36.10 | | | 34.00 |
| WT % @ 700 F | | 76.90 | | | 74.60 |

Table B16

FILE: 1256102C DATA A1

RESULT OF SYNGAS OPERATION

| | | | | | |
|-------------------------|---|-----------|-----------|-----------|-----------|
| RUN NO. | 12561-02 | | | | |
| CATALYST | CO/X11-TC133 80 CC 39.3 G AFTER USE:57.4 (+18.1 G) | | | | |
| FEED | H2:CO OF 60:40 @ 400 CC/MN OR 300 GHSV (CAT#12524-20) | | | | |
| RUN & SAMPLE NO. | 12564-02-12 | 564-02-13 | 564-02-14 | 564-02-15 | 564-02-16 |
| FEED H2:CO:AR | 60:40: 0 | 60:40: 0 | 60:40: 0 | 60:40: 0 | 64:36: 0 |
| HRS ON STREAM | 360.0 | 384.0 | 408.0 | 459.0 | 480.5 |
| PRESSURE, PSIG | 500 | 500 | 500 | 500 | 500 |
| TEMP. C | 241 | 241 | 241 | 241 | 242 |
| FEED CC/MIN | 400 | 400 | 400 | 400 | 400 |
| HOURS FEEDING | 24.00 | 24.00 | 24.00 | 51.00 | 21.50 |
| EFFLNT GAS LITER | 201.70 | 216.50 | 222.20 | 450.10 | 191.90 |
| GM AQUEOUS LAYER | 81.51 | 80.53 | 80.42 | 168.41 | 72.11 |
| GM OIL | 48.10 | 48.75 | 47.40 | 99.23 | 39.19 |
| MATERIAL BALANCE | | | | | |
| GM ATOM CARBON % | 89.45 | 93.52 | 93.55 | 88.49 | 94.68 |
| GM ATOM HYDROGEN % | 98.42 | 102.19 | 102.22 | 103.03 | 100.78 |
| GM ATOM OXYGEN % | 90.10 | 91.54 | 92.62 | 86.15 | 92.18 |
| RATIO CEX/(H2O+CO2) | 0.9874 | 1.0392 | 1.0184 | 1.0473 | 1.0446 |
| RATIO X IN CEX | 2.2965 | 2.2996 | 2.3075 | 2.3494 | 2.4238 |
| USAGE H2/CO PRDCT | 2.0552 | 2.0223 | 2.0477 | 2.0467 | 2.0748 |
| FEED H2/CO FRM EFFLNT | 1.6504 | 1.6392 | 1.6391 | 1.7454 | 1.8922 |
| RESIDUAL H2/CO RATIO | 1.0822 | 1.1149 | 1.1094 | 1.2914 | 1.5701 |
| RATIO CO2/(H2O+CO2) | 0.0342 | 0.0309 | 0.0294 | 0.0285 | 0.0321 |
| K SHIFT IN EFFLNT | 0.0384 | 0.0355 | 0.0336 | 0.0378 | 0.0520 |
| SPECIFIC ACTIVITY SA | 1.4415 | 1.3891 | 1.3435 | 1.1910 | 0.9604 |
| CONVERSION | | | | | |
| ON CO % | 58.40 | 57.78 | 56.45 | 60.25 | 63.82 |
| ON H2 % | 72.72 | 71.28 | 70.52 | 70.60 | 69.98 |
| ON CO+H2 % | 67.32 | 66.16 | 65.19 | 66.83 | 67.85 |
| PRDCT SELECTIVITY, WT % | | | | | |
| CH4 | 8.31 | 8.34 | 8.68 | 10.70 | 14.47 |
| C2 HC'S | 1.45 | 1.40 | 1.54 | 1.59 | 1.85 |
| C3H8 | 2.35 | 2.52 | 2.63 | 2.98 | 3.44 |
| C3H6= | 1.40 | 1.52 | 1.58 | 1.15 | 0.93 |
| C4H10 | 2.39 | 2.55 | 2.63 | 2.98 | 3.50 |
| C4H8= | 1.87 | 2.05 | 2.08 | 1.57 | 1.26 |
| C5H12 | 2.43 | 2.74 | 2.79 | 3.11 | 3.65 |
| C5H10= | 1.05 | 1.22 | 1.18 | 0.84 | 0.68 |
| C6H14 | 3.08 | 3.61 | 3.52 | 3.88 | 4.34 |
| C6H12= & CYCLO'S | 0.65 | 0.74 | 0.58 | 0.51 | 0.39 |
| C7+ IN GAS | 4.68 | 4.92 | 4.86 | 4.69 | 5.00 |
| LIQ HC'S | 70.14 | 68.39 | 67.94 | 65.99 | 60.50 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SUB-GROUPING | | | | | |
| C1 -C4 | 17.77 | 18.38 | 19.12 | 20.97 | 25.44 |
| C5 -420 F | 33.62 | | | 34.22 | 36.69 |
| 420-700 F | 26.79 | | | 24.95 | 23.96 |
| 700-END PT | 21.81 | | | 19.86 | 13.91 |

Table B16 (continued)

FILE: 1256102C DATA

A1

| | | | | | |
|--|---------|---------|---------|---------|---------|
| C5+-END PT | 82.23 | 81.62 | 80.88 | 79.03 | 74.56 |
| ISO/NORMAL MOLE RATIO | | | | | |
| C4 | 0.0166 | 0.0173 | 0.0185 | 0.0195 | 0.0247 |
| C5 | 0.0404 | 0.0399 | 0.0380 | 0.0369 | 0.0383 |
| C6 | 0.1991 | 0.1939 | 0.1824 | 0.1453 | 0.1189 |
| C4+ | 0.0602 | 0.0597 | 0.0575 | 0.0703 | 0.0747 |
| PARAFFIN/OLEFIN RATIO | | | | | |
| C3 | 1.6000 | 1.5770 | 1.5908 | 2.4629 | 3.5414 |
| C4 | 1.2303 | 1.1976 | 1.2228 | 1.8316 | 2.6917 |
| C5 | 2.2522 | 2.1933 | 2.2904 | 3.6230 | 5.2268 |
| SCHULZ-FLORY DISTRIBUTION | | | | | |
| ALPHA (EXP(SLOPE)) | 0.8726 | 0.7999 | 0.7755 | 0.8640 | 0.8511 |
| RATIO C ₄ /(1-A)**2 | 5.1184 | 2.0849 | 1.7222 | 5.7844 | 6.5262 |
| ALPHA FRM CORRELATION | 0.8080 | | | 0.7994 | 0.7899 |
| ALPHA (EXPTL/CORR) | 1.0799 | | | 1.0808 | 1.0776 |
| W _X CH ₄ FRM CORRELATION | 23.2228 | | | 25.8936 | 29.0916 |
| W _X CH ₄ (EXPTL/CORR) | 0.3577 | | | 0.4132 | 0.4974 |
| LIQ HC COLLECTION | | | | | |
| PHYS. APPEARANCE | OIL WAX | OIL WAX | OIL WAX | OIL WAX | OIL WAX |
| DENSITY | | | | | |
| N. REFRACTIVE INDEX | | | | | |
| SIMULT'D DISTILLATE | | | | | |
| 10 WT % @ DEG F | 295 | | | 295 | 282 |
| 16 | 337 | | | 336 | 300 |
| 50 | 558 | | | 541 | 503 |
| 84 | 854 | | | 854 | 776 |
| 90 | 939 | | | 944 | 864 |
| RANGE(16-84 %) | 517 | | | 518 | 476 |
| WT % @ 420 F | 30.20 | | | 32.10 | 37.40 |
| WT % @ 700 F | 68.90 | | | 69.90 | 77.00 |

Table B17

FILE: 1256102D DATA A1

RESULT OF SYNGAS OPERATION

| | | | | | |
|------------------------|---|-----------|-----------|-----------|-----------|
| RUN NO. | 12561-02 | | | | |
| CATALYST | CO/X11-TC133 80 CC 39.3 G AFTER USE:57.4 (+18.1 G) | | | | |
| FEED | H2:CO OF 64:36 @ 400 CC/MN OR 300 GHSV (CAT#12524-20) | | | | |
| RUN & SAMPLE NO. | 12561-02-17 | 561-02-18 | 561-02-19 | 561-02-20 | 561-02-21 |
| FEED H2:CO:AR | 64:36: 0 | 64:36: 0 | 64:36: 0 | 64:36: 0 | 64:36: 0 |
| HRS ON STREAM | 503.5 | 527.5 | 551.5 | 575.5 | 646.5 |
| PRESSURE, PSIG | 500 | 500 | 500 | 500 | 500 |
| TEMP. C | 241 | 241 | 241 | 241 | 242 |
| FEED CC/MIN | 400 | 400 | 400 | 400 | 400 |
| HOURS FEEDING | 23.00 | 24.00 | 24.00 | 24.00 | 71.00 |
| EFFLNT GAS LITER | 210.20 | 219.70 | 221.40 | 220.30 | 660.80 |
| GM AQUEOUS LAYER | 78.99 | 82.11 | 82.23 | 80.98 | 237.30 |
| GM OIL | 39.94 | 41.79 | 42.60 | 43.91 | 126.51 |
| MATERIAL BALANCE | | | | | |
| GM ATOM CARBON % | 93.76 | 94.46 | 94.83 | 96.46 | 96.44 |
| GM ATOM HYDROGEN % | 101.19 | 101.38 | 101.86 | 102.18 | 101.52 |
| GM ATOM OXYGEN % | 94.34 | 94.35 | 94.64 | 93.64 | 94.23 |
| RATIO CHX/(H2O+CO2) | 0.9898 | 1.0019 | 1.0034 | 1.0500 | 1.0395 |
| RATIO X IN CHX | 2.4300 | 2.4303 | 2.4282 | 2.4201 | 2.4340 |
| USAGE H2/CO PRODT | 2.1318 | 2.1178 | 2.1189 | 2.0761 | 2.0905 |
| FEED H2/CO FRM EFFLNT | 1.9187 | 1.9081 | 1.9095 | 1.8833 | 1.8715 |
| RESIDUAL H2/CO RATIO | 1.5662 | 1.5584 | 1.5633 | 1.5541 | 1.5146 |
| RATIO CO2/(H2O+CO2) | 0.0295 | 0.0307 | 0.0295 | 0.0295 | 0.0298 |
| K SHIFT IN EFFLNT | 0.0477 | 0.0493 | 0.0476 | 0.0472 | 0.0464 |
| SPECIFIC ACTIVITY SA | 0.9804 | 0.9925 | 0.9677 | 1.0186 | 0.9448 |
| CONVERSION | | | | | |
| ON CO % | 62.32 | 62.51 | 62.32 | 63.07 | 61.97 |
| ON H2 % | 69.24 | 69.38 | 69.15 | 69.53 | 69.23 |
| ON CO+H2 % | 66.87 | 67.02 | 66.80 | 67.29 | 66.70 |
| PRDT SELECTIVITY, WT % | | | | | |
| CH4 | 14.74 | 14.71 | 14.68 | 14.22 | 15.03 |
| C2 HC'S | 1.84 | 1.93 | 1.85 | 1.86 | 1.87 |
| C3H8 | 3.57 | 3.59 | 3.50 | 3.46 | 3.52 |
| C3H6= | 1.03 | 0.99 | 0.96 | 0.96 | 0.95 |
| C4H10 | 3.61 | 3.67 | 3.51 | 3.58 | 3.52 |
| C4H8= | 1.36 | 1.34 | 1.30 | 1.34 | 1.30 |
| C5H12 | 3.70 | 3.80 | 3.63 | 3.75 | 3.54 |
| C5H10= | 0.70 | 0.72 | 0.68 | 0.73 | 0.67 |
| C6H14 | 4.48 | 4.49 | 4.37 | 4.43 | 4.43 |
| C6H12= & CYCLO'S | 0.32 | 0.41 | 0.40 | 0.40 | 0.45 |
| C7+ IN GAS | 5.13 | 5.24 | 4.97 | 5.11 | 5.07 |
| LIQ HC'S | 59.53 | 59.12 | 60.15 | 60.18 | 59.64 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SUB-GROUPING | | | | | |
| C1 -C4 | 26.15 | 26.23 | 25.80 | 25.41 | 26.20 |
| C5 -420 F | | | 37.02 | | 35.69 |
| 420-700 F | | | 24.84 | | 23.68 |
| 700-END PT | | | 12.33 | | 14.43 |