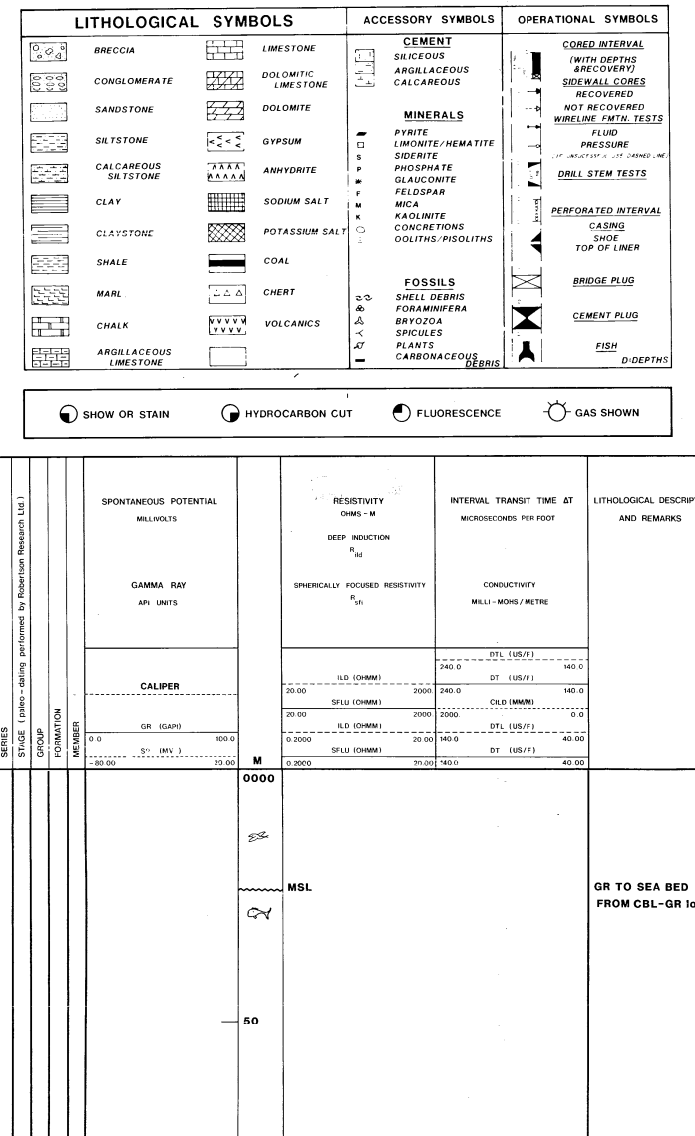


COMPOSITE WELL LOG
COMPANY: AMOCO NORWAY OR COMPANY
COUNTRY: NORWAY
FIELD: NORTH SEA
WELL INTEREST: AMOCO 25% APPARAD 25% TEXAS EAST 25% NOCO 25%



WIRELINE LOGGING PROGRAM
DATE: 12-21-81
LOGS: 1 157-158m, 2 159-160m, 3 161-162m, 4 163-164m, 5 165-166m, 6 167-168m, 7 169-170m, 8 171-172m, 9 173-174m, 10 175-176m, 11 177-178m, 12 179-180m, 13 181-182m, 14 183-184m, 15 185-186m, 16 187-188m, 17 189-190m, 18 191-192m, 19 193-194m, 20 195-196m, 21 197-198m, 22 199-200m, 23 201-202m, 24 203-204m, 25 205-206m, 26 207-208m, 27 209-210m, 28 211-212m, 29 213-214m, 30 215-216m, 31 217-218m, 32 219-220m, 33 221-222m, 34 223-224m, 35 225-226m, 36 227-228m, 37 229-230m, 38 231-232m, 39 233-234m, 40 235-236m, 41 237-238m, 42 239-240m, 43 241-242m, 44 243-244m, 45 245-246m, 46 247-248m, 47 249-250m, 48 251-252m, 49 253-254m, 50 255-256m, 51 257-258m, 52 259-260m, 53 261-262m, 54 263-264m, 55 265-266m, 56 267-268m, 57 269-270m, 58 271-272m, 59 273-274m, 60 275-276m, 61 277-278m, 62 279-280m, 63 281-282m, 64 283-284m, 65 285-286m, 66 287-288m, 67 289-290m, 68 291-292m, 69 293-294m, 70 295-296m, 71 297-298m, 72 299-300m, 73 301-302m, 74 303-304m, 75 305-306m, 76 307-308m, 77 309-310m, 78 311-312m, 79 313-314m, 80 315-316m, 81 317-318m, 82 319-320m, 83 321-322m, 84 323-324m, 85 325-326m, 86 327-328m, 87 329-330m, 88 331-332m, 89 333-334m, 90 335-336m, 91 337-338m, 92 339-340m, 93 341-342m, 94 343-344m, 95 345-346m, 96 347-348m, 97 349-350m, 98 351-352m, 99 353-354m, 100 355-356m, 101 357-358m, 102 359-360m, 103 361-362m, 104 363-364m, 105 365-366m, 106 367-368m, 107 369-370m, 108 371-372m, 109 373-374m, 110 375-376m, 111 377-378m, 112 379-380m, 113 381-382m, 114 383-384m, 115 385-386m, 116 387-388m, 117 389-390m, 118 391-392m, 119 393-394m, 120 395-396m, 121 397-398m, 122 399-400m, 123 401-402m, 124 403-404m, 125 405-406m, 126 407-408m, 127 409-410m, 128 411-412m, 129 413-414m, 130 415-416m, 131 417-418m, 132 419-420m, 133 421-422m, 134 423-424m, 135 425-426m, 136 427-428m, 137 429-430m, 138 431-432m, 139 433-434m, 140 435-436m, 141 437-438m, 142 439-440m, 143 441-442m, 144 443-444m, 145 445-446m, 146 447-448m, 147 449-450m, 148 451-452m, 149 453-454m, 150 455-456m, 151 457-458m, 152 459-460m, 153 461-462m, 154 463-464m, 155 465-466m, 156 467-468m, 157 469-470m, 158 471-472m, 159 473-474m, 160 475-476m, 161 477-478m, 162 479-480m, 163 481-482m, 164 483-484m, 165 485-486m, 166 487-488m, 167 489-490m, 168 491-492m, 169 493-494m, 170 495-496m, 171 497-498m, 172 499-500m, 173 501-502m, 174 503-504m, 175 505-506m, 176 507-508m, 177 509-510m, 178 511-512m, 179 513-514m, 180 515-516m, 181 517-518m, 182 519-520m, 183 521-522m, 184 523-524m, 185 525-526m, 186 527-528m, 187 529-530m, 188 531-532m, 189 533-534m, 190 535-536m, 191 537-538m, 192 539-540m, 193 541-542m, 194 543-544m, 195 545-546m, 196 547-548m, 197 549-550m, 198 551-552m, 199 553-554m, 200 555-556m, 201 557-558m, 202 559-560m, 203 561-562m, 204 563-564m, 205 565-566m, 206 567-568m, 207 569-570m, 208 571-572m, 209 573-574m, 210 575-576m, 211 577-578m, 212 579-580m, 213 581-582m, 214 583-584m, 215 585-586m, 216 587-588m, 217 589-590m, 218 591-592m, 219 593-594m, 220 595-596m, 221 597-598m, 222 599-600m, 223 601-602m, 224 603-604m, 225 605-606m, 226 607-608m, 227 609-610m, 228 611-612m, 229 613-614m, 230 615-616m, 231 617-618m, 232 619-620m, 233 621-622m, 234 623-624m, 235 625-626m, 236 627-628m, 237 629-630m, 238 631-632m, 239 633-634m, 240 635-636m, 241 637-638m, 242 639-640m, 243 641-642m, 244 643-644m, 245 645-646m, 246 647-648m, 247 649-650m, 248 651-652m, 249 653-654m, 250 655-656m, 251 657-658m, 252 659-660m, 253 661-662m, 254 663-664m, 255 665-666m, 256 667-668m, 257 669-670m, 258 671-672m, 259 673-674m, 260 675-676m, 261 677-678m, 262 679-680m, 263 681-682m, 264 683-684m, 265 685-686m, 266 687-688m, 267 689-690m, 268 691-692m, 269 693-694m, 270 695-696m, 271 697-698m, 272 699-700m, 273 701-702m, 274 703-704m, 275 705-706m, 276 707-708m, 277 709-710m, 278 711-712m, 279 713-714m, 280 715-716m, 281 717-718m, 282 719-720m, 283 721-722m, 284 723-724m, 285 725-726m, 286 727-728m, 287 729-730m, 288 731-732m, 289 733-734m, 290 735-736m, 291 737-738m, 292 739-740m, 293 741-742m, 294 743-744m, 295 745-746m, 296 747-748m, 297 749-750m, 298 751-752m, 299 753-754m, 300 755-756m, 301 757-758m, 302 759-760m, 303 761-762m, 304 763-764m, 305 765-766m, 306 767-768m, 307 769-770m, 308 771-772m, 309 773-774m, 310 775-776m, 311 777-778m, 312 779-780m, 313 781-782m, 314 783-784m, 315 785-786m, 316 787-788m, 317 789-790m, 318 791-792m, 319 793-794m, 320 795-796m, 321 797-798m, 322 799-800m, 323 801-802m, 324 803-804m, 325 805-806m, 326 807-808m, 327 809-810m, 328 811-812m, 329 813-814m, 330 815-816m, 331 817-818m, 332 819-820m, 333 821-822m, 334 823-824m, 335 825-826m, 336 827-828m, 337 829-830m, 338 831-832m, 339 833-834m, 340 835-836m, 341 837-838m, 342 839-840m, 343 841-842m, 344 843-844m, 345 845-846m, 346 847-848m, 347 849-850m, 348 851-852m, 349 853-854m, 350 855-856m, 351 857-858m, 352 859-860m, 353 861-862m, 354 863-864m, 355 865-866m, 356 867-868m, 357 869-870m, 358 871-872m, 359 873-874m, 360 875-876m, 361 877-878m, 362 879-880m, 363 881-882m, 364 883-884m, 365 885-886m, 366 887-888m, 367 889-890m, 368 891-892m, 369 893-894m, 370 895-896m, 371 897-898m, 372 899-900m, 373 901-902m, 374 903-904m, 375 905-906m, 376 907-908m, 377 909-910m, 378 911-912m, 379 913-914m, 380 915-916m, 381 917-918m, 382 919-920m, 383 921-922m, 384 923-924m, 385 925-926m, 386 927-928m, 387 929-930m, 388 931-932m, 389 933-934m, 390 935-936m, 391 937-938m, 392 939-940m, 393 941-942m, 394 943-944m, 395 945-946m, 396 947-948m, 397 949-950m, 398 951-952m, 399 953-954m, 400 955-956m, 401 957-958m, 402 959-960m, 403 961-962m, 404 963-964m, 405 965-966m, 406 967-968m, 407 969-970m, 408 971-972m, 409 973-974m, 410 975-976m, 411 977-978m, 412 979-980m, 413 981-982m, 414 983-984m, 415 985-986m, 416 987-988m, 417 989-990m, 418 991-992m, 419 993-994m, 420 995-996m, 421 997-998m, 422 999-1000m.

LITHOLOGICAL SYMBOLS, ACCESSORY SYMBOLS, OPERATIONAL SYMBOLS
LITHOLOGICAL SYMBOLS: SANDSTONE, SLAGSTONE, CLAY, CLAYSTONE, SHALE, MARL, CHALK, ARGILLACEOUS.
ACCESSORY SYMBOLS: SAND, SILT, SILTSTONE, CLAY, CLAYSTONE, SHALE, MARL, CHALK, ARGILLACEOUS.
OPERATIONAL SYMBOLS: CASING, LOGGING, DRILLING, etc.

WELL LOG DATA TABLE
DATE: 12-21-81
LOGS: 1 157-158m, 2 159-160m, 3 161-162m, 4 163-164m, 5 165-166m, 6 167-168m, 7 169-170m, 8 171-172m, 9 173-174m, 10 175-176m, 11 177-178m, 12 179-180m, 13 181-182m, 14 183-184m, 15 185-186m, 16 187-188m, 17 189-190m, 18 191-192m, 19 193-194m, 20 195-196m, 21 197-198m, 22 199-200m, 23 201-202m, 24 203-204m, 25 205-206m, 26 207-208m, 27 209-210m, 28 211-212m, 29 213-214m, 30 215-216m, 31 217-218m, 32 219-220m, 33 221-222m, 34 223-224m, 35 225-226m, 36 227-228m, 37 229-230m, 38 231-232m, 39 233-234m, 40 235-236m, 41 237-238m, 42 239-240m, 43 241-242m, 44 243-244m, 45 245-246m, 46 247-248m, 47 249-250m, 48 251-252m, 49 253-254m, 50 255-256m, 51 257-258m, 52 259-260m, 53 261-262m, 54 263-264m, 55 265-266m, 56 267-268m, 57 269-270m, 58 271-272m, 59 273-274m, 60 275-276m, 61 277-278m, 62 279-280m, 63 281-282m, 64 283-284m, 65 285-286m, 66 287-288m, 67 289-290m, 68 291-292m, 69 293-294m, 70 295-296m, 71 297-298m, 72 299-300m, 73 301-302m, 74 303-304m, 75 305-306m, 76 307-308m, 77 309-310m, 78 311-312m, 79 313-314m, 80 315-316m, 81 317-318m, 82 319-320m, 83 321-322m, 84 323-324m, 85 325-326m, 86 327-328m, 87 329-330m, 88 331-332m, 89 333-334m, 90 335-336m, 91 337-338m, 92 339-340m, 93 341-342m, 94 343-344m, 95 345-346m, 96 347-348m, 97 349-350m, 98 351-352m, 99 353-354m, 100 355-356m, 101 357-358m, 102 359-360m, 103 361-362m, 104 363-364m, 105 365-366m, 106 367-368m, 107 369-370m, 108 371-372m, 109 373-374m, 110 375-376m, 111 377-378m, 112 379-380m, 113 381-382m, 114 383-384m, 115 385-386m, 116 387-388m, 117 389-390m, 118 391-392m, 119 393-394m, 120 395-396m, 121 397-398m, 122 399-400m, 123 401-402m, 124 403-404m, 125 405-406m, 126 407-408m, 127 409-410m, 128 411-412m, 129 413-414m, 130 415-416m, 131 417-418m, 132 419-420m, 133 421-422m, 134 423-424m, 135 425-426m, 136 427-428m, 137 429-430m, 138 431-432m, 139 433-434m, 140 435-436m, 141 437-438m, 142 439-440m, 143 441-442m, 144 443-444m, 145 445-446m, 146 447-448m, 147 449-450m, 148 451-452m, 149 453-454m, 150 455-456m, 151 457-458m, 152 459-460m, 153 461-462m, 154 463-464m, 155 465-466m, 156 467-468m, 157 469-470m, 158 471-472m, 159 473-474m, 160 475-476m, 161 477-478m, 162 479-480m, 163 481-482m, 164 483-484m, 165 485-486m, 166 487-488m, 167 489-490m, 168 491-492m, 169 493-494m, 170 495-496m, 171 497-498m, 172 499-500m, 173 501-502m, 174 503-504m, 175 505-506m, 176 507-508m, 177 509-510m, 178 511-512m, 179 513-514m, 180 515-516m, 181 517-518m, 182 519-520m, 183 521-522m, 184 523-524m, 185 525-526m, 186 527-528m, 187 529-530m, 188 531-532m, 189 533-534m, 190 535-536m, 191 537-538m, 192 539-540m, 193 541-542m, 194 543-544m, 195 545-546m, 196 547-548m, 197 549-550m, 198 551-552m, 199 553-554m, 200 555-556m, 201 557-558m, 202 559-560m, 203 561-562m, 204 563-564m, 205 565-566m, 206 567-568m, 207 569-570m, 208 571-572m, 209 573-574m, 210 575-576m, 211 577-578m, 212 579-580m, 213 581-582m, 214 583-584m, 215 585-586m, 216 587-588m, 217 589-590m, 218 591-592m, 219 593-594m, 220 595-596m, 221 597-598m, 222 599-600m, 223 601-602m, 224 603-604m, 225 605-606m, 226 607-608m, 227 609-610m, 228 611-612m, 229 613-614m, 230 615-616m, 231 617-618m, 232 619-620m, 233 621-622m, 234 623-624m, 235 625-626m, 236 627-628m, 237 629-630m, 238 631-632m, 239 633-634m, 240 635-636m, 241 637-638m, 242 639-640m, 243 641-642m, 244 643-644m, 245 645-646m, 246 647-648m, 247 649-650m, 248 651-652m, 249 653-654m, 250 655-656m, 251 657-658m, 252 659-660m, 253 661-662m, 254 663-664m, 255 665-666m, 256 667-668m, 257 669-670m, 258 671-672m, 259 673-674m, 260 675-676m, 261 677-678m, 262 679-680m, 263 681-682m, 264 683-684m, 265 685-686m, 266 687-688m, 267 689-690m, 268 691-692m, 269 693-694m, 270 695-696m, 271 697-698m, 272 699-700m, 273 701-702m, 274 703-704m, 275 705-706m, 276 707-708m, 277 709-710m, 278 711-712m, 279 713-714m, 280 715-716m, 281 717-718m, 282 719-720m, 283 721-722m, 284 723-724m, 285 725-726m, 286 727-728m, 287 729-730m, 288 731-732m, 289 733-734m, 290 735-736m, 291 737-738m, 292 739-740m, 293 741-742m, 294 743-744m, 295 745-746m, 296 747-748m, 297 749-750m, 298 751-752m, 299 753-754m, 300 755-756m, 301 757-758m, 302 759-760m, 303 761-762m, 304 763-764m, 305 765-766m, 306 767-768m, 307 769-770m, 308 771-772m, 309 773-774m, 310 775-776m, 311 777-778m, 312 779-780m, 313 781-782m, 314 783-784m, 315 785-786m, 316 787-788m, 317 789-790m, 318 791-792m, 319 793-794m, 320 795-796m, 321 797-798m, 322 799-800m, 323 801-802m, 324 803-804m, 325 805-806m, 326 807-808m, 327 809-810m, 328 811-812m, 329 813-814m, 330 815-816m, 331 817-818m, 332 819-820m, 333 821-822m, 334 823-824m, 335 825-826m, 336 827-828m, 337 829-830m, 338 831-832m, 339 833-834m, 340 835-836m, 341 837-838m, 342 839-840m, 343 841-842m, 344 843-844m, 345 845-846m, 346 847-848m, 347 849-850m, 348 851-852m, 349 853-854m, 350 855-856m, 351 857-858m, 352 859-860m, 353 861-862m, 354 863-864m, 355 865-866m, 356 867-868m, 357 869-870m, 358 871-872m, 359 873-874m, 360 875-876m, 361 877-878m, 362 879-880m, 363 881-882m, 364 883-884m, 365 885-886m, 366 887-888m, 367 889-890m, 368 891-892m, 369 893-894m, 370 895-896m, 371 897-898m, 372 899-900m, 373 901-902m, 374 903-904m, 375 905-906m, 376 907-908m, 377 909-910m, 378 911-912m, 379 913-914m, 380 915-916m, 381 917-918m, 382 919-920m, 383 921-922m, 384 923-924m, 385 925-926m, 386 927-928m, 387 929-930m, 388 931-932m, 389 933-934m, 390 935-936m, 391 937-938m, 392 939-940m, 393 941-942m, 394 943-944m, 395 945-946m, 396 947-948m, 397 949-950m, 398 951-952m, 399 953-954m, 400 955-956m, 401 957-958m, 402 959-960m, 403 961-962m, 404 963-964m, 405 965-966m, 406 967-968m, 407 969-970m, 408 971-972m, 409 973-974m, 410 975-976m, 411 977-978m, 412 979-980m, 413 981-982m, 414 983-984m, 415 985-986m, 416 987-988m, 417 989-990m, 418 991-992m, 419 993-994m, 420 995-996m, 421 997-998m, 422 999-1000m.

WELL LOG DATA TABLE (continued)
DATE: 12-21-81
LOGS: 1 157-158m, 2 159-160m, 3 161-162m, 4 163-164m, 5 165-166m, 6 167-168m, 7 169-170m, 8 171-172m, 9 173-174m, 10 175-176m, 11 177-178m, 12 179-180m, 13 181-182m, 14 183-184m, 15 185-186m, 1