

U 625

725.3

<b>OLJEDIREKTORATET</b>	
AVD. KONTOR HARSTAD	
Journal nr.:	90/11682-1
dato	02 OKT. 1990

*Prepared for*

PL 161

BA 90-1668-1
02 OKT. 1990
<b>REGISTRERT</b>
OLJEDIREKTORATET

**RESERVOIR GEOCHEMISTRY,  
WELL 7228/9 - 1 (HYDRO)**

**MAY 1990**

**REPORT NO. 3228**

TABLE 1  
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)

WELL: 7228/9-1

3228-069	1072.0m	A100% SILTSTONE - blocky, soft, olive grey.	5Y4/1	
3228-070	1073.0m	A100% SILTSTONE - as 3228-069A, olive grey.	5Y4/1	
3228-071	1075.0m	A100% SANDSTONE - fine to med grained, blocky, soft, friable, dull yellow F, instant blooming milky cut, dark yellowish brown to pale yellowish brown.	10YR4/2- 10YR6/2	
3228-072	1077.0m	A 95% SANDSTONE - as 3228-071A, dark yellowish brown to pale yellowish brown. B 5% Clay.	10YR4/2- 10YR6/2	
3228-073	1079.0m	A100% SANDSTONE - fine to med grained, blocky, soft, friable, bituminous, gold F, instant blooming milky cut, moderate yellowish brown.	10YR5/4	
3228-001	1083.00m	A100% SILTSTONE - blocky, mod hard, sig bitumen impregnation, no F, no C, light olive grey.	5Y6/1	
3228-002	1083.25m	A100% SILTSTONE - as 3228-001A, light olive grey.	5Y6/1	
3228-003	1083.50m	A100% SANDSTONE - fine grained, blocky, hard, sig bitumen impregnation, no F, no C, light olive grey.	5Y6/1	
3228-004	1083.75m	A100% SANDSTONE - med grained, blocky, hard, micaceous, minor bitumen impregnation, no F, no C, light olive grey.	5Y6/1	
3228-005	1084.50m	A100% SANDSTONE - coarse grained, blocky, mod soft, occ bitumen, no F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-006	1085.25m	A100% SANDSTONE - med grained, blocky, mod hard, dull gold F, slow blooming milky cut, very pale orange.	10YR8/2	
3228-007	1086.50m	A100% SANDSTONE - coarse grained, blocky, mod soft, dull gold F, v slow blooming milky cut, yellowish grey.	5Y8/1	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1  
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-008	1087.00m	A100% SANDSTONE - v coarse grained, blocky, soft, friable, dull yellow F, instant streaming milky cut, yellowish grey.	5Y8/1	
3228-009	1087.75m	A100% SANDSTONE - as 3228-008A, yellowish grey.	5Y8/1	
3228-010	1088.75m	A100% SANDSTONE - v coarse grained, blocky, soft, dull gold F, instant blooming milky cut, pale yellowish brown.	10YR6/2	
3228-011	1089.50m	A100% SANDSTONE - coarse grained, blocky, mod soft, gold F, instant blooming milky cut, very pale orange.	10YR8/2	
3228-012	1090.50m	A100% SANDSTONE - coarse grained, blocky, soft, friable, bituminous, gold F, slow blooming milky cut, greyish orange.	10YR7/4	
3228-013	1092.00m	A100% SANDSTONE - coarse grained, blocky, mod soft, gold F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-014	1095.00m	A100% SANDSTONE - med to coarse grained, blocky, mod hard, dull gold F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-015	1095.50m	A100% SANDSTONE - med grained, blocky, mod hard, micaceous, dull gold F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-016	1096.25m	A100% SANDSTONE - v coarse grained, blocky, mod soft, dull gold F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-017	1097.00m	A100% SANDSTONE - coarse grained, blocky, mod soft, gold F, rapid blooming milky cut, yellowish grey.	5Y8/1	
3228-018	1098.00m	A100% SANDSTONE - coarse grained, blocky, mod soft, gold F, rapid blooming milky cut, yellowish grey.	5Y8/1	
3228-106	1098.50m	A TARRY SUBSTANCE - minor contents of sand grains. Object occurred in a 100% sst-lithology sequence.		

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1  
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (wt. %)
3228-019	1099.00m	A100% SANDSTONE - as 3228-018A, yellowish grey.	5Y8/1	
3228-020	1100.00m	A100% SANDSTONE - as 3228-018A, yellowish grey.	5Y8/1	
3228-021	1101.00m	A100% SANDSTONE - as 3228-018A, yellowish grey.	5Y8/1	
3228-022	1102.00m	A100% SANDSTONE - coarse grained, blocky, hard, bituminous, dull gold F, slow blooming milky cut, yellowish grey.	5Y8/1	
3228-023	1102.75m	A100% SANDSTONE - as 3228-022A, yellowish grey.	5Y8/1	
3228-024	1103.50m	A100% SANDSTONE - coarse grained, blocky, mod hard, occ bitumen, dull gold F, slow blooming milky cut, yellowish grey.	5Y8/1	
3228-025	1104.50m	A100% SANDSTONE - coarse grained, blocky, mod hard, bituminous, dull gold F, slow blooming milky cut, yellowish grey.	5Y8/1	
3228-026	1105.25m	A100% SANDSTONE - as 3228-025A, yellowish grey.	5Y8/1	
3228-027	1105.50m	A100% SANDSTONE - med grained, blocky, mod hard, no F, v slow blooming milky cut, greyish orange.	10YR7/4	
3228-028	1106.25m	A100% SANDSTONE - med grained, blocky, mod hard, bituminous, gold F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-029	1107.75m	A100% SANDSTONE - med grained, blocky, mod hard, bituminous, no F, slow blooming milky cut, pale yellowish brown.	10YR6/2	
3228-030	1109.00m	A100% SANDSTONE - coarse grained, blocky, soft, friable, oily, dull gold F, instant blooming milky cut, pale yellowish brown.	10YR6/2	
3228-031	1110.00m	A100% SANDSTONE - as 3228-030A, pale yellowish brown.	10YR6/2	
3228-032	1111.25m	A100% SANDSTONE - as 3228-030A, pale yellowish brown.	10YR6/2	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1  
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-033	1112.50m	A100% SANDSTONE - as 3228-030A, pale yellowish brown.	10YR6/2	
3228-034	1113.50m	A100% SAND - coarse grained, poorly sorted, dull gold F, slow blooming milky cut.		
3228-035	1114.25m	A100% CONGLOMERATE - quartz pebbles in sandy matrix, mod hard, bituminous, dull gold F, instant blooming milky cut, pale yellowish brown.	10YR6/2	
3228-036	1114.50m	A100% SANDSTONE - fine grained, blocky, hard, dull gold F, instant blooming milky cut, pale yellowish brown.	10YR6/2	
3228-037	1115.25m	A100% SANDSTONE - coarse grained, blocky, mod soft, dull gold F, instant blooming milky cut, pale yellowish brown.	10YR6/2	
3228-038	1116.50m	A100% SANDSTONE - med grained, blocky, hard, bituminous, dull gold F, instant blooming milky cut, yellowish grey.	5Y8/1	
3228-039	1117.50m	A100% SANDSTONE - coarse grained, blocky, mod soft, gold F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-040	1118.50m	A100% SANDSTONE - fine grained, blocky, mod hard, gold F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-041	1119.25m	A100% SANDSTONE - med grained, blocky, mod hard, yellow F, instant blooming milky cut, moderate yellowish brown.	10YR5/4	
3228-042	1120.00m	A100% SANDSTONE - fine grained, blocky, mod hard, dull gold F, slow blooming milky cut, pale yellowish brown.	10YR6/2	
3228-043	1120.75m	A100% SANDSTONE - coarse grained, blocky, soft, friable, dull gold F, rapid blooming milky cut, pale yellowish brown.	10YR6/2	
3228-044	1121.75m	A100% SANDSTONE - as 3228-043A, pale yellowish brown.	10YR6/2	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

**TABLE 1**  
**ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS**

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (wt. %)
3228-045	1123.00m	A100% SANDSTONE - coarse grained, blocky, mod hard, dull gold F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-046	1123.25m	A100% SANDSTONE - coarse grained, blocky, hard, dull gold F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-047	1124.25m	A100% SANDSTONE - as 3228-046A, greyish orange.	10YR7/4	
3228-048	1124.75m	A100% SANDSTONE - coarse grained, blocky to platy, mod hard, dull gold F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-049	1125.25m	A100% SANDSTONE - as 3228-048A, greyish orange.	10YR7/4	
3228-050	1126.25m	A100% SANDSTONE - as 3228-048A, greyish orange.	10YR7/4	
3228-051	1127.25m	A100% SANDSTONE - as 3228-048A, greyish orange.	10YR7/4	
3228-052	1128.25m	A100% SANDSTONE - coarse grained, blocky, mod hard, yellow F, instant blooming milky cut, greyish orange.	10YR7/4	
3228-053	1128.50m	A100% SANDSTONE - as 3228-052A, greyish orange.	10YR7/4	
3228-054	1128.60m	A100% SANDSTONE - coarse grained, blocky, mod hard, dull gold F, instant streaming milky cut, moderate yellowish brown.	10YR5/4	
3228-055	1128.75m	A100% SANDSTONE - coarse grained, blocky, mod hard, dull yellow F, rapid blooming milky cut, greyish orange.	10YR7/4	
3228-056	1129.25m	A100% SANDSTONE - as 3228-055A, greyish orange.	10YR7/4	
3228-057	1129.50m	A100% SILTY CLAYSTONE - blocky, hard, medium dark grey.	N4	
3228-058	1130.00m	A100% SILTSTONE - blocky, hard, lamellar bedding, medium light grey.	N6	
3228-059	1130.25m	A100% SILTSTONE - as 3228-058A, medium light grey.	N6	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

**TABLE 1**  
**ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS**

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-060	1130.50m	A100% SANDSTONE - fine grained, blocky, hard, lamellar bedding, no F, v slow blooming milky cut, very light grey.	N8	
3228-061	1130.75m	A100% SANDSTONE - fine grained, blocky, hard, cross-bedding, no F, v slow blooming milky cut, very light grey	N8	
3228-062	1131.00m	A100% SANDSTONE - as 3228-061A, very light grey.	N8	
3228-063	1131.25m	A100% SANDSTONE - fine grained, blocky, hard, no F, v slow blooming milky cut, very light grey.	N8	
3228-064	1131.50m	A100% SILTSTONE - blocky, hard, lamellar bedding, light grey to very light grey.	N7 N8	-
3228-065	1132.00m	A100% SILTSTONE - blocky, v hard, light grey.	N7	
3228-074	1132.0m	A100% SANDSTONE - as 3228-073A, moderate yellowish brown.	10YR5/4	
3228-066	1132.25m	A100% SILTSTONE - as 3228-065A, light grey.	N7	
3228-067	1132.75m	A100% SILTSTONE - platy, hard, micaceous, medium light grey.	N6	
3228-068	1133.25m	A100% SILTSTONE - as 3228-067A, medium light grey.	N6	
3228-075	1135.0m	A100% SANDSTONE - as 3228-073A, moderate yellowish brown.	10YR5/4	
3228-076	1138.0m	A100% SANDSTONE - med grained, blocky, soft, friable, gold F, instant streaming milky cut, moderate yellowish brown.	10YR5/4	
3228-077	1140.0m	A 90% SANDSTONE - med grained, blocky, soft, gold F, instant streaming milky cut, moderate yellowish brown	10YR5/4	
3228-078	1144.0m	A100% SILTSTONE - platy to blocky, mod soft, lamellar bedding, olive grey.	5Y4/1	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

**TABLE 1**  
**ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS**

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-079	1156.0m	A100% SANDSTONE - med grained, blocky, soft, friable, no F, slow blooming milky cut, light greenish grey.	5GY8/1	
3228-080	1161.0m	A100% SANDSTONE - as 3228-079A, light greenish grey.	5GY8/1	
3228-081	1177.0m	A100% SANDSTONE - as 3228-079A, light greenish grey.	5GY8/1	
3228-082	1186.0m	A100% SANDSTONE - as 3228-079A, light greenish grey.	5GY8/1	
3228-083	1195.5m	A100% SANDSTONE - coarse grained, blocky, soft, friable, no F, slow blooming milky cut, yellowish grey.	5Y8/1	
3228-084	1236.0m	A100% SILTSTONE - blocky, soft, olive grey.	5Y4/1	
3228-085	1267.0m	A100% SANDSTONE - med grained, blocky, soft, friable, no F, slow blooming milky cut, yellowish grey.	5Y8/1	
3228-086	1321.0m	A100% SILTSTONE - as 3228-084A, olive grey.	5Y4/1	
3228-087	1353.0m	A100% SILTSTONE - as 3228-084A, olive grey.	5Y4/1	
3228-088	1395.0m	A100% SANDSTONE - fine to med grained, blocky, soft, glauconitic, no F, no C, light olive grey.	5Y6/1	
3228-089	1446.0m	A100% SANDSTONE - as 3228-088A, light olive grey.	5Y6/1	
3228-090	1457.5m	A100% SANDSTONE - as 3228-088A, light olive grey.	5Y6/1	
3228-091	1603.0m	A100% SANDSTONE - fine grained, blocky, soft, glauconitic, no F, no C, dark greenish grey.	5GY4/1	
3228-092	1607.0m	A100% SANDSTONE - as 3228-091A, dark greenish grey.	5GY4/1	
3228-093	1610.0m	A100% SANDSTONE - fine grained, blocky, mod soft, bituminous, no F, very slow blooming milky cut, dark greenish grey.	5GY4/1	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very



**TABLE 1**  
**ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS**

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-094	1638.0m	A100% SANDSTONE - fine grained, blocky, soft, glauconitic, no F, no C, light olive grey.	5Y6/1	
3228-095	1642.0m	A100% SANDSTONE - as 3228-094A, light olive grey.	5Y6/1	
3228-096	1683.5m	A100% CLAYSTONE - blocky, soft, glauconitic, olive grey.	5Y4/1	
3228-097	1722.0m	A100% SILTSTONE - blocky, soft, glauconitic, olive grey.	5Y4/1	
3228-098	1755.0m	A100% SANDSTONE - fine grained, blocky, soft, glauconitic, no F, no C, dark greenish grey.	5GY4/1	
3228-099	1863.0m	A100% SANDSTONE - as 3228-098A, dark greenish grey.	5GY4/1	
3228-100	1885.0m	A100% SANDSTONE - as 3228-098A, dark greenish grey.	5GY4/1	
3228-101	2019.0m	A100% CLAYSTONE - blocky, soft, glauconitic, olive grey.	5Y4/1	
3228-102	2138.0m	A100% SILTSTONE - blocky, soft, glauconitic, sandy, light olive grey.	5Y6/1	
3228-103	2223.0m	A100% SANDSTONE - fine grained, blocky, soft, glauconitic, no F, slow blooming milky cut, light olive grey.	5Y6/1	
3228-104	2272.0m	A100% SANDSTONE - as 3228-103A, greenish grey.	5GY6/1	
3228-105	2344.0m	A100% SANDSTONE - as 3228-103A, greenish grey.	5GY6/1	
3228-107	2871.75m	A100% SANDSTONE - fine grained, platy to blocky, hard, sl calc, micaceous, no F, slow blooming milky cut, brownish grey.	5YR4/1	
3228-108	2872.75m	A100% SANDSTONE - as 3228-107A, brownish grey.	5YR4/1	
3228-109	2873.75m	A100% SANDSTONE - as 3228-107A, brownish grey.	5YR4/1	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1  
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 3228				
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
3228-110	2874.75m	A100% SANDSTONE - as 3228-107A, brownish grey.	5YR4/1	
3228-111	2875.75m	A100% SANDSTONE - as 3228-107A, brownish grey.	5YR4/1	
3228-112	2878.75m	A100% SANDSTONE - fine grained, platy to blocky, hard, sl calc, micaceous, no F, v slow blooming milky cut, brownish grey.	5YR4/1	
3228-113	2881.50m	A100% SILTSTONE - platy, hard, micaceous, cross bedding, light olive grey to greyish red.	5Y6/1 - 10R4/2	
3228-114	2882.50m	A100% SILTSTONE - as 3228-113A, light olive grey to greyish red.	5Y6/1 - 10R4/2	
3228-115	2884.75m	A100% SILTSTONE - platy, hard, micaceous, glauconitic, greenish grey.	5G6/1	
3228-116	2887.50m	A100% SILTSTONE - as 3228-115A, greenish grey.	5G6/1	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

**TABLE 2A**  
**THERMAL BITUMEN COMPOSITION (NORM. %) AND ABUNDANCE**

JOB 3228						
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	% CX-C5	% C6-C14	% C15+	% nC17	ABUNDANCE (ppm)

WELL: 7228/9-1

3228-069	1072.0m	3.45	95.12	1.43	0.02	310
3228-070	1073.0m	5.68	51.20	43.13	5.29	1108
3228-071	1075.0m	2.72	72.86	24.42	4.18	1301
3228-072	1077.0m	10.59	42.90	46.51	5.66	1412
3228-001	1083.00m	25.45	62.88	11.68	0.81	1998
3228-003	1083.50m	6.17	68.81	25.02	1.91	1350
3228-004	1083.75m	21.38	66.74	11.87	0.78	1766
3228-006	1085.25m	10.79	41.98	47.23	3.44	1522
3228-011	1089.50m	11.72	45.35	42.93	2.52	1420
3228-015	1095.50m	9.36	44.75	45.90	4.89	1721
3228-019	1099.00m	13.48	43.88	42.64	3.43	1553
3228-027	1105.50m	13.50	59.53	26.96	1.75	960
3228-030	1109.00m	7.71	70.81	21.48	2.85	1105
3228-036	1114.50m	18.14	41.05	40.81	4.80	705
3228-038	1116.50m	10.00	58.40	31.60	3.00	1759
3228-041	1119.25m	4.10	13.32	82.58	9.87	4602
3228-047	1124.25m	6.47	19.07	74.46	5.55	1598
3228-050	1126.25m	11.64	32.78	55.59	4.84	1810
3228-054	1128.60m	1.17	22.11	76.73	10.00	7608
3228-056	1129.25m	9.78	40.93	49.29	3.60	4250
3228-063	1131.25m	2.04	71.95	26.02	2.27	329
3228-074	1132.0m	4.79	56.47	38.75	5.34	1566
3228-075	1135.0m	1.22	54.28	44.50	5.48	4690
3228-077	1140.0m	0.85	74.78	24.37	2.64	9987
3228-081	1177.0m	19.35	38.84	41.81	3.24	326

TABLE 2B  
THERMAL BITUMEN COMPOSITION (NORM. %) AND ABUNDANCE

JOB 3228	DEPTH/ IDENTITY	CX-C6	C7-C14	C15+	nC17	ABUNDANCE (ppm)
3228-069	1072.0m	7.65	90.92	1.43	0.02	310
3228-070	1073.0m	7.59	49.29	43.13	5.29	1108
3228-071	1075.0m	4.10	71.47	24.42	4.18	1301
3228-072	1077.0m	11.51	41.98	46.51	5.66	1412
3228-001	1083.00m	30.64	57.68	11.68	0.81	1998
3228-003	1083.50m	12.54	62.44	25.02	1.91	1350
3228-004	1083.75m	29.73	58.40	11.87	0.78	1766
3228-006	1085.25m	12.13	40.64	47.23	3.44	1522
3228-011	1089.50m	15.38	41.69	42.93	2.52	1420
3228-015	1095.50m	11.65	42.45	45.90	4.89	1721
3228-019	1099.00m	15.00	42.35	42.64	3.43	1553
7228-027	1105.50m	17.55	55.48	26.96	1.75	960
228-030	1109.00m	9.03	69.48	21.48	2.85	1105
3228-036	1114.50m	20.24	38.95	40.81	4.80	705
3228-038	1116.50m	13.58	54.82	31.60	3.00	1759
3228-041	1119.25m	4.57	12.85	82.58	9.87	4602
3228-047	1124.25m	7.89	17.65	74.46	5.55	1598
3228-050	1126.25m	14.07	30.34	55.59	4.84	1810
3228-054	1128.60m	2.16	21.12	76.73	10.00	7608
3228-056	1129.25m	12.58	38.13	49.29	3.60	4250
3228-063	1131.25m	6.15	67.83	26.02	2.27	329
3228-074	1132.0m	4.98	56.27	38.75	5.34	1566
3228-075	1135.0m	1.52	53.98	44.50	5.48	4690
3228-077	1140.0m	1.49	74.15	24.37	2.64	9987
3228-081	1177.0m	22.70	35.49	41.81	3.24	326

WELL: 7228/9-1

TABLE 3  
CONCENTRATION (PPM) OF EXTRACTED C<sub>15+</sub> MATERIAL IN ROCK

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOTAL EXTRACT	HYDROCARBONS			NON HYDROCARBONS			
				Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's	TOTAL

WELL: 7228/9-1

3228-069A	1072.0m	369	233	17	250	54	62	2	119
3228-070A	1073.0m	430	289	27	316	52	59	3	114
3228-071A	1075.0m	1758	1311	121	1432	92	226	7	326
3228-072A	1077.0m	1385	867	80	948	171	257	9	437
3228-073A	1079.0m	2014	1312	165	1477	217	314	6	538
3228-001A	1083.00m	466	182	46	228	115	122	2	238
3228-002A	1083.25m	574	282	50	332	128	113	2	243
3228-003A	1083.50m	985	532	103	635	207	140	2	350
3228-004A	1083.75m	827	568	67	635	95	96	2	192
3228-005A	1084.50m	383	269	45	314	36	31	1	68
3228-006A	1085.25m	1424	1031	150	1182	93	146	3	242
3228-007A	1086.50m	708	458	76	534	74	99	2	174
3228-008A	1087.00m	396	265	43	308	53	34	1	88
3228-009A	1087.75m	1041	707	86	793	57	189	2	248
3228-010A	1088.75m	847	595	72	667	66	112	2	180
3228-011A	1089.50m	2247	1597	203	1800	149	294	5	447
3228-012A	1090.50m	1539	1061	145	1206	141	189	3	333
3228-013A	1092.00m	1451	1058	137	1196	103	150	3	255
3228-014A	1095.00m	1149	832	100	932	61	154	2	217
3228-015A	1095.50m	1220	883	121	1004	68	148	2	217
3228-016A	1096.25m	594	420	54	474	44	74	1	120
3228-017A	1097.00m	843	630	72	701	55	83	3	142
3228-018A	1098.00m	654	472	55	527	53	72	1	127
3228-106A	1098.50m	386125	181292	12208	193500	46625	144625	1375	192625
3228-019A	1099.00m	709	499	57	556	72	80	2	154
3228-020A	1100.00m	590	398	44	442	66	80	2	148
3228-021A	1101.00m	663	467	53	520	31	109	3	143
3228-022A	1102.00m	762	508	63	571	91	96	4	192
3228-023A	1102.75m	609	307	40	347	128	132	3	263
3228-024A	1103.50m	606	397	48	445	80	79	2	161
3228-025A	1104.50m	1155	731	109	840	151	162	3	316
3228-026A	1105.25m	1149	727	104	831	146	169	3	318

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 3  
CONCENTRATION (PPM) OF EXTRACTED C<sub>15+</sub> MATERIAL IN ROCK

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOTAL EXTRACT	HYDROCARBONS			NON HYDROCARBONS			
				Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's	TOTAL
3228-027A		1105.50m	1253	409	55	464	709	79	2	789
3228-028A		1106.25m	1603	1049	170	1219	195	184	5	384
3228-029A		1107.75m	1187	708	107	815	215	156	2	372
3228-030A		1109.00m	684	430	39	469	75	138	2	215
3228-031A		1110.00m	459	258	24	281	48	128	3	178
3228-032A		1111.25m	429	281	24	305	30	91	2	123
3228-033A		1112.50m	538	372	36	407	22	107	2	131
3228-034A		1113.50m	451	229	24	253	150	46	2	198
3228-035A		1114.25m	994	639	77	716	108	165	4	278
3228-036A		1114.50m	867	578	84	662	112	91	3	205
3228-037A		1115.25m	910	639	70	708	47	153	3	202
3228-038A		1116.50m	1427	901	153	1053	176	194	4	374
3228-039A		1117.50m	1459	1034	132	1166	93	194	6	293
3228-040A		1118.50m	260	186	19	204	29	24	2	55
3228-041A		1119.25m	9712	7455	1001	8456	358	879	20	1256
3228-042A		1120.00m	602	364	47	411	51	137	3	191
3228-043A		1120.75m	655	458	62	521	80	51	2	134
3228-044A		1121.75m	944	659	98	756	79	106	3	188
3228-045A		1123.00m	820	607	72	679	45	94	3	141
3228-046A		1123.25m	486	301	52	353	57	74	2	133
3228-047A		1124.25m	2506	1756	281	2037	183	276	10	469
3228-048A		1124.75m	1897	1339	218	1556	111	225	4	340
3228-049A		1125.25m	2015	1438	228	1665	133	213	4	349
3228-050A		1126.25m	2096	1474	240	1714	176	201	4	382
3228-051A		1127.25m	2448	1788	246	2034	185	219	10	414
3228-052A		1128.25m	2829	2098	288	2386	181	254	4	439
3228-053A		1128.50m	3870	2754	404	3158	293	407	12	712
3228-054A		1128.60m	14545	10554	1641	12196	748	1559	42	2349
3228-055A		1128.75m	5256	3747	665	4412	253	570	21	844
3228-056A		1129.25m	4658	3400	539	3938	242	463	14	720
3228-057A		1129.50m	302	123	16	139	67	94	2	163
3228-058A		1130.00m	404	164	22	186	99	117	1	218
3228-059A		1130.25m	284	125	16	141	62	80	1	144
3228-060A		1130.50m	271	88	17	104	79	86	2	166

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 3  
CONCENTRATION (PPM) OF EXTRACTED C<sub>15+</sub> MATERIAL IN ROCK

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOTAL EXTRACT	HYDROCARBONS			NON HYDROCARBONS			
				Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's	TOTAL
3228-061A		1130.75m	301	51	15	66	115	120	1	235
3228-062A		1131.00m	145	44	9	53	52	39	1	93
3228-063A		1131.25m	267	70	11	80	95	91	1	187
3228-064A		1131.50m	539	73	27	100	270	167	2	439
3228-065A		1132.00m	484	102	22	124	165	193	2	360
3228-074A		1132.0m	4556	3320	356	3676	261	606	13	879
3228-066A		1132.25m	165	62	8	70	37	55	2	95
3228-067A		1132.75m	235	64	6	70	56	107	2	165
3228-068A		1133.25m	259	83	8	91	56	110	1	168
3228-075A		1135.0m	8607	6255	722	6977	493	1103	34	1630
3228-076A		1138.0m	10068	7557	903	8460	562	1026	21	1609
3228-077A		1140.0m	16064	11061	1599	12660	1257	2102	45	3404
3228-078A		1144.0m	639	196	25	221	206	209	2	418
3228-079A		1156.0m	324	135	12	147	87	88	2	177
3228-080A		1161.0m	303	130	12	142	65	95	1	161
3228-081A		1177.0m	610	309	35	344	99	162	5	266
3228-082A		1186.0m	231	90	8	99	74	57	1	132
3228-083A		1195.5m	262	76	7	83	96	81	1	179
3228-084A		1236.0m	476	166	47	213	111	149	2	262
3228-085A		1267.0m	201	73	6	79	86	34	2	122
3228-086A		1321.0m	157	62	12	75	33	49	1	82
3228-087A		1353.0m	170	79	7	85	35	47	2	85
3228-088A		1395.0m	182	57	5	62	85	33	1	120
3228-089A		1446.0m	212	49	7	56	47	107	1	155
3228-090A		1457.5m	283	119	10	128	78	75	2	155
3228-091A		1603.0m	350	118	12	130	59	159	2	220
3228-092A		1607.0m	276	58	5	63	71	139	4	213
3228-093A		1610.0m	1069	223	45	268	390	407	3	801
3228-094A		1638.0m	317	216	21	238	43	34	2	79
3228-095A		1642.0m	406	222	25	247	120	37	2	158
3228-096A		1683.5m	629	244	51	295	158	173	2	333
3228-097A		1722.0m	612	234	27	262	148	200	3	351
3228-098A		1755.0m	208	85	7	91	40	75	1	117
3228-099A		1863.0m	1041	209	39	247	207	579	8	793

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 3  
CONCENTRATION (PPM) OF EXTRACTED C<sub>15+</sub> MATERIAL IN ROCK

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOTAL EXTRACT	HYDROCARBONS			NON HYDROCARBONS			
				Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's	TOTAL
3228-100A		1885.0m	242	85	8	93	37	111	2	149
3228-101A		2019.0m	159	79	12	91	37	31	1	68
3228-102A		2138.0m	321	141	20	161	83	74	2	159
3228-103A		2223.0m	419	166	23	189	51	176	3	230
3228-104A		2272.0m	206	69	14	83	55	65	3	123
3228-105A		2344.0m	739	371	67	437	96	208	2	306
3228-107A		2871.75m	258	52	10	62	138	56	2	196
3228-108A		2872.75m	910	110	21	132	654	120	4	778
3228-109A		2873.75m	210	78	9	86	62	59	3	124
3228-110A		2874.75m	351	135	20	155	84	110	2	196
3228-111A		2875.75m	238	71	5	77	94	65	3	162
3228-112A		2878.75m	298	127	11	139	81	76	3	160
3228-113A		2881.50m	204	61	8	70	35	97	2	135
3228-114A		2882.50m	130	48	5	53	26	50	1	77
3228-115A		2884.75m	258	77	9	86	54	117	2	173
3228-116A		2887.50m	110	53	5	58	21	29	2	52

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.



TABLE 4  
COMPOSITION (NORMALISED %) OF C<sub>15+</sub> MATERIAL

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	HYDROCARBONS		NON HYDROCARBONS		
			Saturates	Aromatics	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's

WELL: 7228/9-1

3228-069A	1072.0m	63.21	4.51	14.67	16.93	0.68
3228-070A	1073.0m	67.18	6.32	12.14	13.68	0.68
3228-071A	1075.0m	74.56	6.91	5.25	12.88	0.40
3228-072A	1077.0m	62.63	5.81	12.35	18.56	0.65
3228-073A	1079.0m	65.11	8.19	10.79	15.59	0.32
3228-001A	1083.00m	39.00	9.87	24.60	26.21	0.32
3228-002A	1083.25m	49.08	8.66	22.23	19.74	0.29
3228-003A	1083.50m	54.00	10.50	21.00	14.26	0.24
3228-004A	1083.75m	68.70	8.05	11.43	11.60	0.22
3228-005A	1084.50m	70.39	11.74	9.41	8.10	0.36
3228-006A	1085.25m	72.43	10.56	6.52	10.27	0.23
3228-007A	1086.50m	64.71	10.69	10.39	13.92	0.29
3228-008A	1087.00m	66.99	10.78	13.38	8.65	0.21
3228-009A	1087.75m	67.91	8.30	5.47	18.14	0.19
3228-010A	1088.75m	70.25	8.47	7.77	13.28	0.23
3228-011A	1089.50m	71.05	9.05	6.63	13.06	0.21
3228-012A	1090.50m	68.95	9.44	9.13	12.26	0.22
3228-013A	1092.00m	72.93	9.47	7.08	10.31	0.21
3228-014A	1095.00m	72.42	8.70	5.32	13.43	0.13
3228-015A	1095.50m	72.34	9.90	5.53	12.09	0.13
3228-016A	1096.25m	70.76	9.02	7.49	12.53	0.20
3228-017A	1097.00m	74.70	8.49	6.58	9.89	0.34
3228-018A	1098.00m	72.25	8.34	8.14	11.06	0.20
3228-106A	1098.50m	46.95	3.16	12.08	37.46	0.36
3228-019A	1099.00m	70.37	7.98	10.12	11.24	0.30
3228-020A	1100.00m	67.45	7.52	11.12	13.56	0.36
3228-021A	1101.00m	70.42	7.98	4.65	16.45	0.50
3228-022A	1102.00m	66.60	8.24	11.99	12.64	0.53
3228-023A	1102.75m	50.29	6.60	20.97	21.71	0.42
3228-024A	1103.50m	65.49	7.95	13.25	13.00	0.31
3228-025A	1104.50m	63.24	9.44	13.11	13.99	0.23
3228-026A	1105.25m	63.26	9.05	12.72	14.72	0.25
3228-027A	1105.50m	32.64	4.38	56.56	6.29	0.13
3228-028A	1106.25m	65.44	10.62	12.14	11.50	0.29
3228-029A	1107.75m	59.62	9.01	18.08	13.10	0.19
3228-030A	1109.00m	62.87	5.66	10.98	20.16	0.33
3228-031A	1110.00m	56.06	5.12	10.34	27.88	0.59
3228-032A	1111.25m	65.64	5.57	7.11	21.33	0.36
3228-033A	1112.50m	69.11	6.61	4.13	19.83	0.31
3228-034A	1113.50m	50.73	5.41	33.26	10.26	0.34
3228-035A	1114.25m	64.30	7.78	10.90	16.62	0.40
3228-036A	1114.50m	66.70	9.64	12.92	10.45	0.30
3228-037A	1115.25m	70.15	7.67	5.11	16.77	0.30
3228-038A	1116.50m	63.11	10.69	12.31	13.59	0.30
3228-039A	1117.50m	70.85	9.07	6.36	13.28	0.43
3228-040A	1118.50m	71.49	7.24	11.31	9.28	0.68
3228-041A	1119.25m	76.76	10.30	3.68	9.05	0.20
3228-042A	1120.00m	60.47	7.86	8.40	22.74	0.53
3228-043A	1120.75m	69.99	9.53	12.27	7.86	0.35
3228-044A	1121.75m	69.78	10.34	8.39	11.22	0.27
3228-045A	1123.00m	74.02	8.77	5.45	11.42	0.34
3228-046A	1123.25m	61.90	10.70	11.80	15.22	0.39
3228-047A	1124.25m	70.08	11.21	7.29	11.02	0.40

TABLE 4  
COMPOSITION (NORMALISED %) OF C<sub>15+</sub> MATERIAL

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	HYDROCARBONS		NON HYDROCARBONS		
			Saturates	Aromatics	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's
3228-048A		1124.75m	70.58	11.47	5.88	11.85	0.22
3228-049A		1125.25m	71.37	11.30	6.58	10.56	0.20
3228-050A		1126.25m	70.33	11.44	8.42	9.60	0.20
3228-051A		1127.25m	73.03	10.07	7.54	8.95	0.41
3228-052A		1128.25m	74.14	10.19	6.39	8.98	0.15
3228-053A		1128.50m	71.16	10.44	7.57	10.52	0.31
3228-054A		1128.60m	72.57	11.28	5.14	10.72	0.29
3228-055A		1128.75m	71.29	12.65	4.82	10.85	0.39
3228-056A		1129.25m	72.99	11.56	5.20	9.94	0.31
3228-057A		1129.50m	40.88	5.21	22.24	31.06	0.60
3228-058A		1130.00m	40.72	5.35	24.53	29.09	0.31
3228-059A		1130.25m	43.91	5.52	21.84	28.28	0.46
3228-060A		1130.50m	32.40	6.12	29.08	31.63	0.77
3228-061A		1130.75m	16.84	5.10	38.10	39.80	0.17
3228-062A		1131.00m	29.96	6.33	35.87	27.00	0.84
3228-063A		1131.25m	26.01	4.06	35.56	33.89	0.48
3228-064A		1131.50m	13.54	5.09	50.06	30.93	0.37
3228-065A		1132.00m	21.06	4.52	34.17	39.94	0.31
3228-074A		1132.0m	72.87	7.82	5.72	13.29	0.29
3228-066A		1132.25m	37.91	4.69	22.74	33.57	1.08
3228-067A		1132.75m	27.41	2.47	23.95	45.43	0.74
3228-068A		1133.25m	32.12	3.11	21.76	42.49	0.52
3228-075A		1135.0m	72.68	8.38	5.73	12.82	0.39
3228-076A		1138.0m	75.06	8.97	5.58	10.19	0.21
3228-077A		1140.0m	68.85	9.95	7.82	13.09	0.28
3228-078A		1144.0m	30.68	3.98	32.22	32.73	0.39
3228-079A		1156.0m	41.75	3.64	26.70	27.18	0.73
3228-080A		1161.0m	43.01	3.96	21.37	31.40	0.26
3228-081A		1177.0m	50.66	5.68	16.16	26.64	0.87
3228-082A		1186.0m	39.20	3.65	32.23	24.58	0.33
3228-083A		1195.5m	29.05	2.51	36.87	31.01	0.56
3228-084A		1236.0m	34.96	9.92	23.36	31.26	0.50
3228-085A		1267.0m	36.26	2.92	42.69	16.96	1.17
3228-086A		1321.0m	39.60	7.92	20.79	31.19	0.50
3228-087A		1353.0m	46.38	3.83	20.85	27.66	1.28
3228-088A		1395.0m	31.54	2.51	46.95	18.28	0.72
3228-089A		1446.0m	23.10	3.51	22.22	50.58	0.58
3228-090A		1457.5m	41.86	3.38	27.70	26.43	0.63
3228-091A		1603.0m	33.63	3.42	16.91	45.50	0.54
3228-092A		1607.0m	20.93	1.86	25.58	50.23	1.40
3228-093A		1610.0m	20.88	4.20	36.52	38.07	0.32
3228-094A		1638.0m	68.27	6.73	13.46	10.77	0.77
3228-095A		1642.0m	54.85	6.19	29.48	9.07	0.41
3228-096A		1683.5m	38.88	8.10	25.20	27.48	0.34
3228-097A		1722.0m	38.26	4.46	24.12	32.62	0.53
3228-098A		1755.0m	40.66	3.30	19.23	36.26	0.55
3228-099A		1863.0m	20.04	3.73	19.84	55.60	0.79
3228-100A		1885.0m	35.07	3.29	15.07	45.75	0.82
3228-101A		2019.0m	49.43	7.55	23.02	19.62	0.38
3228-102A		2138.0m	44.04	6.22	25.91	23.06	0.78
3228-103A		2223.0m	39.63	5.49	12.20	42.07	0.61
3228-104A		2272.0m	33.54	6.83	26.71	31.68	1.24
3228-105A		2344.0m	50.13	9.02	13.00	28.12	0.27
3228-107A		2871.75m	20.08	3.86	53.67	21.62	0.77
3228-108A		2872.75m	12.13	2.34	71.93	13.16	0.44

TABLE 4  
COMPOSITION (NORMALISED %) OF C<sub>15+</sub> MATERIAL

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	HYDROCARBONS		NON HYDROCARBONS		
			Saturates	Aromatics	Preciptd. Asphaltenes	Eluted NSO's	Non-Eluted NSO's
3228-109A		2873.75m	36.93	4.15	29.46	28.22	1.24
3228-110A		2874.75m	38.54	5.66	23.99	31.27	0.54
3228-111A		2875.75m	29.96	2.17	39.35	27.44	1.08
3228-112A		2878.75m	42.65	3.79	27.01	25.59	0.95
3228-113A		2881.50m	30.08	4.14	17.29	47.37	1.13
3228-114A		2882.50m	36.49	4.05	20.27	38.51	0.68
3228-115A		2884.75m	29.81	3.40	20.75	45.28	0.75
3228-116A		2887.50m	47.85	4.91	19.02	26.38	1.84

TABLE 5  
SIGNIFICANT C<sub>15+</sub> RATIOS

JOB 3228	L I T H O	DEPTH/ IDENTITY	TOC (%)	mg/g TOC					HYDROCARBONS % TOTAL EXTRACT	SATURATES AROMATICS	
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO's			ASPHALTENES
3228-069A		1072.0m	0.44	83.83	52.99	3.78	56.77	14.19	12.30	67.72	14.00
3228-070A		1073.0m	0.56	76.76	51.56	4.85	56.42	10.50	9.32	73.50	10.62
3228-071A		1075.0m	0.08	2197.36	1638.41	151.81	1790.22	282.93	115.34	81.47	10.79
3228-072A		1077.0m	0.14	989.32	619.64	57.43	677.08	183.63	122.15	68.44	10.79
3228-073A		1079.0m	1.90	106.03	69.03	8.69	77.72	16.53	11.44	73.30	7.95
3228-001A		1083.00m	0.38	122.65	47.83	12.11	59.94	32.15	30.17	48.87	3.95
3228-002A		1083.25m	0.45	127.64	62.65	11.05	73.70	25.19	28.37	57.74	5.67
3228-003A		1083.50m	0.48	205.12	110.76	21.54	132.30	29.26	43.08	64.50	5.14
3228-004A		1083.75m	0.54	153.22	105.26	12.33	117.59	17.77	17.52	76.75	8.54
3228-005A		1084.50m	0.08	478.17	336.57	56.15	392.72	38.71	44.99	82.13	5.99
3228-006A		1085.25m	0.07	2034.23	1473.45	214.75	1688.20	208.88	132.54	82.99	6.86
3228-007A		1086.50m	0.08	885.42	572.92	94.62	667.54	123.26	92.01	75.39	6.06
3228-008A		1087.00m	0.09	439.56	294.45	47.36	341.81	38.01	58.83	77.76	6.22
3228-009A		1087.75m	0.11	946.21	642.57	78.50	721.07	171.60	51.72	76.21	8.19
3228-010A		1088.75m	0.03	2823.91	1983.68	239.28	2222.96	374.90	219.43	78.72	8.29
3228-011A		1089.50m	0.12	1872.80	1330.57	169.43	1500.00	244.60	124.18	80.09	7.85
3228-012A		1090.50m	0.23	669.17	461.41	63.14	524.56	82.06	61.10	78.39	7.31
3228-013A		1092.00m	0.07	2072.71	1511.53	196.33	1707.86	213.70	146.81	82.40	7.70
3228-014A		1095.00m	0.05	2298.99	1664.93	199.94	1864.87	308.77	122.29	81.12	8.33
3228-015A		1095.50m	0.07	1743.44	1261.27	172.68	1433.95	210.81	96.43	82.25	7.30
3228-016A		1096.25m	0.06	989.92	700.45	89.26	789.71	124.06	74.13	79.78	7.85
3228-017A		1097.00m	0.11	766.12	572.33	65.03	637.35	75.79	50.39	83.19	8.80
3228-018A		1098.00m	0.05	1307.32	944.57	109.09	1053.66	144.57	106.43	80.60	8.66
3228-106A		1098.50m								50.11	14.85
3228-019A		1099.00m	0.05	1418.92	998.48	113.17	1111.65	159.42	143.60	78.34	8.82
3228-020A		1100.00m	0.04	1475.13	994.91	110.88	1105.78	200.03	164.07	74.96	8.97
3228-021A		1101.00m	0.06	1105.40	778.42	88.17	866.59	181.88	51.39	78.40	8.83
3228-022A		1102.00m	0.09	847.15	564.19	69.79	633.98	107.10	101.58	74.84	8.08
3228-023A		1102.75m	0.24	253.94	127.71	16.77	144.48	55.14	53.26	56.89	7.62
3228-024A		1103.50m	0.09	673.05	440.81	53.51	494.32	87.48	89.19	73.45	8.24
3228-025A		1104.50m	0.30	385.14	243.56	36.35	279.91	53.86	50.48	72.68	6.70
3228-026A		1105.25m	0.35	328.27	207.67	29.72	237.38	48.33	41.74	72.31	6.99

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 5  
SIGNIFICANT C<sub>15+</sub> RATIOS

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOC (%)	mg/g TOC						HYDROCARBONS % TOTAL EXTRACT	SATURATES AROMATICS
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO's	ASPHALTENES		
3228-027A		1105.50m	0.15	835.14	272.62	36.54	309.16	52.51	472.38	37.02	7.46
3228-028A		1106.25m	0.33	485.75	317.89	51.59	369.49	55.87	58.97	76.06	6.16
3228-029A		1107.75m	0.32	370.94	221.15	33.42	254.57	48.60	67.05	68.63	6.62
3228-030A		1109.00m	0.08	854.82	537.42	48.35	585.76	172.37	93.89	68.52	11.12
3228-031A		1110.00m	0.08	574.36	321.98	29.43	351.40	160.14	59.42	61.18	10.94
3228-032A		1111.25m	0.09	476.27	312.62	26.52	339.15	101.57	33.86	71.21	11.79
3228-033A		1112.50m	0.06	896.80	619.79	59.29	679.08	177.88	37.06	75.72	10.45
3228-034A		1113.50m	0.14	322.26	163.49	17.44	180.93	33.06	107.18	56.14	9.38
3228-035A		1114.25m	1.00	99.41	63.91	7.73	71.65	16.52	10.84	72.07	8.27
3228-036A		1114.50m	0.11	788.10	525.63	75.95	601.58	82.34	101.83	76.33	6.92
3228-037A		1115.25m	0.14	650.24	456.15	49.87	506.01	109.03	33.25	77.82	9.15
3228-038A		1116.50m	0.81	176.19	111.20	18.83	130.03	23.94	21.69	73.80	5.91
3228-039A		1117.50m	0.07	2084.60	1476.97	189.10	1666.07	276.93	132.64	79.92	7.81
3228-040A		1118.50m	0.16	162.21	115.97	11.74	127.72	15.05	18.35	78.73	9.88
3228-041A		1119.25m	0.07	13874.31	10650.22	1429.44	12079.67	1255.99	510.76	87.07	7.45
3228-042A		1120.00m	0.11	546.97	330.74	43.01	373.75	124.39	45.92	68.33	7.69
3228-043A		1120.75m	0.07	935.05	654.45	89.13	743.58	73.45	114.71	79.52	7.34
3228-044A		1121.75m	0.06	1573.66	1098.08	162.76	1260.83	176.50	132.11	80.12	6.75
3228-045A		1123.00m	0.07	1171.21	866.89	102.77	969.66	133.78	63.79	82.79	8.44
3228-046A		1123.25m	0.05	971.20	601.13	103.94	705.07	147.78	114.59	72.60	5.78
3228-047A		1124.25m	0.06	4175.93	2926.59	468.25	3394.84	460.32	304.23	81.30	6.25
3228-048A		1124.75m	0.06	3161.49	2231.49	362.65	2594.14	374.65	185.75	82.05	6.15
3228-049A		1125.25m	0.07	2878.06	2053.96	325.25	2379.21	303.81	189.29	82.67	6.32
3228-050A		1126.25m	0.05	4191.29	2947.93	479.63	3427.56	402.41	352.82	81.78	6.15
3228-051A		1127.25m	0.07	3496.60	2553.57	352.04	2905.61	312.93	263.61	83.10	7.25
3228-052A		1128.25m	0.05	5658.76	4195.26	576.64	4771.90	508.21	361.31	84.33	7.28
3228-053A		1128.50m	0.04	9674.35	6884.24	1009.67	7893.91	1018.20	732.37	81.60	6.82
3228-054A		1128.60m	0.13	11188.12	8118.77	1262.56	9381.33	1199.06	575.35	83.85	6.43
3228-055A		1128.75m	0.04	13139.24	9367.09	1662.75	11029.84	1424.96	632.91	83.95	5.63
3228-056A		1129.25m	0.06	7763.13	5666.07	897.74	6563.81	771.92	403.44	84.55	6.31
3228-057A		1129.50m	1.45	20.83	8.52	1.09	9.60	6.47	4.63	46.09	7.85
3228-058A		1130.00m	1.15	35.11	14.30	1.88	16.18	10.21	8.61	46.07	7.62
3228-059A		1130.25m	0.75	37.91	16.64	2.09	18.74	10.72	8.28	49.43	7.96
3228-060A		1130.50m	0.59	45.88	14.87	2.81	17.67	14.51	13.34	38.52	5.29

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 5  
SIGNIFICANT C<sub>15+</sub> RATIOS

JOB 3228 GEOCHEM SAMPLE NUMBER	L I T H O	DEPTH/ IDENTITY	TOC (%)	mg/g TOC					HYDROCARBONS % TOTAL EXTRACT	SATURATES AROMATICS	
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO's			ASPHALTENES
3228-061A		1130.75m	0.64	47.04	7.92	2.40	10.32	18.72	17.92	21.94	3.30
3228-062A		1131.00m	1.31	11.10	3.33	0.70	4.03	3.00	3.98	36.29	4.73
3228-063A		1131.25m	0.40	66.85	17.39	2.71	20.10	22.65	23.77	30.07	6.41
3228-064A		1131.50m	1.08	49.92	6.76	2.54	9.30	15.44	24.99	18.63	2.66
3228-065A		1132.00m	0.84	57.64	12.14	2.61	14.75	23.02	19.69	25.59	4.66
3228-074A		1132.0m	0.09	5062.09	3688.82	396.07	4084.90	672.83	289.75	80.70	9.31
3228-066A		1132.25m	1.07	15.40	5.84	0.72	6.56	5.17	3.50	42.60	8.08
3228-067A		1132.75m	1.19	19.75	5.41	0.49	5.90	8.97	4.73	29.88	11.10
3228-068A		1133.25m	1.19	21.80	7.00	0.68	7.68	9.26	4.74	35.23	10.33
3228-075A		1135.0m	0.07	12295.73	8936.17	1030.75	9966.92	1576.08	704.45	81.06	8.67
3228-076A		1138.0m	0.07	14383.41	10795.70	1289.82	12085.52	1465.38	802.78	84.02	8.37
3228-077A		1140.0m	0.53	3031.02	2086.96	301.70	2388.66	396.64	237.14	78.81	6.92
3228-078A		1144.0m	1.16	55.09	16.90	2.19	19.09	18.03	17.75	34.66	7.71
3228-079A		1156.0m	0.06	540.68	225.72	19.69	245.41	146.98	144.36	45.39	11.47
3228-080A		1161.0m	0.07	432.45	185.99	17.12	203.10	135.78	92.42	46.97	10.87
3228-081A		1177.0m	0.10	609.85	308.92	34.62	343.54	162.45	98.54	56.33	8.92
3228-082A		1186.0m	0.07	329.75	129.27	12.05	141.32	81.07	106.27	42.86	10.73
3228-083A		1195.5m	0.03	871.68	253.23	21.91	275.14	270.27	321.40	31.56	11.56
3228-084A		1236.0m	0.59	80.61	28.18	7.99	36.17	25.20	18.83	44.87	3.53
3228-085A		1267.0m	0.03	670.59	243.14	19.61	262.75	113.73	286.27	39.18	12.40
3228-086A		1321.0m	0.09	174.53	69.12	13.82	82.94	54.43	36.29	47.52	5.00
3228-087A		1353.0m	0.09	188.94	87.63	7.24	94.87	52.26	39.40	50.21	12.11
3228-088A		1395.0m	0.06	302.93	95.55	7.60	103.15	55.38	142.24	34.05	12.57
3228-089A		1446.0m	0.07	302.15	69.79	10.60	80.40	152.84	67.14	26.61	6.58
3228-090A		1457.5m	0.10	283.23	118.56	9.58	128.14	74.85	78.44	45.24	12.38
3228-091A		1603.0m	0.24	145.79	49.04	4.98	54.02	66.34	24.65	37.05	9.84
3228-092A		1607.0m	0.31	89.03	18.63	1.66	20.29	44.72	22.78	22.79	11.25
3228-093A		1610.0m	1.39	76.91	16.06	3.23	19.29	29.28	28.09	25.08	4.97
3228-094A		1638.0m	0.22	143.95	98.27	9.69	107.96	15.50	19.38	75.00	10.14
3228-095A		1642.0m	0.09	450.58	247.12	27.87	274.99	40.88	132.85	61.03	8.87
3228-096A		1683.5m	0.58	108.39	42.15	8.78	50.92	29.79	27.31	46.98	4.80
3228-097A		1722.0m	0.41	149.32	57.13	6.66	63.79	48.72	36.02	42.72	8.57
3228-098A		1755.0m	0.14	148.57	60.41	4.90	65.31	53.88	28.57	43.96	12.33
3228-099A		1863.0m	0.82	126.94	25.44	4.74	30.18	70.58	25.19	23.77	5.37

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed, see Table 1.

TABLE 5  
SIGNIFICANT C<sub>15+</sub> RATIOS

JOB 3228	L I T H O	DEPTH/ IDENTITY	TOC (%)	mg/g TOC						HYDROCARBONS % TOTAL EXTRACT	SATURATES AROMATICS
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO's	ASPHALTENES		
3228-100A		1885.0m								38.36	10.67
3228-101A		2019.0m	0.36	44.21	21.86	3.34	25.19	8.68	10.18	56.98	6.55
3228-102A		2138.0m	0.12	267.17	117.66	16.61	134.28	61.60	69.21	50.26	7.08
3228-103A		2223.0m	0.07	598.43	237.18	32.84	270.02	251.78	72.98	45.12	7.22
3228-104A		2272.0m	0.10	205.62	68.97	14.05	83.01	65.13	54.92	40.37	4.91
3228-105A		2344.0m	0.16	462.01	231.62	41.67	273.28	129.90	60.05	59.15	5.56
3228-107A		2871.75m	0.05	515.42	103.48	19.90	123.38	111.44	276.62	23.94	5.20
3228-108A		2872.75m	0.04	2273.94	275.93	53.19	329.12	299.20	1635.64	14.47	5.19
3228-109A		2873.75m	0.05	420.23	155.19	17.44	172.62	118.57	123.80	41.08	8.90
3228-110A		2874.75m	0.05	701.32	270.32	39.70	310.02	219.28	168.24	44.20	6.81
3228-111A		2875.75m	0.04	595.44	178.42	12.90	191.32	163.37	234.31	32.13	13.83
3228-112A		2878.75m	0.04	746.11	318.25	28.29	346.54	190.95	201.56	46.45	11.25
3228-113A		2881.50m	0.07	292.08	87.84	12.08	99.92	138.36	50.51	34.21	7.27
3228-114A		2882.50m	0.04	325.71	118.84	13.21	132.04	125.44	66.02	40.54	9.00
3228-115A		2884.75m	0.13	198.68	59.23	6.75	65.98	89.97	41.24	33.21	8.78
3228-116A		2887.50m	0.15	73.18	35.02	3.59	38.61	19.30	13.92	52.76	9.75

TABLE 6  
C<sub>15+</sub> CHROMATOGRAPHY WEIGHTS (grams)

JOB 3228	L I T H O	DEPTH/ IDENTIFY	ROCK EXTRACTED	TOTAL EXTRACT	PRECIPTD. ASPHALTENES	NC5	SATURATES	AROMATICS	ELUTED NSO's	NON-ELUTED NSO's
GEOCHEM SAMPLE NUMBER										

WELL: 7228/9-1

3228-069A	1072.0m	12.0100	0.00443	0.00065	0.00378	0.00280	0.00020	0.00075	0.00003
3228-070A	1073.0m	13.6100	0.00585	0.00071	0.00514	0.00393	0.00037	0.00080	0.00004
3228-071A	1075.0m	12.6800	0.02229	0.00117	0.02112	0.01662	0.00154	0.00287	0.00009
3228-072A	1077.0m	8.8300	0.01223	0.00151	0.01072	0.00766	0.00071	0.00227	0.00008
3228-073A	1079.0m	12.4200	0.02502	0.00270	0.02232	0.01629	0.00205	0.00390	0.00008
3228-001A	1083.00m	13.2600	0.00618	0.00152	0.00466	0.00241	0.00061	0.00162	0.00002
3228-002A	1083.25m	23.7300	0.01363	0.00303	0.01060	0.00669	0.00118	0.00269	0.00004
3228-003A	1083.50m	12.9600	0.01276	0.00268	0.01008	0.00689	0.00134	0.00182	0.00003
3228-004A	1083.75m	21.7800	0.01802	0.00206	0.01596	0.01238	0.00145	0.00209	0.00004
3228-005A	1084.50m	35.8400	0.01371	0.00129	0.01242	0.00965	0.00161	0.00111	0.00005
3228-006A	1085.25m	34.0600	0.04850	0.00316	0.04534	0.03513	0.00512	0.00498	0.00011
3228-007A	1086.50m	14.4000	0.01020	0.00106	0.00914	0.00660	0.00109	0.00142	0.00003
3228-008A	1087.00m	36.8300	0.01457	0.00195	0.01262	0.00976	0.00157	0.00126	0.00003
3228-009A	1087.75m	14.9400	0.01555	0.00085	0.01470	0.01056	0.00129	0.00282	0.00003
3228-010A	1088.75m	30.2300	0.02561	0.00199	0.02362	0.01799	0.00217	0.00340	0.00006
3228-011A	1089.50m	33.1500	0.07450	0.00494	0.06956	0.05293	0.00674	0.00973	0.00016
3228-012A	1090.50m	36.0800	0.05553	0.00507	0.05046	0.03829	0.00524	0.00681	0.00012
3228-013A	1092.00m	32.8900	0.04772	0.00338	0.04434	0.03480	0.00452	0.00492	0.00010
3228-014A	1095.00m	32.7100	0.03760	0.00200	0.03560	0.02723	0.00327	0.00505	0.00005
3228-015A	1095.50m	31.8500	0.03887	0.00215	0.03672	0.02812	0.00385	0.00470	0.00005
3228-016A	1096.25m	33.0500	0.01963	0.00147	0.01816	0.01389	0.00177	0.00246	0.00004
3228-017A	1097.00m	21.1100	0.01779	0.00117	0.01662	0.01329	0.00151	0.00176	0.00006
3228-018A	1098.00m	22.5500	0.01474	0.00120	0.01354	0.01065	0.00123	0.00163	0.00003
3228-106A	1098.50m	0.2400	0.09267	0.01119	0.08148	0.04351	0.00293	0.03471	0.00033
3228-019A	1099.00m	32.8700	0.02332	0.00236	0.02096	0.01641	0.00186	0.00262	0.00007
3228-020A	1100.00m	33.3700	0.01969	0.00219	0.01750	0.01328	0.00148	0.00267	0.00007
3228-021A	1101.00m	33.0800	0.02194	0.00102	0.02092	0.01545	0.00175	0.00361	0.00011
3228-022A	1102.00m	32.1600	0.02452	0.00294	0.02158	0.01633	0.00202	0.00310	0.00013
3228-023A	1102.75m	31.0600	0.01893	0.00397	0.01496	0.00952	0.00125	0.00411	0.00008
3228-024A	1103.50m	32.3900	0.01962	0.00260	0.01702	0.01285	0.00156	0.00255	0.00006
3228-025A	1104.50m	22.6500	0.02617	0.00343	0.02274	0.01655	0.00247	0.00366	0.00006
3228-026A	1105.25m	24.7100	0.02839	0.00361	0.02478	0.01796	0.00257	0.00418	0.00007



TABLE 6  
C<sub>15+</sub> CHROMATOGRAPHY WEIGHTS (grams)

JOB 3228	L I T H O	DEPTH/ IDENTITY	ROCK EXTRACTED	TOTAL EXTRACT	PRECIPTD. ASPHALTENES	NC5	SATURATES	AROMATICS	ELUTED NSO's	NON-ELUTED NSO's
3228-027A		1105.50m	30.4700	0.03817	0.02159	0.01658	0.01246	0.00167	0.00240	0.00005
3228-028A		1106.25m	25.4900	0.04086	0.00496	0.03590	0.02674	0.00434	0.00470	0.00012
3228-029A		1107.75m	30.4800	0.03618	0.00654	0.02964	0.02157	0.00326	0.00474	0.00007
3228-030A		1109.00m	17.8400	0.01220	0.00134	0.01086	0.00767	0.00069	0.00246	0.00004
3228-031A		1110.00m	22.0900	0.01015	0.00105	0.00910	0.00569	0.00052	0.00283	0.00006
3228-032A		1111.25m	19.6900	0.00844	0.00060	0.00784	0.00554	0.00047	0.00180	0.00003
3228-033A		1112.50m	17.9900	0.00968	0.00040	0.00928	0.00669	0.00064	0.00192	0.00003
3228-034A		1113.50m	19.6600	0.00887	0.00295	0.00592	0.00450	0.00048	0.00091	0.00003
3228-035A		1114.25m	15.1300	0.01504	0.00164	0.01340	0.00967	0.00117	0.00250	0.00006
3228-036A		1114.50m	27.0500	0.02345	0.00303	0.02042	0.01564	0.00226	0.00245	0.00007
3228-037A		1115.25m	14.6100	0.01330	0.00068	0.01262	0.00933	0.00102	0.00223	0.00004
3228-038A		1116.50m	28.0000	0.03996	0.00492	0.03504	0.02522	0.00427	0.00543	0.00012
3228-039A		1117.50m	15.9400	0.02326	0.00148	0.02178	0.01648	0.00211	0.00309	0.00010
3228-040A		1118.50m	17.0300	0.00442	0.00050	0.00392	0.00316	0.00032	0.00041	0.00003
3228-041A		1119.25m	16.3900	0.15918	0.00586	0.15332	0.12219	0.01640	0.01441	0.00032
3228-042A		1120.00m	15.6400	0.00941	0.00079	0.00862	0.00569	0.00074	0.00214	0.00005
3228-043A		1120.75m	17.3100	0.01133	0.00139	0.00994	0.00793	0.00108	0.00089	0.00004
3228-044A		1121.75m	15.7700	0.01489	0.00125	0.01364	0.01039	0.00154	0.00167	0.00004
3228-045A		1123.00m	32.2500	0.02644	0.00144	0.02500	0.01957	0.00232	0.00302	0.00009
3228-046A		1123.25m	31.9400	0.01551	0.00183	0.01368	0.00960	0.00166	0.00236	0.00006
3228-047A		1124.25m	25.2000	0.06314	0.00460	0.05854	0.04425	0.00708	0.00696	0.00025
3228-048A		1124.75m	26.3800	0.05004	0.00294	0.04710	0.03532	0.00574	0.00593	0.00011
3228-049A		1125.25m	27.3200	0.05504	0.00362	0.05142	0.03928	0.00622	0.00581	0.00011
3228-050A		1126.25m	28.2300	0.05916	0.00498	0.05418	0.04161	0.00677	0.00568	0.00012
3228-051A		1127.25m	16.8000	0.04112	0.00310	0.03802	0.03003	0.00414	0.00368	0.00017
3228-052A		1128.25m	21.9200	0.06202	0.00396	0.05796	0.04598	0.00632	0.00557	0.00009
3228-053A		1128.50m	17.5800	0.06803	0.00515	0.06288	0.04841	0.00710	0.00716	0.00021
3228-054A		1128.60m	18.2900	0.26602	0.01368	0.25234	0.19304	0.03002	0.02851	0.00077
3228-055A		1128.75m	27.6500	0.14532	0.00700	0.13832	0.10360	0.01839	0.01576	0.00057
3228-056A		1129.25m	16.6900	0.07774	0.00404	0.07370	0.05674	0.00899	0.00773	0.00024
3228-057A		1129.50m	16.5200	0.00499	0.00111	0.00388	0.00204	0.00026	0.00155	0.00003
3228-058A		1130.00m	15.7500	0.00636	0.00156	0.00480	0.00259	0.00034	0.00185	0.00002
3228-059A		1130.25m	15.3000	0.00435	0.00095	0.00340	0.00191	0.00024	0.00123	0.00002
3228-060A		1130.50m	14.4800	0.00392	0.00114	0.00278	0.00127	0.00024	0.00124	0.00003

TABLE 6  
C<sub>15+</sub> CHROMATOGRAPHY WEIGHTS (grams)

JOB 3228	L I T H O	DEPTH/ IDENTITY	ROCK EXTRACTED	TOTAL EXTRACT	PRECIPTD. ASPHALTENES	NC5	SATURATES	AROMATICS	ELUTED NSO'S	NON-ELUTED NSO'S
3228-061A		1130.75m	19.5300	0.00588	0.00224	0.00364	0.00099	0.00030	0.00234	0.00001
3228-062A		1131.00m	16.3000	0.00237	0.00085	0.00152	0.00071	0.00015	0.00064	0.00002
3228-063A		1131.25m	15.6700	0.00419	0.00149	0.00270	0.00109	0.00017	0.00142	0.00002
3228-064A		1131.50m	14.9300	0.00805	0.00403	0.00402	0.00109	0.00041	0.00249	0.00003
3228-065A		1132.00m	13.2400	0.00641	0.00219	0.00422	0.00135	0.00029	0.00256	0.00002
3228-074A		1132.0m	13.6900	0.06237	0.00357	0.05880	0.04545	0.00488	0.00829	0.00018
3228-066A		1132.25m	16.8100	0.00277	0.00063	0.00214	0.00105	0.00013	0.00093	0.00003
3228-067A		1132.75m	17.2300	0.00405	0.00097	0.00308	0.00111	0.00010	0.00184	0.00003
3228-068A		1133.25m	14.8800	0.00386	0.00084	0.00302	0.00124	0.00012	0.00164	0.00002
3228-075A		1135.0m	15.9800	0.13754	0.00788	0.12966	0.09996	0.01153	0.01763	0.00054
3228-076A		1138.0m	10.0900	0.10159	0.00567	0.09592	0.07625	0.00911	0.01035	0.00021
3228-077A		1140.0m	14.2900	0.22956	0.01796	0.21160	0.15806	0.02285	0.03004	0.00065
3228-078A		1144.0m	12.1900	0.00779	0.00251	0.00528	0.00239	0.00031	0.00255	0.00003
3228-079A		1156.0m	12.7000	0.00412	0.00110	0.00302	0.00172	0.00015	0.00112	0.00003
3228-080A		1161.0m	12.5200	0.00379	0.00081	0.00298	0.00163	0.00015	0.00119	0.00001
3228-081A		1177.0m	7.5100	0.00458	0.00074	0.00384	0.00232	0.00026	0.00122	0.00004
3228-082A		1186.0m	13.0400	0.00301	0.00097	0.00204	0.00118	0.00011	0.00074	0.00001
3228-083A		1195.5m	13.6900	0.00358	0.00132	0.00226	0.00104	0.00009	0.00111	0.00002
3228-084A		1236.0m	12.5100	0.00595	0.00139	0.00456	0.00208	0.00059	0.00186	0.00003
3228-085A		1267.0m	8.5000	0.00171	0.00073	0.00098	0.00062	0.00005	0.00029	0.00002
3228-086A		1321.0m	12.8600	0.00202	0.00042	0.00160	0.00080	0.00016	0.00063	0.00001
3228-087A		1353.0m	13.8200	0.00235	0.00049	0.00186	0.00109	0.00009	0.00065	0.00003
3228-088A		1395.0m	15.3500	0.00279	0.00131	0.00148	0.00088	0.00007	0.00051	0.00002
3228-089A		1446.0m	16.1700	0.00342	0.00076	0.00266	0.00079	0.00012	0.00173	0.00002
3228-090A		1457.5m	16.7000	0.00473	0.00131	0.00342	0.00198	0.00016	0.00125	0.00003
3228-091A		1603.0m	15.8900	0.00556	0.00094	0.00462	0.00187	0.00019	0.00253	0.00003
3228-092A		1607.0m	7.7900	0.00215	0.00055	0.00160	0.00045	0.00004	0.00108	0.00003
3228-093A		1610.0m	14.4700	0.01547	0.00565	0.00982	0.00323	0.00065	0.00589	0.00005
3228-094A		1638.0m	16.4200	0.00520	0.00070	0.00450	0.00355	0.00035	0.00056	0.00004
3228-095A		1642.0m	11.9600	0.00485	0.00143	0.00342	0.00266	0.00030	0.00044	0.00002
3228-096A		1683.5m	13.9500	0.00877	0.00221	0.00656	0.00341	0.00071	0.00241	0.00003
3228-097A		1722.0m	15.3700	0.00941	0.00227	0.00714	0.00360	0.00042	0.00307	0.00005
3228-098A		1755.0m	17.5000	0.00364	0.00070	0.00294	0.00148	0.00012	0.00132	0.00002
3228-099A		1863.0m	4.8900	0.00509	0.00101	0.00408	0.00102	0.00019	0.00283	0.00004

TABLE 6  
C<sub>15+</sub> CHROMATOGRAPHY WEIGHTS (grams)

JOB 3228	L I T H O	DEPTH/ IDENTITY	ROCK EXTRACTED	TOTAL EXTRACT	PRECIPTD. ASPHALTENES	NC5	SATURATES	AROMATICS	ELUTED NSO's	NON-ELUTED NSO's
GEOCHEM SAMPLE NUMBER										
3228-100A		1885.0m	15.0600	0.00365	0.00055	0.00310	0.00128	0.00012	0.00167	0.00003
3228-101A		2019.0m	16.6500	0.00265	0.00061	0.00204	0.00131	0.00020	0.00052	0.00001
3228-102A		2138.0m	12.0400	0.00386	0.00100	0.00286	0.00170	0.00024	0.00089	0.00003
3228-103A		2223.0m	7.8300	0.00328	0.00040	0.00288	0.00130	0.00018	0.00138	0.00002
3228-104A		2272.0m	7.8300	0.00161	0.00043	0.00118	0.00054	0.00011	0.00051	0.00002
3228-105A		2344.0m	5.1000	0.00377	0.00049	0.00330	0.00189	0.00034	0.00106	0.00001
3228-107A		2871.75m	10.0500	0.00259	0.00139	0.00120	0.00052	0.00010	0.00056	0.00002
3228-108A		2872.75m	7.5200	0.00684	0.00492	0.00192	0.00083	0.00016	0.00090	0.00003
3228-109A		2873.75m	11.4700	0.00241	0.00071	0.00170	0.00089	0.00010	0.00068	0.00003
3228-110A		2874.75m	10.5800	0.00371	0.00089	0.00282	0.00143	0.00021	0.00116	0.00002
3228-111A		2875.75m	11.6300	0.00277	0.00109	0.00168	0.00083	0.00006	0.00076	0.00003
3228-112A		2878.75m	7.0700	0.00211	0.00057	0.00154	0.00090	0.00008	0.00054	0.00002
3228-113A		2881.50m	13.0100	0.00266	0.00046	0.00220	0.00080	0.00011	0.00126	0.00003
3228-114A		2882.50m	11.3600	0.00148	0.00030	0.00118	0.00054	0.00006	0.00057	0.00001
3228-115A		2884.75m	10.2600	0.00265	0.00055	0.00210	0.00079	0.00009	0.00120	0.00002
3228-116A		2887.50m	14.8500	0.00163	0.00031	0.00132	0.00078	0.00008	0.00043	0.00003

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	069A	070A	071A	072A	073A	001A
DEPTH	1072m	1073m	1075m	1077m	1079m	1083m
SAMPLE TYPE						
nC15	25.11	21.87	13.46	14.78	14.56	29.00
nC16	24.24	17.02	12.83	14.87	15.65	23.88
nC17	15.89	11.77	11.43	12.07	13.06	15.23
nC18	8.73	7.94	8.25	10.12	11.40	9.78
nC19	3.97	6.46	6.75	7.78	9.24	4.75
nC20	3.48	5.83	5.80	6.42	6.97	2.97
nC21	2.77	4.48	4.66	5.32	5.16	2.27
nC22	1.81	4.39	4.34	4.49	4.35	1.74
nC23	1.56	4.12	3.94	3.99	3.52	1.31
nC24	1.77	3.35	4.00	3.24	2.94	1.03
nC25	1.28	3.05	4.11	3.37	3.12	0.32
nC26	1.56	2.37	4.08	2.83	2.58	0.96
nC27	1.64	2.12	4.15	2.67	2.33	1.10
nC28	1.49	1.74	3.59	2.25	1.69	0.99
nC29	1.49	1.34	2.95	1.99	1.32	1.29
nC30	0.83	0.78	2.06	1.33	0.80	0.68
nC31	0.94	0.56	1.56	0.99	0.56	0.89
nC32	0.39	0.26	0.80	0.50	0.25	0.41
nC33	0.44	0.23	0.66	0.52	0.26	0.67
nC34	0.27	0.11	0.35	0.26	0.11	0.35
nC35	0.34	0.21	0.24	0.22	0.12	0.38
Paraffin	10.85	15.12	11.68	11.20	10.01	11.89
Isoprenoid	2.11	3.24	2.49	3.09	1.83	2.63
Napthene	87.04	81.64	85.84	85.72	88.16	85.49
CPI 1 Index	0.97	1.01	0.99	1.05	1.03	0.90
CPI 2 Index	1.10	1.12	1.07	1.12	1.15	1.08
CPI 3 Index	1.08	1.03	1.08	1.05	1.09	1.13
Prist/Phytane	2.37	2.24	1.89	2.03	1.66	2.13
Prist/nC17	0.37	0.35	0.51	0.54	0.41	0.48
Phytane/nC18	0.28	0.23	0.37	0.32	0.28	0.35

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$C.P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	003A	004A	005A	006A	011A	015A
DEPTH	1083.5m	1083.75m	1084.5m	1085.25m	1089.5m	1095.5m
SAMPLE TYPE						
nC15	20.26	19.75	15.15	11.37	14.63	10.35
nC16	15.94	18.70	13.31	12.85	13.27	13.83
nC17	13.74	14.15	14.68	12.60	13.76	13.60
nC18	9.90	9.69	12.90	11.14	11.52	12.79
nC19	8.05	8.79	9.51	9.83	9.32	10.45
nC20	5.59	6.56	7.30	7.79	6.85	7.87
nC21	4.53	5.18	5.47	6.15	5.45	6.53
nC22	3.45	3.32	4.27	4.51	4.37	4.78
nC23	2.70	2.60	3.63	3.75	3.33	4.09
nC24	2.01	2.09	2.39	2.97	2.50	0.47
nC25	2.14	1.19	2.21	2.65	2.43	2.77
nC26	1.83	1.16	1.61	2.23	1.98	2.11
nC27	2.25	1.33	1.61	2.19	2.11	1.99
nC28	1.58	1.29	1.23	2.16	1.88	1.61
nC29	1.71	1.02	1.15	1.80	1.77	1.46
nC30	1.01	0.63	0.72	1.38	0.99	0.96
nC31	0.99	0.59	0.67	1.30	1.09	0.77
nC32	0.53	0.48	0.58	0.80	0.68	0.98
nC33	0.91	0.75	0.67	1.10	1.02	0.96
nC34	0.45	0.39	0.56	0.86	0.55	0.96
nC35	0.42	0.34	0.36	0.58	0.50	0.69
Paraffin	9.35	7.63	8.54	7.20	8.60	17.78
Isoprenoid	1.80	1.57	2.26	2.03	2.30	4.60
Naphthene	88.85	90.81	89.20	90.77	89.09	77.62
CPI 1 Index	1.11	1.05	1.09	1.04	1.04	1.36
CPI 2 Index	1.27	0.98	1.16	1.06	1.17	1.30
CPI 3 Index	1.32	1.09	1.13	1.00	1.09	1.07
Prist/Phytane	2.09	1.85	1.80	1.65	1.83	1.56
Prist/nC17	0.52	0.49	0.57	0.71	0.56	0.53
Phytane/nC18	0.34	0.39	0.36	0.49	0.37	0.36

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	106A	019A	022A	027A	030A	033A
DEPTH	1098.5m	1099m	1102m	1105.5m	1109m	1112.5m
SAMPLE TYPE	"TAR"					
nC15	22.41	9.98	11.86	15.77	5.76	6.67
nC16	20.53	13.06	13.42	14.22	9.08	8.64
nC17	17.01	13.13	13.84	12.79	11.62	11.83
nC18	10.44	12.87	12.59	11.24	11.91	12.47
nC19	6.11	9.98	9.51	8.54	11.28	9.81
nC20	4.58	7.96	7.87	7.51	8.98	8.23
nC21	4.43	5.55	5.26	5.54	7.18	6.26
nC22	2.65	4.65	4.30	4.46	5.91	5.47
nC23	4.53	3.59	3.52	3.63	4.59	4.77
nC24	2.65	2.84	2.81	2.58	2.98	3.83
nC25	3.26	2.75	2.09	2.46	1.22	3.78
nC26	1.38	2.41	1.90	2.02	2.59	3.13
nC27	0.00	2.32	2.11	1.87	2.54	3.48
nC28	0.00	1.79	1.54	1.46	0.98	2.66
nC29	0.00	1.66	1.67	1.45	1.76	2.17
nC30	0.00	1.05	1.02	0.83	2.00	1.70
nC31	0.00	0.95	1.15	0.79	2.10	1.49
nC32	0.00	0.93	0.99	0.79	2.49	1.02
nC33	0.00	0.95	0.99	0.75	2.29	1.41
nC34	0.00	0.88	0.89	0.74	1.61	0.97
nC35	0.00	0.69	0.68	0.58	1.12	0.20
Paraffin	2.83	8.03	8.59	7.85	6.68	6.96
Isoprenoid	0.72	2.22	2.22	2.24	1.36	1.37
Naphthene	96.45	89.75	89.20	89.92	91.96	91.67
CPI 1 Index	1.46	1.01	1.00	1.05	1.00	1.05
CPI 2 Index	1.59	1.10	1.13	1.12	0.92	1.12
CPI 3 Index	0.00	1.10	1.23	1.07	1.42	1.20
Prist/Phytane	1.75	1.78	1.66	1.79	1.09	1.28
Prist/nC17	0.50	0.64	0.53	0.61	0.52	0.50
Phytane/nC18	0.46	0.37	0.35	0.39	0.47	0.37

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$C.P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	035A	038A	041A	047A	050A	054A
DEPTH	1114.25m	1116.5m	1119.25m	1124.25m	1126.25m	1128.6m
SAMPLE TYPE						
nC15	14.20	13.99	16.97	13.47	19.92	22.69
nC16	14.80	12.52	15.57	14.66	16.53	18.34
nC17	11.40	13.39	14.57	14.32	12.03	14.52
nC18	11.40	11.35	11.93	11.44	10.14	10.41
nC19	9.75	9.49	9.65	8.71	8.26	7.87
nC20	7.34	7.21	6.88	6.46	5.86	5.06
nC21	5.63	5.22	5.22	5.48	5.16	3.66
nC22	4.68	4.08	3.87	3.88	3.82	2.79
nC23	3.65	3.49	3.13	3.44	3.66	2.66
nC24	2.56	2.68	1.99	2.75	2.23	1.89
nC25	2.49	2.38	2.03	2.59	2.18	1.72
nC26	2.03	2.25	1.62	2.19	1.74	1.41
nC27	2.20	2.41	1.55	2.04	1.84	1.44
nC28	1.66	1.92	1.04	1.79	1.44	1.27
nC29	1.53	2.04	0.99	1.65	1.45	1.04
nC30	1.03	1.29	0.69	1.10	0.81	0.66
nC31	0.99	1.35	0.57	1.04	0.74	0.58
nC32	0.74	0.85	0.42	0.67	0.54	0.50
nC33	0.85	1.02	0.62	1.00	0.65	0.59
nC34	0.63	0.84	0.41	0.79	0.62	0.61
nC35	0.44	0.22	0.28	0.54	0.38	0.30
Paraffin	9.45	8.13	11.28	5.81	5.76	7.14
Isoprenoid	2.02	1.45	2.97	1.55	1.58	1.63
Naphtene	88.53	90.41	85.75	92.64	92.66	91.23
CPI 1 Index	1.06	1.03	1.12	1.08	1.17	1.07
CPI 2 Index	1.16	1.15	1.16	1.10	1.18	1.08
CPI 3 Index	1.19	1.16	1.17	1.03	1.16	1.07
Prist/Phytane	1.73	1.74	1.78	1.59	1.78	1.87
Prist/nC17	0.56	0.52	0.51	0.54	0.63	0.54
Phytane/nC18	0.33	0.36	0.35	0.42	0.42	0.40

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	056A	063A	074A	075A	077A	079A
DEPTH	1129.25m	1131.25m	1132m	1135m	1140m	1156m
SAMPLE TYPE						
nC15	15.65	26.45	9.80	10.86	15.43	32.77
nC16	13.80	18.86	11.98	14.28	16.63	27.93
nC17	14.83	11.81	10.33	13.59	14.94	15.89
nC18	11.85	7.35	10.43	11.16	11.12	7.40
nC19	9.96	5.18	10.17	10.17	9.01	3.52
nC20	7.43	4.28	8.51	7.15	6.95	2.32
nC21	4.89	4.10	6.73	6.01	4.64	2.07
nC22	3.88	3.67	5.81	4.57	4.27	1.59
nC23	3.49	2.77	5.11	4.21	3.32	1.28
nC24	2.17	2.11	3.62	2.97	2.54	0.89
nC25	2.28	2.23	3.59	3.51	2.16	0.95
nC26	1.83	1.63	3.14	2.77	2.10	0.67
nC27	1.65	1.75	3.28	2.43	2.14	0.70
nC28	1.47	1.39	2.52	2.09	1.60	0.53
nC29	1.39	1.27	1.82	1.73	1.28	0.56
nC30	0.75	0.84	1.26	0.99	0.70	0.25
nC31	0.55	0.90	0.85	0.65	0.50	0.28
nC32	0.41	1.02	0.32	0.29	0.20	0.14
nC33	0.65	0.96	0.36	0.29	0.22	0.11
nC34	0.62	0.96	0.23	0.16	0.16	0.06
nC35	0.47	0.48	0.15	0.14	0.07	0.08
Paraffin	5.22	10.81	6.07	6.42	5.84	15.29
Isoprenoid	1.47	2.86	1.61	1.79	1.54	5.35
Naphthene	93.31	86.33	92.33	91.79	92.62	79.35
CPI 1 Index	1.06	1.08	1.06	1.11	0.97	1.14
CPI 2 Index	1.13	1.15	1.11	1.15	1.10	1.32
CPI 3 Index	1.00	1.16	1.16	1.00	1.16	1.17
Prist/Phytane	1.68	2.52	1.48	1.76	1.60	3.14
Prist/nC17	0.53	0.69	0.72	0.56	0.47	0.43
Phytane/nC18	0.39	0.44	0.48	0.39	0.40	0.29

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings OO - core SWC - sidewall core



**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	080A	081A	082A	083A	085A	090A
DEPTH	1161m	1177m	1186m	1195.5m	1267m	1457.5m
SAMPLE TYPE						
nC15	42.04	36.06	38.93	18.46	18.42	35.21
nC16	30.12	27.76	30.70	20.55	16.65	29.03
nC17	15.70	14.93	13.34	18.72	13.70	16.80
nC18	6.10	7.41	6.06	11.15	9.04	7.79
nC19	1.94	3.20	2.43	5.77	5.99	3.20
nC20	1.05	2.26	1.67	4.11	5.48	1.59
nC21	0.59	1.36	1.53	4.18	5.92	1.21
nC22	0.53	1.09	1.27	2.86	5.08	0.87
nC23	0.38	0.86	0.69	1.89	3.45	0.69
nC24	0.29	0.78	0.52	1.59	2.94	0.63
nC25	0.23	0.70	0.58	2.12	2.01	0.49
nC26	0.21	0.78	0.49	1.21	2.05	0.43
nC27	0.23	0.66	0.43	1.49	1.96	0.49
nC28	0.10	0.47	0.38	1.65	2.43	0.38
nC29	0.15	0.47	0.35	1.21	1.54	0.40
nC30	0.08	0.27	0.14	0.65	0.98	0.20
nC31	0.13	0.31	0.20	0.88	0.84	0.20
nC32	0.08	0.27	0.14	0.31	0.42	0.20
nC33	0.02	0.12	0.09	0.43	0.44	0.09
nC34	0.04	0.08	0.06	0.40	0.31	0.09
nC35	0.02	0.16	0.00	0.37	0.34	0.00
Paraffin	19.11	14.60	15.25	11.21	7.12	14.39
Isoprenoid	5.32	4.81	4.57	3.08	1.89	5.88
Naphthene	75.57	80.59	80.18	85.72	90.98	79.73
CPI 1 Index	0.98	0.94	1.02	1.16	0.96	1.03
CPI 2 Index	1.33	1.06	1.19	1.30	0.92	1.13
CPI 3 Index	1.48	1.06	0.99	1.04	0.88	1.21
Prist/Phytane	3.53	2.80	2.90	2.26	1.78	2.88
Prist/nC17	0.30	0.39	0.37	0.39	0.52	0.45
Phytane/nC18	0.22	0.28	0.28	0.29	0.44	0.34

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$C.P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	091A	092A	093A	094A	095A	097A
DEPTH	1603m	1607m	1610m	1638m	1642m	1722m
SAMPLE TYPE						
nC15	39.39	24.32	30.49	28.73	26.83	30.65
nC16	31.25	19.01	30.73	24.30	29.89	27.24
nC17	14.84	14.67	20.10	16.18	17.01	17.13
nC18	7.00	8.31	8.60	9.69	8.29	9.43
nC19	2.24	4.75	3.60	5.52	3.34	4.22
nC20	1.29	3.57	1.45	3.52	2.83	2.48
nC21	0.90	3.93	1.13	2.54	2.13	1.75
nC22	0.71	2.76	0.87	2.16	2.09	1.31
nC23	0.51	2.27	0.66	1.57	1.30	1.05
nC24	0.37	1.79	0.44	0.87	1.25	0.90
nC25	0.33	2.20	0.48	0.70	0.70	0.78
nC26	0.29	2.07	0.40	1.08	0.97	0.61
nC27	0.33	2.34	0.44	0.97	1.25	0.77
nC28	0.14	2.02	0.14	0.38	0.37	0.44
nC29	0.29	2.32	0.34	0.76	1.11	0.62
nC30	0.10	1.09	0.12	0.38	0.46	0.31
nC31	0.00	1.52	0.00	0.38	0.19	0.33
nC32	0.00	0.41	0.00	0.27	0.00	0.00
nC33	0.00	0.46	0.00	0.00	0.00	0.00
nC34	0.00	0.22	0.00	0.00	0.00	0.00
nC35	0.00	0.00	0.00	0.00	0.00	0.00
Paraffin	17.52	12.46	13.30	6.10	8.06	15.73
Isoprenoid	4.55	2.45	5.06	2.31	2.63	4.87
Naphthene	77.93	85.09	81.64	91.60	89.31	79.40
CPI 1 Index	1.07	1.15	1.16	1.02	0.95	1.08
CPI 2 Index	1.42	1.35	1.53	1.18	1.44	1.47
CPI 3 Index	1.53	1.14	1.63	1.33	1.87	1.47
Prist/Phytane	3.05	2.23	3.07	1.95	2.22	2.69
Prist/nC17	0.31	0.35	0.47	0.50	0.38	0.42
Phytane/nC18	0.22	0.28	0.36	0.42	0.35	0.28

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$P.I. 3 = \frac{2 \times (C_{27})}{C_{25} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	099A	100A	101A	102A	103A	105A
DEPTH	1863m	1885m	2019m	2138m	2223m	2344m
SAMPLE TYPE						
nC15	29.36	14.82	24.32	23.67	19.73	19.87
nC16	26.80	16.56	21.37	25.85	19.44	23.40
nC17	17.40	13.53	12.23	18.45	12.59	16.03
nC18	9.78	8.42	7.59	9.42	8.84	11.34
nC19	4.20	5.12	4.92	4.28	4.64	7.21
nC20	2.51	4.90	4.38	3.13	4.27	5.71
nC21	2.19	5.01	3.91	2.60	3.68	4.03
nC22	1.72	4.80	3.68	2.18	3.46	2.78
nC23	1.05	4.95	3.07	1.73	2.95	2.10
nC24	0.73	4.28	2.69	1.38	2.50	1.77
nC25	0.70	4.42	2.47	1.25	2.36	1.18
nC26	0.61	3.60	2.24	1.15	2.43	1.06
nC27	0.73	3.18	1.95	1.12	2.36	1.04
nC28	0.47	2.16	1.66	1.65	2.21	0.66
nC29	0.67	1.93	1.41	0.75	2.50	0.69
nC30	0.47	0.91	0.79	0.47	1.91	0.31
nC31	0.44	0.74	0.67	0.42	1.77	0.39
nC32	0.18	0.26	0.27	0.20	0.96	0.08
nC33	0.00	0.22	0.22	0.13	0.66	0.15
nC34	0.00	0.10	0.09	0.10	0.37	0.10
nC35	0.00	0.09	0.09	0.08	0.37	0.10
Paraffin	15.92	20.22	17.48	13.42	16.05	11.23
Isoprenoid	5.16	3.97	3.83	4.40	3.63	4.47
Naphthene	78.92	75.81	78.69	82.19	80.32	84.30
CPI 1 Index	1.08	1.09	0.99	0.95	0.98	1.03
CPI 2 Index	1.29	1.21	1.10	0.89	1.10	1.22
CPI 3 Index	1.35	1.10	1.00	0.80	1.02	1.21
Prist/Phytane	2.62	2.44	1.95	2.39	1.92	1.86
Prist/nC17	0.40	0.39	0.32	0.41	0.42	0.57
Phytane/nC18	0.27	0.26	0.27	0.33	0.31	0.43

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$C.P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

**TABLE 7**  
**COMPOSITION (NORMALISED %) OF C<sub>15+</sub> SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS**

GEOCHEM SAMPLE NUMBER	108A	110A
DEPTH	2872.75m	2874.75m
SAMPLE TYPE		
nC15	14.61	18.33
nC16	14.20	15.19
nC17	13.58	10.70
nC18	12.25	7.67
nC19	7.93	4.53
nC20	6.00	4.21
nC21	5.51	6.19
nC22	3.87	5.01
nC23	3.44	3.73
nC24	2.60	3.33
nC25	2.64	2.73
nC26	2.32	2.64
nC27	2.32	2.67
nC28	2.05	4.10
nC29	2.50	4.51
nC30	1.00	1.07
nC31	1.80	1.87
nC32	0.43	0.43
nC33	0.55	0.59
nC34	0.18	0.21
nC35	0.20	0.30
Paraffin	10.16	7.60
Isoprenoid	2.07	1.90
Naphthene	87.76	90.50
CPI 1 Index	1.11	1.01
CPI 2 Index	1.38	1.24
CPI 3 Index	1.06	0.79
Prist/Phytane	1.60	2.11
Prist/nC17	0.47	0.58
Phytane/nC18	0.33	0.38

Job Number : 3228

$$C.P.I. 1 = \frac{1}{2} \left[ \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{20} + C_{22} + C_{24} + C_{26}} + \frac{C_{21} + C_{23} + C_{25} + C_{27}}{C_{22} + C_{24} + C_{26} + C_{28}} \right]$$

$$C.P.I. 2 = \frac{1}{2} \left[ \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{24} + C_{26} + C_{28} + C_{30}} + \frac{C_{25} + C_{27} + C_{29} + C_{31}}{C_{26} + C_{28} + C_{30} + C_{32}} \right]$$

$$P.I. 3 = \frac{2 \times (C_{27})}{C_{26} + C_{28}}$$

CT - ditch cuttings CO - core SWC - sidewall core

TABLE 8  
METHYLPHENANTHRENE INDICES (MPI)

JOB 3228 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	SAMPLE TYPE	MPI 1		Rcalc		MPI 2	
			AREA	HEIGHT	AREA	HEIGHT	AREA	HEIGHT

WELL: 7228/9-1

3228-069A	1072.0m		0.73	0.94			1.09	1.43
3228-070A	1073.0m		1.01	1.05			1.42	1.44
3228-071A	1075.0m		1.29	1.57			2.14	2.48
3228-072A	1077.0m		0.41	0.53			0.52	0.59
3228-001A	1083.00m		0.43	0.46			0.66	0.63
3228-003A	1083.50m		0.30	0.45			0.36	0.58
3228-004A	1083.75m		0.33	0.47			0.39	0.59
3228-006A	1085.25m		0.58	0.75			0.78	0.90
3228-011A	1089.50m		0.34	0.45			0.47	0.57
3228-015A	1095.50m		0.77	0.82			0.98	0.96
3228-106A	1098.50m		1.83	2.14			3.09	3.51
3228-019A	1099.00m		0.79	0.86			1.10	1.14
3228-027A	1105.50m		0.43	0.52			0.50	0.55
3228-030A	1109.00m		3.75	4.54			7.20	8.62
3228-038A	1116.50m		0.38	0.46			0.50	0.59
3228-041A	1119.25m		0.59	0.53			0.68	0.60
3228-047A	1124.25m		0.98	0.83			1.34	0.99
3228-050A	1126.25m		0.84	0.93			1.18	1.26
3228-054A	1128.60m		0.66	0.58			0.84	0.68
3228-056A	1129.25m		0.84	0.83			1.13	1.06
3228-063A	1131.25m		0.40	0.48			0.63	0.69
3228-074A	1132.0m		1.64	1.68			0.46	0.38
3228-075A	1135.0m		0.61	0.71			0.83	0.94
3228-077A	1140.0m		0.35	0.41			0.40	0.52
3228-081A	1177.0m		1.17	1.18			1.95	1.98

$$MPI 1 = \frac{1.5(2-MP + 3-MP)}{P + 1-MP + 9-MP}$$

$$MPI 2 = \frac{3(2-MP)}{P + 1-MP + 9-MP}$$

$$R_{calc} = \begin{cases} 0.60(MPI 1) + 0.40 & \text{( if } R_o < 1.35\% \text{ )} \\ -0.60(MPI 1) + 2.30 & \text{( if } R_o > 1.35\% \text{ )} \end{cases}$$

CT - ditch cuttings CO - core SWC - sidewall core

TABLE 9  
CARBON ISOTOPE COMPOSITIONS (‰,PDB)

JOB 3228								
GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	TOTAL EXTRACT WHOLE OIL	SATURATES	AROMATICS	NSO	ASPHALTENES	KEROGEN	PYROLYSATE (S2)

WELL: 7228/9-1

3228-071A	1075.0m	-29.10	-29.57	-29.14	-29.82	-28.77		
3228-072A	1077.0m	-28.84	-29.28	-29.06	-30.10	-28.55		
3228-006A	1085.25m	-28.90	-29.00	-29.22	-29.59	-28.05		
3228-011A	1089.50m	-28.63	-28.95	-29.04	-29.18	-27.77		
3228-015A	1095.50m	-28.76	-29.04	-29.22	-29.52	-28.13		
3228-106A	1098.50m 'TAR'	-27.36	-27.78	-27.27	-27.16	-26.54		
3228-019A	1099.00m	-28.46	-28.98	-29.37	-29.32	-28.29		
3228-027A	1105.50m	-28.31	-29.08	-29.33	-29.62	-28.02		
3228-038A	1116.50m	-28.26	-29.83	-28.80	-28.99	-27.14		
3228-041A	1119.25m	-29.09	-29.49	-29.33	-29.36	-28.42		
3228-047A	1124.25m	-28.54	-29.88	-28.95	-29.35	-28.32		
3228-050A	1126.25m	-28.43	-28.84	-29.38	-30.08	-28.51		
3228-054A	1128.60m	-28.70	-29.26	-28.82	-28.90	-28.34		
3228-056A	1129.25m	-28.77	-29.31	-29.27	-29.58	-28.54		
3228-063A	1131.25m	-28.21	-29.61	-28.97	-29.86	-27.51		
3228-074A	1132.0m	-28.97	-29.09	-29.15	-29.75	-28.50		
3228-075A	1135.0m	-28.72	-29.35	-28.99	-29.25	-28.67		
3228-077A	1140.0m	-28.62	-29.15	-28.82	-29.03	-27.70		
3228-081A	1177.0m	-29.05	-29.15	-30.79	-31.27	-28.65		
3228-094A	1638.0m	-28.84	-28.83	-30.30	-31.42	-28.80		