

1.8 Mud Summary

36" conductor hole/pilot hole

Sea water/Bentonite Hi-Vis pills as required
1.2 SG Hi-Vis mud left in hole for casing run
2361 bbls used
Total cost 9064 \$

26" surface hole

Sea water/Bentonite Hi-Vis pills as required
1.20 SG Hi-Vis mud left in hole for casing run
2352 bbls used
Total Cost 12895 \$

17 ½" intermediate hole

KCl/Glycol (1.28 SG)
1505 bbls used
Total Cost 122 556 \$

12 ¼" reservoir section

KCl/Glycol (1.50-1.52 SG)
2074 bbls used
Total Cost 137 164 \$

Plug and abandonment

KCl / Glycol (1.52 SG-1.10 SG)
Total Cost 5863 \$

Mud Summary Report

Legal Well Name: 6507/5-3
 Common Well Name: SNADD
 Event Name: ORIG DRILLING
 Contractor Name: SMEDVIG
 Rig Name: WEST NAVION
 Start: 14/05/2000
 Rig Release: 14/05/2000
 Spud Date: 15/05/2000
 End:

Day	TMD (m)	Hole Sz. (in)	Mud Type	MW (ppg)	Visc. (s/qt)	PV (cp)	YP (lb/100ft ³)	Gels 10s/10m/30m (lb/100ft ³)	API WL (cc/30min)	HTHP WL (cc/30min)	HTHP T (°C)	pH	Cl- (mg/L)	Sand (%)	TS (%)	LGS (ppb)	MBT (ppb)	Oil (%)	Tot. Hard. (ppm)	Tot. Vol. (bbl)
2	550.0	26.000	SPUD MUD	8.7	100.0						-17.8	10.6								2,016.0
3	701.0	17.500	SPUD MUD	8.7	100.0						0.0	10.6								2,210.0
4	701.0	17.500	SPUD MUD	8.7	100.0						0.0	10.6								2,273.0
5	701.0	17.500	SPUD MUD	8.7	100.0						0.0	10.6								2,273.0
6	539.0	26.000	SPUD MUD	8.7	100.0						0.0	10.6								1,919.0
7	539.0	26.000	SPUD MUD	8.7	100.0						0.0	10.6								1,498.0
8	695.0	17.500	SPUD MUD	8.7	100.0						0.0	10.6								690.0
9	695.0	17.500	SPUD MUD	8.7	100.0						0.0	10.6								0.0
10	695.0	17.500	POLYMER	10.6	48.0	28.0	5.0	2/2/0	3.4		0.0	10.4	61,000							2,271.0
11	695.0	17.500	POLYMER	10.6	48.0	28.0	5.0	2/2/0	3.4		0.0	10.4	61,000			30.94				2,221.0
12	695.0	17.500	POLYMER	10.6	48.0	28.0	5.0	2/2/0	3.4		0.0	10.4	61,000			4.19				2,221.0
13	695.0	17.500	POLYMER	10.6	48.0	18.0	5.0	2/2/0		3.4	0.0	10.4	61,000			4.19				2,221.0
14	894.0	17.500	POLYMER	10.6	50.0	23.0	21.0	5/5/0	3.0		0.0	10.0	64,000			12.10				2,221.0
15	1,385.0	17.500	POLYMER	10.6	53.0	16.0	18.0	4/8/0	2.2		0.0	9.1	73,000			44.95				3,822.0
16	1,702.0	12.250	POLYMER	10.6	53.0	19.0	22.0	4/14/0	2.1		0.0	8.9	72,000			17.65				3,538.0
17	1,702.0	12.250	POLYMER	10.6	54.0	15.0	20.0	6/12/0	2.2		0.0	8.9	66,000			23.57	7.50			3,433.0
18	1,702.0	12.250	POLYMER	10.6	53.0	15.0	20.0	6/13/0	2.1		0.0	8.9	66,000			23.57	7.50			3,433.0
19	1,702.0	12.250	POLYMER	10.6	52.0	16.0	19.0	4/12/0	2.0		0.0	8.9	71,000			27.03	7.50			3,064.0
20	1,702.0	12.250	POLYMER	10.6	52.0	16.0	19.0	4/12/0	2.1		0.0	8.9	66,000			27.39	7.50			3,064.0
21	1,702.0	12.250	POLYMER	10.6	53.0	16.0	19.0	4/13/0	2.0		0.0	8.9	71,000			27.39	7.50			3,041.0
22	1,702.0	12.250	POLYMER	12.5	58.0	21.0	30.0	8/14/0	1.8		0.0	9.8	70,270			31.94	10.00			2,698.0

GEOCHEMICAL INTERPRETATION REPORT

GEOLAB NOR AS

PO Box 5740 Fossegrenda
N-7437 Trondheim
Norway

Tel: (47) 73 96 40 00
Fax: (47) 73 96 59 74
E-Mail: Mail@geolabnor.no

CLIENT: BP AMOCO

REGISTRERT
OLJEDIREKTORATET

15 DES. 2000

BA 00-1450-1

Ref(s)
Kjell Øygard

TITLE

Geochemical Report on Well NOCS 6507/5-3

AUTHOR(S)

Peter Barry Hall

GEOLAB PROJECT NO.

60013

DATE

01/12/00

PROJECT MANAGER

Sunil Bharati, Lab Manager

QA RESPONSIBLE

Ian Ferriday Senior Scientist

REPORT NO./FILE

PAGE
1 of 1

Oils

<i>Analysis type</i>	<i>No. of samples</i>	<i>Fig.</i>	<i>Table</i>
Whole oil GC	2	3.1	1a-c
Topping	2	-	2a-c
Asphaltene separation	2	-	2a-c
MPLC separation	2	-	2a-c
Saturated hydrocarbon GC	2	3.2	3
Aromatic hydrocarbon GC	2	3.3	4a-b
Saturated hydrocarbon GC-MS	2	3.4a-b	5a-f
Aromatic hydrocarbon GC-MS	2	3.5	6a-e
$\delta^{13}\text{C}$ Bulk isotope composition	2	3.6	7a-b

Chapter 1

INTRODUCTION

1.1 General comments on 6507/5-3

This well is the third well in this block and is 17 km south of the Skarv discovery. The well was drilled with a KCl water based mud with added esters.

1.2 Analytical program

Based on the instructions from BPAmoco, the following analyses were carried out

Rocks

<i>Analysis type</i>	<i>No. of samples</i>	<i>Fig.</i>	<i>Table</i>
Headspace Gas Analysis	46	2.1a-e	1a
Headspace Isotope Analysis	15	2.1f	1b
Washing of cuttings	46	-	-
Lithology Description	61	-	2
TOC	46	2.2	2,3
Rock-Eval Pyrolysis	46	2.3a-c	3
Extraction	19	2.4b	4a-e
Asphaltene separation	19	-	4a-e
MPLC separation	19	2.4b	4a-e
Saturated hydrocarbon GC	19	2.4a,c-e, h-i	5
Aromatic hydrocarbon GC	19	2.4f-g, j, 4.1a-b	6a-b
Saturated hydrocarbon GC-MS	10	2.5a-g	7a-f
Aromatic hydrocarbon GC-MS	10	2.6a-b	8a-e

Table 3: Rock-Eval table for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
700.00	cut		S/Sst : brn gy to lt gy	0.28	1.23	3.53	0.35	0.60	205	588	1.5	0.19	341	0016-2L
750.00	cut		S/Sst : brn gy to lt gy	0.27	1.51	3.61	0.42	0.73	207	495	1.8	0.15	349	0017-2L
800.00	cut		S/Sst : lt gy	0.18	0.81	1.82	0.45	0.33	245	552	1.0	0.18	353	0018-1L
850.00	cut		S/Sst : lt gy to m gy	0.07	0.16	0.05	3.20	0.10	160	50	0.2	0.30	352	0019-1L
900.00	cut		S/Sst : lt gy	0.16	0.46	0.86	0.53	0.23	200	374	0.6	0.26	344	0020-1L
950.00	cut		S/Sst : lt gy	0.41	1.36	1.84	0.74	0.43	316	428	1.8	0.23	349	0021-1L
1000.00	cut		S/Sst : lt gy to m gy	0.43	1.44	2.18	0.66	0.41	351	532	1.9	0.23	346	0022-1L
1050.00	cut		S/Sst : lt gy to m gy	0.28	1.03	0.84	1.23	0.30	343	280	1.3	0.21	351	0023-1L
1100.00	cut		S/Sst : lt gy to m gy	0.30	0.90	4.07	0.22	0.32	281	1272	1.2	0.25	339	0024-1L
1150.00	cut		S/Sst : lt gy to m gy	0.27	1.22	1.64	0.74	0.50	244	328	1.5	0.18	352	0025-1L
1200.00	cut		S/Sst : lt gy to m gy	0.29	1.35	1.25	1.08	0.17	794	735	1.6	0.18	351	0026-1L
1250.00	cut		S/Sst : lt gy to m gy	0.47	1.64	2.15	0.76	0.41	400	524	2.1	0.22	353	0027-1L
1300.00	cut		S/Sst : lt gy to m gy	0.30	1.19	1.34	0.89	0.38	313	353	1.5	0.20	354	0028-1L
1350.00	cut		S/Sst : lt gy to m gy	0.31	1.14	1.69	0.67	0.38	300	445	1.5	0.21	352	0029-1L
1400.00	cut		S/Sst : lt gy to m gy	0.27	1.28	2.69	0.48	0.49	261	549	1.5	0.17	351	0030-1L
1450.00	cut		Sltst : lt gy to m gy to brn gy	0.37	2.15	1.38	1.56	0.71	303	194	2.5	0.15	355	0031-1L

Table 3: Rock-Eval table for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1500.00	cut		Sltst : lt gy to m gy to brn gy	0.46	2.92	1.36	2.15	0.75	389	181	3.4	0.14	360	0032-1L
1550.00	cut		Sltst : lt gy to m gy to brn gy	0.49	2.15	5.42	0.40	0.95	226	571	2.6	0.19	343	0033-1L
1600.00	cut		Sltst : lt gy to m gy to brn gy	0.65	4.25	2.04	2.08	1.01	421	202	4.9	0.13	367	0034-1L
1650.00	cut		Sltst : lt gy to m gy to brn gy	0.70	3.13	5.18	0.60	0.87	360	595	3.8	0.18	354	0035-1L
1700.00	cut		S/Sst : lt gy to m gy to brn gy	0.58	3.15	1.54	2.05	0.75	420	205	3.7	0.16	364	0036-1L
1750.00	cut		S/Sst : lt gy to m gy to brn gy	0.57	3.14	1.65	1.90	0.74	424	223	3.7	0.15	358	0037-1L
1800.00	cut		S/Sst : lt gy to m gy to brn gy	0.91	4.18	1.77	2.36	0.84	498	211	5.1	0.18	355	0038-1L
1850.00	cut		Sltst : lt gy to brn gy	1.13	5.87	0.94	6.24	1.34	438	70	7.0	0.16	363	0039-1L
1900.00	cut		Sltst : lt gy to brn gy	1.95	6.92	0.47	14.72	1.23	563	38	8.9	0.22	359	0040-1L
1990.00	cut		Sh/Clst: gn gy, gy brn	1.21	9.26	0.31	29.87	1.15	805	27	10.5	0.12	352	0041-2L
2040.00	cut		Sh/Clst: gn gy, gy brn, gy red, gy gn	0.79	5.99	0.28	21.39	0.81	740	35	6.8	0.12	354	0042-2L
2090.00	cut		Sh/Clst: gn gy, gy brn, gy red, gy gn	1.14	5.68	1.16	4.90	0.81	701	143	6.8	0.17	351	0043-1L
2140.00	cut		Sh/Clst: m gy, gn gy, brn gy	0.66	2.89	1.99	1.45	0.58	498	343	3.6	0.19	341	0044-1L
2190.00	cut		Sh/Clst: m gy, gn gy	0.91	4.09	0.38	10.76	0.79	518	48	5.0	0.18	349	0045-1L
2240.00	cut		Sh/Clst: m gy, gn gy, brn gy	1.06	3.38	0.13	26.00	0.95	356	14	4.4	0.24	335	0046-1L

Table 3: Rock-Eval table for well NOCS 6507/5-3

Page: 3

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2290.00	cut		Sh/Clst: m gy, gn gy, brn gy	0.90	3.83	0.02	191.50	0.91	421	2	4.7	0.19	348	0047-1L
2340.00	cut		Sh/Clst: m gy, gn gy, brn gy	0.74	3.52	0.04	88.00	1.04	338	4	4.3	0.17	346	0048-1L
2390.00	cut		Sh/Clst: m gy, gn gy, brn gy	0.52	3.06	0.87	3.52	1.11	276	78	3.6	0.15	349	0049-1L
2440.00	cut		Sh/Clst: m gy, gn gy, brn gy	1.23	4.73	0.04	118.25	1.26	375	3	6.0	0.21	351	0050-1L
2490.00	cut		Sh/Clst: m gy, lt gy	0.72	3.97	0.03	132.33	1.04	382	3	4.7	0.15	356	0051-1L
2540.00	cut		Sh/Clst: m gy, lt gy	0.47	2.64	2.85	0.93	1.16	228	246	3.1	0.15	342	0052-1L
2590.00	cut		Sh/Clst: m gy, lt gy	1.49	4.97	0.53	9.38	1.27	391	42	6.5	0.23	346	0053-1L
2640.00	cut		Sh/Clst: m gy, lt gy	0.68	3.22	0.07	46.00	1.22	264	6	3.9	0.17	343	0054-1L
2690.00	cut		Sh/Clst: m gy, lt gy	0.37	1.74	1.82	0.96	1.11	157	164	2.1	0.18	334	0055-1L
2740.00	cut		Sh/Clst: m gy, lt gy	0.66	2.83	0.13	21.77	1.21	234	11	3.5	0.19	340	0056-1L
2790.00	cut		Sh/Clst: m gy, lt gy	0.70	3.01	0.44	6.84	1.23	245	36	3.7	0.19	345	0057-1L
2840.00	cut		Sh/Clst: m gy	0.67	3.91	0.03	130.33	1.20	326	2	4.6	0.15	356	0058-1L
2890.00	cut		Sh/Clst: m gy	0.54	2.83	-	-	1.10	257	-	3.4	0.16	349	0059-1L
2940.00	cut		S/Sst : w to lt gy	0.09	0.22	0.30	0.73	0.18	122	167	0.3	0.29	336	0060-3L
2990.00	cut		Sh/Clst: m gy to lt gy	0.75	2.86	-	-	1.14	251	-	3.6	0.21	338	0061-1L

Table 4a: MPLC Bulk Composition: Weight of EOM and Fraction for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC (e) (%)	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	10.4	65.6	0.9	1.1	2.1	61.4	2.0	63.6	0.91	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	10.5	230.2	1.3	1.8	6.4	220.6	3.1	227.1	1.27	0041-2L
2836.60	ccp	S/Sst : lt gy	8.5	13.9	2.6	1.0	0.7	9.6	3.6	10.3	0.24	0009-1L
2838.55	ccp	S/Sst : w	8.2	11.8	6.4	1.7	0.7	3.0	8.1	3.7	0.15	0010-1L
2843.00	oil	bulk	123.3	74.1	61.9	9.3	0.9	2.0	71.2	2.9	-	0062-0B
2844.57	ccp	S/Sst : lt gy	9.9	11.7	3.7	1.2	0.5	6.4	4.8	6.9	0.15	0011-1L
2846.65	ccp	S/Sst : w	5.7	18.2	4.8	1.3	0.5	11.7	6.1	12.1	0.14	0012-1L
2846.85	ccp	S/Sst : w	8.2	105.6	7.7	2.1	0.5	95.2	9.9	95.7	0.53	0013-1L
2849.68	ccp	S/Sst : lt gy	9.9	20.4	4.9	1.2	0.6	13.7	6.1	14.3	0.32	0014-1L
2853.59	ccp	S/Sst : lt gy	9.9	13.6	2.8	0.7	0.5	9.6	3.6	10.0	0.19	0015-1L
2864.00	swc	S/Sst : lt gy to w	5.1	60.4	15.8	3.8	1.3	39.5	19.6	40.8	0.31	0001-1L
2864.50	swc	S/Sst : lt gy to w	5.2	34.3	2.1	0.6	0.6	31.0	2.7	31.6	0.19	0002-1L
2864.50	oil	bulk	96.2	60.0	50.2	7.4	0.2	2.2	57.6	2.4	-	0063-0B
2868.50	swc	S/Sst : w to gn	1.4	5.6	1.5	0.8	0.4	2.9	2.3	3.3	0.23	0003-1L
2870.50	swc	S/Sst : w	4.5	43.8	12.5	3.9	0.6	26.8	16.4	27.4	0.34	0004-1L
2871.50	swc	S/Sst : w	2.3	17.7	8.4	2.3	0.5	6.4	10.7	7.0	0.55	0005-1L

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC (e) (%)	Sample
2874.00	swc	S/Sst : lt gy to w	5.0	33.5	18.9	4.5	1.0	9.1	23.3	10.2	1.03	0006-1L
2875.50	swc	S/Sst : w to gn	4.9	63.6	31.5	6.4	1.0	24.7	37.9	25.7	0.60	0007-1L
2878.00	swc	S/Sst : w to lt gy	7.0	78.1	34.9	6.9	0.6	35.6	41.9	36.2	0.43	0008-1L
2890.00	cut	Sh/Clst: m gy	10.8	68.2	1.0	1.0	3.1	63.0	2.1	66.1	1.14	0059-1L
2940.00	cut	S/Sst : w to lt gy	13.2	10.8	1.0	0.8	1.2	7.7	1.8	9.0	0.18	0060-3L

Table 4b: MPLC Bulk Composition: Concentration of EOM and Fraction (wt ppm rock) for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	6301	86	108	204	5901	195	6106	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	21965	128	171	615	21051	299	21666	0041-2L
2836.60	ccp	S/Sst : lt gy	1629	301	120	80	1126	422	1206	0009-1L
2838.55	ccp	S/Sst : w	1437	781	208	82	364	989	447	0010-1L
2843.00	oil	bulk	601	502	75	7	16	577	23	0062-0B
2844.57	ccp	S/Sst : lt gy	1177	369	116	48	642	486	690	0011-1L
2846.65	ccp	S/Sst : w	3187	847	219	79	2040	1067	2120	0012-1L
2846.85	ccp	S/Sst : w	12846	941	261	59	11584	1202	11643	0013-1L
2849.68	ccp	S/Sst : lt gy	2050	497	119	60	1372	616	1433	0014-1L
2853.59	ccp	S/Sst : lt gy	1375	284	75	48	966	360	1015	0015-1L
2864.00	swc	S/Sst : lt gy to w	11843	3099	743	252	7747	3842	8000	0001-1L
2864.50	swc	S/Sst : lt gy to w	6621	404	121	116	5979	525	6096	0002-1L
2864.50	oil	bulk	623	521	76	2	23	598	25	0063-0B
2868.50	swc	S/Sst : w to gn	4148	1141	570	296	2139	1711	2436	0003-1L
2870.50	swc	S/Sst : w	9733	2787	857	136	5951	3645	6087	0004-1L

Table 4b: MPLC Bulk Composition: Concentration of EOM and Fraction (wt ppm rock) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2871.50	swc	S/Sst : w	7662	3636	1014	220	2790	4651	3011	0005-1L
2874.00	swc	S/Sst : lt gy to w	6713	3782	894	205	1830	4677	2036	0006-1L
2875.50	swc	S/Sst : w to gn	13006	6443	1306	205	5050	7750	5255	0007-1L
2878.00	swc	S/Sst : w to lt gy	11157	4991	992	89	5084	5983	5173	0008-1L
2890.00	cut	Sh/Clst: m gy	6320	96	96	291	5836	193	6127	0059-1L
2940.00	cut	S/Sst : w to lt gy	815	75	63	93	582	139	676	0060-3L

Table 4c: MPLC Bulk Composition: Concentration of EOM and Fraction (mg/g TOC(e)) for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	692.49	9.54	11.92	22.47	648.56	21.46	671.03	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	1729.58	10.11	13.48	48.43	1657.57	23.58	1706.00	0041-2L
2836.60	ccp	S/Sst : lt gy	678.98	125.76	50.31	33.39	469.52	176.07	502.91	0009-1L
2838.55	ccp	S/Sst : w	958.18	521.03	138.94	55.07	243.15	659.97	298.21	0010-1L
2843.00	oil	bulk	-	-	-	-	-	-	-	0062-0B
2844.57	ccp	S/Sst : lt gy	784.71	246.57	77.86	32.03	428.25	324.43	460.28	0011-1L
2846.65	ccp	S/Sst : w	2276.71	605.40	156.95	56.92	1457.44	762.35	1514.36	0012-1L
2846.85	ccp	S/Sst : w	2423.91	177.63	49.34	11.16	2185.79	226.97	2196.94	0013-1L
2849.68	ccp	S/Sst : lt gy	640.70	155.44	37.30	18.96	429.01	192.74	447.96	0014-1L
2853.59	ccp	S/Sst : lt gy	723.75	149.60	39.89	25.62	508.64	189.49	534.26	0015-1L
2864.00	swc	S/Sst : lt gy to w	3820.37	999.69	239.93	81.53	2499.22	1239.61	2580.75	0001-1L
2864.50	swc	S/Sst : lt gy to w	3485.06	212.65	63.80	61.36	3147.26	276.45	3208.62	0002-1L
2864.50	oil	bulk	-	-	-	-	-	-	-	0063-0B
2868.50	swc	S/Sst : w to gn	1803.54	496.21	248.11	128.82	930.40	744.32	1059.22	0003-1L
2870.50	swc	S/Sst : w	2862.75	819.99	252.30	40.09	1750.36	1072.29	1790.45	0004-1L

Table 4c: MPLC Bulk Composition: Concentration of EOM and Fraction (mg/g TOC(e)) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2871.50	swc	S/Sst : w	1393.15	661.16	184.51	40.09	507.40	845.66	547.49	0005-1L
2874.00	swc	S/Sst : lt gy to w	651.79	367.24	86.87	19.98	177.70	454.11	197.68	0006-1L
2875.50	swc	S/Sst : w to gn	2167.69	1074.00	217.70	34.20	841.78	1291.70	875.99	0007-1L
2878.00	swc	S/Sst : w to lt gy	2594.68	1160.73	230.70	20.89	1182.36	1391.43	1203.25	0008-1L
2890.00	cut	Sh/Clst: m gy	554.44	8.48	8.48	25.56	511.93	16.95	537.49	0059-1L
2940.00	cut	S/Sst : w to lt gy	453.17	42.22	35.18	52.09	323.68	77.40	375.77	0060-3L

Table 4d: MPLC Bulk Composition: Material extracted from the rock (%) for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	Total	HC	Non-HC	Recov. MPLC	Recov. Asph	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	1.38	1.72	3.24	93.66	100.00	3.10	96.90	-	0.03	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	0.58	0.78	2.80	95.84	100.00	1.36	98.64	-	0.03	0041-2L
2836.60	ccp	S/Sst : lt gy	18.52	7.41	4.92	69.15	100.00	25.93	74.07	-	0.05	0009-1L
2838.55	ccp	S/Sst : w	54.38	14.50	5.75	25.38	100.00	68.88	31.12	-	0.06	0010-1L
2843.00	oil	bulk	83.53	12.59	1.21	2.67	100.00	96.12	3.88	-	0.01	0062-0B
2844.57	ccp	S/Sst : lt gy	31.42	9.92	4.08	54.57	100.00	41.34	58.66	-	0.04	0011-1L
2846.65	ccp	S/Sst : w	26.59	6.89	2.50	64.02	100.00	33.48	66.52	-	0.03	0012-1L
2846.85	ccp	S/Sst : w	7.33	2.04	0.46	90.18	100.00	9.36	90.64	-	-	0013-1L
2849.68	ccp	S/Sst : lt gy	24.26	5.82	2.96	66.96	100.00	30.08	69.92	-	0.03	0014-1L
2853.59	ccp	S/Sst : lt gy	20.67	5.51	3.54	70.28	100.00	26.18	73.82	-	0.04	0015-1L
2864.00	swc	S/Sst : lt gy to w	26.17	6.28	2.13	65.42	100.00	32.45	67.55	-	0.02	0001-1L
2864.50	swc	S/Sst : lt gy to w	6.10	1.83	1.76	90.31	100.00	7.93	92.07	-	0.02	0002-1L
2864.50	oil	bulk	83.68	12.27	0.33	3.72	100.00	95.95	4.05	-	-	0063-0B
2868.50	swc	S/Sst : w to gn	27.51	13.76	7.14	51.59	100.00	41.27	58.73	-	0.07	0003-1L
2870.50	swc	S/Sst : w	28.64	8.81	1.40	61.14	100.00	37.46	62.54	-	0.01	0004-1L
2871.50	swc	S/Sst : w	47.46	13.24	2.88	36.42	100.00	60.70	39.30	-	0.03	0005-1L

Table 4d: MPLC Bulk Composition: Material extracted from the rock (%) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	Total	HC	Non-HC	Recov. MPLC	Recov. Asph	Sample
2874.00	swc	S/Sst : lt gy to w	56.34	13.33	3.07	27.26	100.00	69.67	30.33	-	0.03	0006-1L
2875.50	swc	S/Sst : w to gn	49.55	10.04	1.58	38.83	100.00	59.59	40.41	-	0.02	0007-1L
2878.00	swc	S/Sst : w to lt gy	44.73	8.89	0.81	45.57	100.00	53.63	46.37	-	-	0008-1L
2890.00	cut	Sh/Clst: m gy	1.53	1.53	4.61	92.33	100.00	3.06	96.94	-	0.05	0059-1L
2940.00	cut	S/Sst : w to lt gy	9.32	7.76	11.49	71.43	100.00	17.08	82.92	-	0.11	0060-3L

Table 4e: MPLC Bulk Composition: Ratios for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	Sat	HC	Asp	Sample
			Aro	Non-HC	NSO	
1800.00	cut	S/Sst : lt gy to m gy to brn gy	0.80	0.03	0.03	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	0.75	0.01	0.03	0041-2L
2836.60	ccp	S/Sst : lt gy	2.50	0.35	0.07	0009-1L
2838.55	ccp	S/Sst : w	3.75	2.21	0.23	0010-1L
2843.00	oil	bulk	6.64	24.74	0.45	0062-0B
2844.57	ccp	S/Sst : lt gy	3.17	0.70	0.07	0011-1L
2846.65	ccp	S/Sst : w	3.86	0.50	0.04	0012-1L
2846.85	ccp	S/Sst : w	3.60	0.10	0.01	0013-1L
2849.68	ccp	S/Sst : lt gy	4.17	0.43	0.04	0014-1L
2853.59	ccp	S/Sst : lt gy	3.75	0.35	0.05	0015-1L
2864.00	swc	S/Sst : lt gy to w	4.17	0.48	0.03	0001-1L
2864.50	swc	S/Sst : lt gy to w	3.33	0.09	0.02	0002-1L
2864.50	oil	bulk	6.82	23.68	0.09	0063-0B
2868.50	swc	S/Sst : w to gn	2.00	0.70	0.14	0003-1L
2870.50	swc	S/Sst : w	3.25	0.60	0.02	0004-1L

Table 4e: MPLC Bulk Composition: Ratios for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	Sat	HC	Asp	Sample
			Aro	Non-HC	NSO	
2871.50	swc	S/Sst : w	3.58	1.54	0.08	0005-1L
2874.00	swc	S/Sst : lt gy to w	4.23	2.30	0.11	0006-1L
2875.50	swc	S/Sst : w to gn	4.93	1.47	0.04	0007-1L
2878.00	swc	S/Sst : w to lt gy	5.03	1.16	0.02	0008-1L
2890.00	cut	Sh/Clst: m gy	1.00	0.03	0.05	0059-1L
2940.00	cut	S/Sst : w to lt gy	1.20	0.21	0.16	0060-3L

Table 5: Saturated Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	<u>Pristane</u>	<u>Pristane</u>	<u>Pristane/nC17</u>	<u>Phytane</u>	<u>nC17</u>	Sample	
			nC17	Phytane	Phytane/nC18	nC18	CPI1		nC17+nC27
1800.00	cut	S/Sst : lt gy to m gy to brn gy	0.95	1.26	1.92	0.49	2.70	0.36	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	1.35	0.88	2.69	0.50	1.81	0.20	0041-2L
2836.60	ccp	S/Sst : lt gy	0.78	1.35	1.48	0.53	1.04	0.90	0009-1L
2838.55	ccp	S/Sst : w	0.78	1.62	1.54	0.51	1.06	0.91	0010-1L
2843.00	oil	bulk	0.78	1.87	1.46	0.53	1.26	0.97	0062-0B
2844.57	ccp	S/Sst : lt gy	0.75	1.49	1.45	0.51	1.10	0.92	0011-1L
2846.65	ccp	S/Sst : w	0.76	1.46	1.46	0.52	1.11	0.91	0012-1L
2846.85	ccp	S/Sst : w	0.75	1.64	1.41	0.53	1.14	0.92	0013-1L
2849.68	ccp	S/Sst : lt gy	0.75	1.53	1.41	0.53	1.08	0.93	0014-1L
2853.59	ccp	S/Sst : lt gy	0.76	1.28	1.47	0.51	1.08	0.89	0015-1L
2864.00	swc	S/Sst : lt gy to w	0.69	1.50	1.44	0.48	1.09	0.78	0001-1L
2864.50	swc	S/Sst : lt gy to w	0.75	1.49	1.54	0.49	1.16	0.89	0002-1L
2864.50	oil	bulk	0.77	1.88	1.53	0.50	1.10	0.95	0063-0B
2868.50	swc	S/Sst : w to gn	0.75	1.35	1.50	0.50	1.05	0.77	0003-1L
2870.50	swc	S/Sst : w	0.74	1.48	1.53	0.48	1.12	0.78	0004-1L

Table 5. Saturated Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	<u>Pristane</u>	<u>Pristane</u>	<u>Pristane/nC17</u>	<u>Phytane</u>	<u>nC17</u>	Sample	
			nC17	Phytane	Phytane/nC18	nC18	CPI1		nC17+nC27
2871.50	swc	S/Sst : w	0.69	1.44	1.47	0.47	1.09	0.79	0005-1L
2874.00	swc	S/Sst : lt gy to w	0.74	1.52	1.50	0.49	1.07	0.81	0006-1L
2875.50	swc	S/Sst : w to gn	0.69	1.50	1.43	0.48	1.34	0.81	0007-1L
2878.00	swc	S/Sst : w to lt gy	0.71	1.54	1.44	0.50	1.05	0.83	0008-1L
2890.00	cut	Sh/Clst: m gy	1.78	2.63	2.96	0.60	1.67	0.55	0059-1L
2940.00	cut	S/Sst : w to lt gy	1.03	1.13	2.16	0.48	1.34	0.60	0060-3L

Table 6a: Aromatic Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT (3+2) /1MDBT	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	-	-	-	-	-	-	-	-	-	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	-	-	-	-	-	-	-	-	-	0041-2L
2836.60	ccp	S/Sst : lt gy	-	-	-	2.29	0.94	1.00	0.97	-	-	0009-1L
2838.55	ccp	S/Sst : w	-	-	-	-	-	-	-	-	-	0010-1L
2843.00	oil	bulk	1.88	11.90	0.43	-	-	-	-	-	-	0062-0B
2844.57	ccp	S/Sst : lt gy	-	-	-	4.38	1.28	1.62	1.17	-	-	0011-1L
2846.65	ccp	S/Sst : w	-	-	-	1.94	2.16	2.34	1.70	-	-	0012-1L
2846.85	ccp	S/Sst : w	-	-	0.18	-	-	-	-	-	-	0013-1L
2849.68	ccp	S/Sst : lt gy	-	-	-	2.81	1.20	1.50	1.12	-	-	0014-1L
2853.59	ccp	S/Sst : lt gy	-	-	-	2.00	0.91	1.01	0.94	-	-	0015-1L
2864.00	swc	S/Sst : lt gy to w	-	-	0.55	1.98	0.98	1.08	0.99	-	-	0001-1L
2864.50	swc	S/Sst : lt gy to w	-	-	-	2.16	0.74	0.91	0.84	-	-	0002-1L
2864.50	oil	bulk	1.65	-	0.52	-	-	-	-	-	-	0063-0B
2868.50	swc	S/Sst : w to gn	-	-	-	2.41	1.01	1.17	1.01	-	-	0003-1L
2870.50	swc	S/Sst : w	0.83	-	0.29	3.01	1.31	1.59	1.18	-	-	0004-1L
2871.50	swc	S/Sst : w	-	-	-	1.87	1.02	1.13	1.01	-	-	0005-1L

Table 6a: Aromatic Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT	(3+2) /1MDBT	Sample
2874.00	swc	S/Sst : lt gy to w	0.48	-	0.33	2.58	1.04	1.35	1.02	-	-	-	0006-1L
2875.50	swc	S/Sst : w to gn	1.35	-	0.51	2.81	1.23	1.54	1.14	-	-	-	0007-1L
2878.00	swc	S/Sst : w to lt gy	1.30	-	0.60	2.51	1.11	1.42	1.06	-	-	-	0008-1L
2890.00	cut	Sh/Clst: m gy	-	-	-	1.08	0.52	0.65	0.71	-	-	-	0059-1L
2940.00	cut	S/Sst : w to lt gy	-	3.65	0.61	1.82	0.86	0.98	0.92	-	-	-	0060-3L

Table 6b: Aromatic Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	F1	F2	Sample
1800.00	cut	S/Sst : lt gy to m gy to brn gy	-	-	0038-1L
1990.00	cut	Sh/Clst: gn gy, gy brn	-	-	0041-2L
2836.60	ccp	S/Sst : lt gy	0.59	0.31	0009-1L
2838.55	ccp	S/Sst : w	1.00	0.62	0010-1L
2843.00	oil	bulk	-	-	0062-0B
2844.57	ccp	S/Sst : lt gy	0.69	0.43	0011-1L
2846.65	ccp	S/Sst : w	0.59	0.32	0012-1L
2846.85	ccp	S/Sst : w	1.00	0.61	0013-1L
2849.68	ccp	S/Sst : lt gy	0.61	0.38	0014-1L
2853.59	ccp	S/Sst : lt gy	0.57	0.31	0015-1L
2864.00	swc	S/Sst : lt gy to w	0.58	0.31	0001-1L
2864.50	swc	S/Sst : lt gy to w	0.62	0.38	0002-1L
2864.50	oil	bulk	-	-	0063-0B
2868.50	swc	S/Sst : w to gn	0.62	0.36	0003-1L
2870.50	swc	S/Sst : w	0.73	0.45	0004-1L
2871.50	swc	S/Sst : w	0.57	0.31	0005-1L

Table 2: Aromatic Hydrocarbon Ratios (peak area) for well NOCS 6507/5-3

Depth unit of measure: m

Depth	Typ	Lithology	F1	F2	Sample
2874.00	swc	S/Sst : lt gy to w	0.58	0.38	0006-1L
2875.50	swc	S/Sst : w to gn	0.61	0.38	0007-1L
2878.00	swc	S/Sst : w to lt gy	0.60	0.38	0008-1L
2890.00	cut	Sh/Clst: m gy	0.43	0.27	0059-1L
2940.00	cut	S/Sst : w to lt gy	0.58	0.33	0060-3L

Table 7a: Variation in Triterpane Distribution (peak height) SIR for Well NOCS 6507/5-3

Page: 1

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
2836.60	S/Sst	0.78	0.44	0.19	0.65	0.39	0.12	0.29	0.45	0.22	0.40	0.89	0.41	0.16	59.35	0009-1
2843.00	bulk	0.67	0.40	0.23	0.74	0.43	0.16	0.44	0.60	0.31	1.45	0.89	0.45	0.18	60.52	0062-0
2846.85	S/Sst	0.71	0.42	0.21	0.69	0.41	0.15	0.37	0.53	0.27	0.59	0.89	0.43	0.17	61.38	0013-1
2853.59	S/Sst	0.80	0.45	0.19	0.61	0.38	0.13	0.28	0.45	0.22	0.44	0.91	0.41	0.16	61.82	0015-1
2864.00	S/Sst	0.70	0.41	0.16	0.61	0.38	0.15	0.33	0.53	0.25	0.19	0.89	0.41	0.19	61.33	0001-1
2864.50	bulk	0.68	0.41	0.19	0.67	0.40	0.13	0.29	0.44	0.23	0.60	0.90	0.42	0.15	62.28	0063-0
2868.50	S/Sst	0.78	0.44	0.17	0.60	0.37	0.14	0.28	0.47	0.22	0.22	0.89	0.40	0.18	61.87	0003-1
2870.50	S/Sst	0.71	0.42	0.17	0.61	0.38	0.14	0.29	0.48	0.23	0.22	0.89	0.40	0.18	61.53	0004-1
2871.50	S/Sst	0.74	0.43	0.18	0.59	0.37	0.14	0.30	0.50	0.23	0.23	0.90	0.41	0.18	61.51	0005-1
2874.00	S/Sst	0.75	0.43	0.17	0.59	0.37	0.13	0.30	0.51	0.23	0.21	0.88	0.40	0.19	61.23	0006-1
2875.50	S/Sst	0.77	0.44	0.17	0.56	0.36	0.13	0.29	0.52	0.23	0.22	0.89	0.39	0.18	60.65	0007-1
2878.00	S/Sst	0.79	0.44	0.17	0.59	0.37	0.12	0.28	0.47	0.22	0.21	0.88	0.40	0.18	61.01	0008-1

List of Triterpane Distribution Ratios

Ratio 1: $27Tm / 27Ts$

Ratio 2: $27Tm / 27Tm+27Ts$

Ratio 3: $27Tm / 27Tm+30a\beta+30\beta a$

Ratio 4: $29a\beta / 30a\beta$

Ratio 5: $29a\beta / 29a\beta+30a\beta$

Ratio 6: $30d / 30a\beta$

Ratio 7: $28a\beta / 30a\beta$

Ratio 8: $28a\beta / 29a\beta$

Ratio 9: $28a\beta / 28a\beta+30a\beta$

Ratio 10: $24/3 / 30a\beta$

Ratio 11: $30a\beta / 30a\beta+30\beta a$

Ratio 12: $29a\beta+29\beta a / 29a\beta+29\beta a+30a\beta+30\beta a$

Ratio 13: $29\beta a+30\beta a / 29a\beta+30a\beta$

Ratio 14: $32a\beta S / 32a\beta S+32a\beta R$ (%)

Table 7b: Variation in Sterane Distribution (peak height) SIR for Well NOCS 6507/5-3

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Ratio6</u>	<u>Ratio7</u>	<u>Ratio8</u>	<u>Ratio9</u>	<u>Ratio10</u>	<u>Sample</u>
2836.60	S/Sst	0.79	36.45	68.72	1.49	0.75	0.69	0.55	0.52	0.57	1.73	0009-1
2843.00	bulk	0.83	35.41	66.32	2.08	0.74	0.88	0.78	0.50	0.55	1.52	0062-0
2846.85	S/Sst	0.81	35.72	66.84	1.67	0.74	0.76	0.61	0.50	0.56	1.57	0013-1
2853.59	S/Sst	0.78	36.76	70.82	1.45	0.77	0.72	0.57	0.55	0.58	1.92	0015-1
2864.00	S/Sst	0.75	38.23	68.04	1.21	0.74	0.55	0.39	0.52	0.62	1.72	0001-1
2864.50	bulk	0.80	39.65	70.23	1.51	0.75	0.75	0.61	0.54	0.66	1.95	0063-0
2868.50	S/Sst	0.74	39.55	68.55	1.21	0.73	0.57	0.41	0.52	0.65	1.80	0003-1
2870.50	S/Sst	0.77	37.98	68.21	1.33	0.74	0.57	0.41	0.52	0.61	1.73	0004-1
2871.50	S/Sst	0.77	36.65	68.58	1.33	0.75	0.58	0.42	0.52	0.58	1.72	0005-1
2874.00	S/Sst	0.76	36.42	65.67	1.33	0.72	0.60	0.43	0.49	0.57	1.50	0006-1
2875.50	S/Sst	0.78	36.94	67.32	1.39	0.74	0.60	0.44	0.51	0.59	1.63	0007-1
2878.00	S/Sst	0.76	37.53	67.76	1.37	0.74	0.59	0.43	0.51	0.60	1.68	0008-1

List of Sterane Distribution Ratios

Ratio 1: $27d\beta S / 27d\beta S + 27aaR$

Ratio 2: $29aaS / 29aaS + 29aaR$ (%)

Ratio 3: $2 * (29\beta\beta R + 29\beta\beta S) / (29aaS + 29aaR + 2 * (29\beta\beta R + 29\beta\beta S))$ (%)

Ratio 4: $27d\beta S + 27d\beta R + 27daR + 27daS / 29d\beta S + 29d\beta R + 29daR + 29daS$

Ratio 5: $29\beta\beta R + 29\beta\beta S / 29\beta\beta R + 29\beta\beta S + 29aaS$

Ratio 6: $21a + 22a / 21a + 22a + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 7: $21a + 22a / 21a + 22a + 28daS + 28aaS + 29daR + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 8: $29\beta\beta R + 29\beta\beta S / 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 9: $29aaS / 29aaR$

Ratio 10: $29\beta\beta R + 29\beta\beta S / 29aaR$

Table 7c: Raw triterpane data (peak height) m/z 191 SIR for Well NOCS 6507/5-3

Depth unit of measure: m

Depth	Lithology	23/3	24/3	25/3	24/4	26/3	27Ts	27Tm	28aß	25nor30aß	Sample
		29aß	29Ts	30d	29ßa	300	30aß	30ßa	30G	31aßS	
		31aßR	32aßS	32aßR	33aßS	33aßR	34aßS	34aßR	35aßS	35aßR	
2836.60	S/Sst	5715.1	4074.6	1768.1	3439.8	1086.2	3405.7	2664.1	2912.9	1139.5	0009-1
		6505.0	2482.3	1181.6	1405.9	0.0	10081.5	1246.3	246.6	2611.0	
		2005.0	1471.0	1007.6	848.7	484.6	440.3	292.6	257.4	0.0	
2843.00	bulk	4381.7	3673.9	1113.4	1951.7	650.1	1302.7	875.0	1128.4	355.4	0062-0
		1880.5	820.8	396.3	460.3	0.0	2541.7	317.4	0.0	559.4	
		492.0	298.5	194.7	139.0	105.1	0.0	0.0	0.0	0.0	
2846.85	S/Sst	7254.5	5186.0	2083.3	3836.8	1272.9	3713.6	2637.1	3197.3	1319.6	0013-1
		6050.1	2482.1	1273.3	1390.6	0.0	8741.7	1066.9	0.0	2214.1	
		1803.5	1244.6	783.0	676.7	390.6	309.8	204.0	179.0	143.1	
2853.59	S/Sst	3010.6	2520.5	918.2	1787.0	544.3	1851.9	1485.5	1594.7	656.4	0015-1
		3545.8	1454.4	741.9	855.3	0.0	5772.0	600.7	115.4	1462.6	
		1186.9	863.9	533.6	470.1	253.3	213.6	129.4	101.1	78.9	
2864.00	S/Sst	1332.8	1158.3	485.2	1136.3	323.7	1783.1	1254.8	1947.7	587.8	0001-1
		3679.4	1659.9	879.6	1030.6	0.0	5985.2	762.3	188.1	1619.3	
		1389.3	999.6	630.2	582.1	297.6	300.6	158.3	181.9	125.4	
2864.50	bulk	4952.3	4073.9	1351.2	2690.3	778.7	2622.4	1793.4	1972.5	879.4	0063-0
		4516.6	1999.3	897.0	967.9	179.2	6779.8	733.8	161.5	1832.6	
		1408.5	1150.7	697.0	681.7	358.5	294.8	190.2	200.2	112.6	
2868.50	S/Sst	1607.0	1381.3	508.7	1205.3	286.7	1857.2	1443.1	1736.4	571.1	0003-1
		3666.1	1631.9	858.9	961.9	0.0	6145.7	768.5	117.0	1745.8	
		1317.6	973.8	600.2	527.0	292.4	262.7	154.8	131.1	88.8	