



BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date 30 MAY 19 68

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>ODECO</u>		Rig No. <u>0 VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>FETTERS</u>		Report for Mr. <u>D'ORSAY</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Operation		Casing	
Mud Vol. Bbl.		Circulation Data		Annular Vel. Ft./Min.	
Depth <u>102048</u>		Surface in. @ Ft.		Hole Pits <u>810 200</u>	
Pump Size <u>7 1/2 X 18</u>		Opp DP <u>310</u>		Opp Col.	
Bit Size in. <u>8 1/2</u>		No. <u>9 1/2</u>		Intermediate in. @ Ft. <u>102048</u>	
Total Circulating Vol. <u>1010</u>		Bbl./Cyc.		Stand Pipe Press. psi <u>400</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft.		In Storage	
Cyc./Min. <u>52</u>		Circulating Bottom Up, Min. <u>53</u>		Circulating Total, Min. <u>75</u>	
Drill Collar: Size <u>6 1/2</u> Length <u>723</u>		Wt. of Stored Mud		Bbl./Min. <u>14.2</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>SALT SATUR</u>	Weight <u>12-12.2</u>	Vis. <u>40-95</u>	Filtration <u>N-C</u>	Operator's Written Operator's Rep. ☐	Authority: ☐ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>26.78</u>	Mud Cost Cumulative <u>152.68</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☐	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>1130</u> a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>12.2</u>	Plastic Viscosity, cp @ _____ °F	
Viscosity, Sec./qt API @ _____ °F	<u>40</u>	Yield Point, lb/100 sq ft	
Filtrate, ml, API	<u>N.C.</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	
Filtrate, API HT-HP @ _____ °F		Calcium Ion; ppm ☐ epm ☐	
Cake, 32nd In. API ☐ HT-HP ☐		Alkalinity, API { PF, cc N/50 H ₂ SO ₄ Pm, cc N/50 H ₂ SO ₄	
Sand Content ☐ Sand only ☐ all solids % by Vol		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
Salt ppm ☐ Chloride ppm ☐	<u>145,000</u>	Oil % by Vol	
gpg ☐ electrode ☐ indicator ☐	<u>7</u>	Water % by Vol	
pH		Liquid phase, Vol % oil/water	
Solids % by Vol		Electrical Stability, volts	
Solids, av. sp. gr. ☐ ppb low gr. ☐			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

15 BENTONITE
6 FLOAL
120 SALT
35 HT BARITE

COMMENTS

CEMENT PLUG @ 10240
BUILD 120 BBLs volume
losing 3-4 BBLs per hr.
through flex joint.

BAROID SALES ENGINEER

TELEPHONE

NAME <u>MAURIE SILLER</u>	MOBILE
HOME ADDRESS <u>STAVANGER</u>	HOME <u>56474</u>
STORE ADDRESS <u>North Sea Exp</u>	STORE <u>2007</u>

THIS COPY TO CONTRACTOR

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY NATIONAL LEAD COMPANY OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.



BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date 29 MAY 19 68

Operator <u>PHILLIPS PETRO</u>		Contractor <u>ODECO</u>		Rig No. <u>0 VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>FETTERS</u>		Report for Mr. <u>D'ORSAY</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1Y</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>DRILLING PLUG</u>		Casing	
Depth <u>10248</u>		Mud Vol. Bbl. <u>810</u>		Circulation Data	
Surface in. @ Ft. <u>810</u>		Pits <u>200</u>		Pump Size <u>7 1/2 X 18</u>	
Bit Size in. No. <u>8 1/2</u>		Total Circulating Vol. <u>1010</u>		Annular Vel. Ft./Min. <u>310</u>	
Intermediate in. @ Ft. <u>9 7/8 10248</u>		Bbl./Cyc. <u>52</u>		Opp DP <u>310</u> Opp Col.	
Drill Pipe Size <u>5</u>		In Storage		Stand Pipe Press, psi <u>3000</u>	
Production or Liner		Cyc./Min. <u>52</u>		Circulating Bottom Up, Min. <u>55</u>	
Drill Collar: Size Length <u>6 1/2 722</u>		Wt. of Stored Mud		Circulating Total, Min. <u>75</u>	
Bbl./Min. <u>14.2</u>					

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR</u>	Weight <u>12.4</u>	Vis. <u>40-45</u>	Filtration <u>50-800</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily <u>2025.20</u>	Mud Cost Cumulative <u>149 989 52</u>
<u>SALT</u>							

EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other <u>1066100</u>
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MUD PROPERTIES

Time <u>1530</u> a.m. ☐ p.m. ☐	Temp. Mud <u>°F</u>	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>12.4</u>	Plastic Viscosity, cp @ <u>°F</u>	<u>24</u>
Viscosity, Sec./qt API @ <u>°F</u>	<u>39</u>	Yield Point, lb/100 sq ft	<u>17</u>
Filtrate, ml, API	<u>120</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>4/12</u>
Filtrate, API HT-HP @ <u>°F</u>	<u>6</u>	Calcium Ion; ppm ☐ epm ☐	<u>3300</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>25</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>.20</u>	
Sand Content ☐ Sand only ☐ all solids % by Vol	<u>155,000</u>	Pm, cc N/50 H ₂ SO ₄ <u>00</u>	
Salt ppm ☐ Chloride ppm ☐	<u>9</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
ppg ☐ electrode ☐ filtrate ☐		Oil % by Vol	
pH indicator ☐ mud ☐		Water % by Vol	
Solids % by Vol		Liquid phase, Vol % oil/water	<u>1</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	<u>15 FLOSAZ</u>
	<u>25 BENTONITE</u>
	<u>190 SALT</u>
	<u>20 MT BARIUM</u>
	<u>5 MILATEX</u>

COMMENTS

<u>BRIDGE PLUG SAT @ 750</u>	BAROID SALES ENGINEER	TELEPHONE
<u>DRILLING PLUG</u>	NAME <u>MAURICE STILZEN</u>	MOBILE
<u>LOSING 3 BBL'S PER HR</u>	HOME ADDRESS <u>STAVANGER</u>	HOME <u>56474</u>
<u>@ MUD RISER</u>	STORE ADDRESS <u>NORTH SEA EXP</u>	STORE <u>20012</u>
<u>BUILD 200 BBL'S VOLUME</u>	THIS COPY TO CONTRACTOR	
	THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY NATIONAL LEAD COMPANY OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.	



BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 25 MAY 68

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>O DECO</u>		Rig No. <u>OUKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>CUSTER</u>		Report for Mr. <u>D'ORSAI</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-14</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>NORWA</u>	
Operation <u>Circulation</u>		Casing		Mud Vol. Bbl.	
Depth <u>10300</u>		Surface in. @ Ft.		Hole Pits <u>810 400</u>	
Bit Size in. No. <u>3 1/2</u>		Intermediate in. @ Ft. <u>17 1/2 10348</u>		Total Circulating Vol. <u>1200</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft.		In Storage	
Drill Collar: Size Length <u>6 1/2 123</u>		Wt. of Stored Mud		Bbl./Min. <u>14.2</u>	
Circulation Data		Annular Vel. Ft./Min.		Opp DP <u>310</u> Opp Col.	
Pump Size <u>1 1/2 X 18</u>		Stand Pipe Press, psi <u>1500</u>		Circulating Bottom Up, Min. <u>55</u>	
Cyc./Min. <u>52</u>		Circulating Total, Min. <u>90</u>			

DRILLING FLUID SPECIFICATIONS

Type <u>SALT WATER</u>	Weight <u>12-13</u>	Vis. <u>40-45</u>	Filtration <u>N-C</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily	Mud Cost Cumulative <u>147264.32</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time a.m. ☐ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present - <u>12.6</u>	Plastic Viscosity, cp @ °F <u>25</u>	
Viscosity, Sec./qt API @ °F	<u>43</u>	Yield Point, lb/100 sq ft <u>16</u>	
Filtrate, ml, API	<u>95</u>	Gels, lb/100 sq ft., 10 Sec./10 min. <u>4/10</u>	
Filtrate, API HT-HP @ °F	<u>-</u>	Calcium Ion; ppm ☐ epm ☐	<u>3500</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>6</u>	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ <u>2</u> Pm, cc N/50 H ₂ SO ₄	
Sand Content ☐ Sand only ☐ all solids % by Vol <u>2.5</u>		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
Salt ppm ☐ Chloride ppm ☐	<u>110,000</u>	Oil % by Vol	
gpg ☐ electrode ☐ filtrate ☐	<u>9.5</u>	Water % by Vol	
pH indicator ☐ mud ☐		Liquid phase, Vol % oil/water <u>1</u>	
Solids % by Vol		Electrical Stability, volts	
Solids, av. sp. gr. ☐ ppb low gr. ☐			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	<u>170 SALT</u>
	<u>50 MT BAROID</u>
	<u>15 BENIDURITE</u>
	<u>15 FLOSA L</u>
	<u>20 SODIUM ASH</u>

COMMENTS <u>See comments p. 6</u> <u>OSLO</u> <u>4 JUN 1968</u> <u>196</u>	BAROID SALES ENGINEER		TELEPHONE
	NAME <u>MAURIE SELZER</u>		MOBILE
	HOME ADDRESS <u>STAVANGER</u>		HOME <u>56474</u>
	STORE ADDRESS <u>North Sea City</u>		STORE <u>20012</u>

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 25 June 1968

Operator Phillips Pet. Co	Contractor ODECO	Rig No. V. K. 1
Address Stavanger	Address R. 1	Spud Date 25 June 1968
Report for Mr. Custer	Report for Mr. D. 1	Sec. Twp. Rng.

Well Name and No. 7-11-1X	Field or Block No. 7-11	County Parish or Offshore Area N. Sea	State/Province Norway
Operation Circulating	Casing	Mud Vol. Bbl.	Circulation Data
Depth 13034	Surface in. @ Ft.	Hole 490 Pits 500	Pump Size 7 1/2 X 13 in.
Bit Size in. 8 1/2 No.	Intermediate 1 1/2 in. @ 90246 Ft.	Total Circulating Vol. 1490	Bbl./Cyc.
Drill Pipe Size 5	Production or Liner in. @ Ft.	In Storage	Cyc./Min. 52
Drill Collar: Size Length	Wt. of Stored Mud	Bbl./Min. 14.2	Circulating Bottom Up, Min. 69
			Circulating Total Min. 105

DRILLING FLUID SPECIFICATIONS

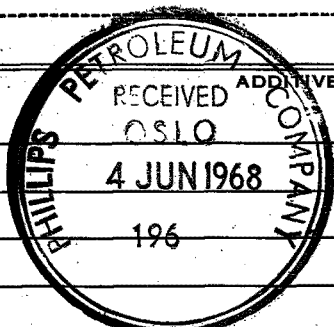
Type Salt. S. t.	Weight 13.0	Vis. 45	Filtration 6-3	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 339.5	Mud Cost Cumulative 67486
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time a.m. ☐ 11:15 (25 June) p.m. ☒	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Plastic Viscosity, cp @ °F 30		
Viscosity, Sec./qt API @ °F 43	Yield Point, lb/100 sq ft 13		
Filtrate, ml, API 13.0	Gels, lb/100 sq ft., 10 Sec./10 min. 3/7		
Filtrate, API HT-HP @ °F 3/52	Calcium Ion; ppm ☒ epm ☐ 440		
Cake, 32nd In. API HT-HP ☒	Alkalinity, API { PF, cc N/50 H2SO4 11.1		
Sand Content ☐ Sand only ☐ all solids % by Vol 0.25	lb/bbl lime ☐ gyp ☐ CaCl2 ☐ Z		
Salt ppm ☐ Chloride ppm ☒ 195000	Oil % by Vol		
pH electrode ☐ filtrate ☐ mud ☐ 7.0	Water % by Vol		
Solids % by Vol	Liquid phase, Vol % oil/water /		
Solids, av. sp. gr. ☐ ppb low gr. ☐	Electrical Stability, volts		
Rm @ 56° F 0.09	Total hardness epm 120		



ADDITIVES IN MUD	MATERIALS RECOMMENDED Used
	10 F. Mica
	10 F. Wallnut
	20 Sx. Sodium sulfate
	5 M.T. Dargte

COMMENTS	BAROID SALES ENGINEER	TELEPHONE
- Mud checks at "bottoms up" after logging. Preparing to set cement plug fast testing.	NAME Devlin	MOBILE
- Failed to get plug. Circulated cement out to set second plug.	HOME ADDRESS	HOME
	STORE ADDRESS	STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 21 May 1968

Operator Ph. H. Ret. Stover		Contractor ODECO		Rig No. 444	
Address		Address		Spud Date 25 Feb	
Report for Mr. Custer		Report for Mr. Adelford		Sec. Twp. Rng.	
Well Name and No. 7-11-1K		Field or Block No. 7-11		County, Parish or Offshore Area N. Sea	
State/Province Norway		Operation Coring		Casing	
Mud Vol. Bbl.		Circulation Data		Annular Vel. Ft./Min.	
Depth 13034		Surface in. @ Ft.		Hole 990 Pits 600	
Pump Size 6 1/2 X 18 in.		Opp DP 125		Opp Col.	
Bit Size in. 1 1/2 No.		Inter-mediate 9 1/2 in. @ 70 ft		Total Circulating Vol. 1590	
Bbl./Cyc. .224		Stand Pipe Press. psi		Circulating Bottom Up. Min. 169	
Drill Pipe Size 5		Production in. @ Ft.		In Storage -	
Cyc./Min. 26		Circulating Total. Min. 275		Drill Collar: Size Length	
Wt. of Stored Mud -		Bbl./Min. 5.8			

DRILLING FLUID SPECIFICATIONS

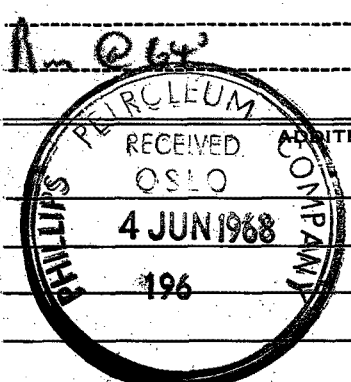
Type Salt Sol.	Weight 13.0	Vis. 45	Filtration 6-8	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 2825.82	Mud Cost Cumulative 156947.27
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EQUIPMENT

Shale Shaker ☐ DD Shaker ☐ Desander ☐ Degasser ☐ Centrifuge ☐ Other ☐

MUD PROPERTIES

Time 2:00 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 13.0	13.0	Plastic Viscosity, cp @ °F 7 20
Viscosity, Sec./qt API @ °F	46	46	Yield Point, lb/100 sq ft 8
Funnel, ml, API	5.2	5.8	Gels, lb/100 sq ft., 10 Sec./10 min. 2/6
Filtrate, API HT-HP @ °F	-	-	Calcium Ion; ppm ☐ epm ☐ 380
Cake, 32nd In. API HT-HP ☐	1/32	1/32	Alkalinity, API { PF, cc N/50 H2SO4 N.1
Sand Content ☐ Sand only ☐ all solids % by Vol	-	0.25	Pm, cc N/50 H2SO4 2
Salt ppm ☐ Chloride ppm ☒	185000	190000	lb/bbl lime ☐ gyp ☐ CaCl2 ☐
pH electrode ☐ indicator ☒	7.0		Oil % by Vol 6
Solids % by Vol	16		Water % by Vol 78
Solids, av. sp. gr. ☐ ppb low gr. ☐	2		Liquid phase, Vol % oil/water 7
	0.08		Electrical Stability, volts



ADDITIONAL COMMENTS IN MUD

Loss 3 bbls/hr @ flex joint. Built 220 bbls. volume in pits. Coring. Failed to recover core due mechanical failure of core barrel

MATERIALS RECOMMENDED

260 Salt
15 Flocol
8 Drispac
25 MT Dargite

COMMENTS

BAROID SALES ENGINEER		TELEPHONE
NAME	Devlin	MOBILE
HOME ADDRESS		HOME
STORE ADDRESS		STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **11 Mar 1967**

Operator Phillips Pet. Co		Contractor ODECO		Rig No. 4.1	
Address Stavanger		Address Rye		Spud Date 25 Feb	
Report for Mr. Custer		Report for Mr. Ridgely		Sec. Twp. Rng.	
Well Name and No. 7-11-1A		Field or Block No. 7-11		County, Parish or Offshore Area N. Sea	
State/Province Norway		Operation Drilling		Casing	
Depth 12940		Surface in. @ Ft.		Mud Vol. Bbl.	
Bit Size in. 8 1/2 No. 36		Intermediate 9 7/8 in. @ 10473 Ft.		Hole 980 Pits 650	
Drill Pipe Size 5		Production or Liner in. @ Ft.		Total Circulating Vol. 1630	
Drill Collar: Size 4 1/2 Length 770		In Storage		Circulation Data	
		Wt. of Stored Mud		Pump Size 6 1/4 X 18 in.	
				Annular Vel. Ft./Min. 3205	
				Opp DP 3205 Opp Col.	
				Bbl./Cyc. .224	
				Stand Pipe Press. psi 3000	
				Cyc./Min. 42	
				Circulating Bottom Up, Min. 105	
				Bbl./Min. 340 9.3	
				Circulating Total, Min. 175	

DRILLING FLUID SPECIFICATIONS

Type Sat. S-lt	Weight 13.0	Vis. 40-45	Filtration 6-8	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 2153.00	Mud Cost Cumulative 134121.50
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud 12.0 °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal. ☒ lb/cu ft ☐	Present 13.1 12.4+	Plastic Viscosity, cp @ _____ °F	26 26
Viscosity, Sec./qt API @ _____ °F	44 46	Yield Point, lb/100 sq ft	10 10
Filtrate, ml, API	6.3 6.4	Gels, lb/100 sq ft., 10 Sec./10 min.	3/5 4/9
Filtrate, API HT-HP @ _____ °F	— —	Calcium Ion, ppm ☒ epm ☐	380 380
Cake, 32nd In. API ☒ HT-HP ☐	1/32 1/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Pm, cc N/50 H ₂ SO ₄	N.I N.I
Sand Content ☐ Sand only ☒ all solids % by Vol	0.5 —	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2 7
Salt ppm ☐ Chloride ppm ☒	191000 192000	Oil..... % by Vol	7 7
gpg ☐ electrode ☐ filtrate ☐	7.0 7.0	Water..... % by Vol	77 77
pH indicator ☒ mud ☒	16 7	Liquid phase, Vol % oil/water	/ L
Solids..... % by Vol	— —	Electrical Stability, volts	— —
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.09 —	Total hardness epm	— 120
Am ec2	8860 L		
HH @ 13000'			

ADDITIVES IN MUD + Cost

20 M.T. Baryte	DC-550712
15 Sx. CMC	T.C-139623²⁰
5 Sx. Dri-spec	
2 Drums Bit Lube	
30 Sodium Sulfate	

MATERIALS RECOMMENDED

5 Sx. Soltex	
170 Sx. Salt	
20 M.T. Baryte	
90 Sx. Sodium Sulfate	
30 bbl. Diesel	

COMMENTS **Drilling ahead & weighting up to 13.0' gal.**

BAROID SALES ENGINEER

NAME Devlin	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

EXTRA COPY

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BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date 18 May 1968

Operator Phillips Pot. Co.		Contractor QDECO		Rig No. V162	
Address Stanger		Address N.Y.		Spud Date 23 Feb	
Report for Mr. Custod		Report for Mr. Rodford		Sec. Twp. Rng.	
Well Name and No. 7-11-K		Field or Block No. 7-11		County Parish or Offshore Area N. Sea	
State Norway		Operation Drilling		Casing	
Mud Vol. Bbl.		Circulation Data		Annular Vel. Ft./Min.	
Depth 12500		Surface in. @ Ft.		Hole 160 Pits 600	
Pump Size 6 3/4 X 18 in.		Opp DP 220		Opp Col.	
Bit Size in. 6 1/2 No. 35 HW		Intermediate 7 1/2 in. @ 102 ft		Total Circulating Vol. 1560	
Bbl./Cyc. 2.27		Stand Pipe Pressure 1100		Drill Pipe Size 5	
Production in. @ Ft.		In Storage		Cyc./Min. 45	
Circulating Bottom Up, Min. 16		Drill Collar: Size 6 1/2 Length 770		Wt. of Stored Mud	
Bbl./Min. 10		Circulating Total, Min. 156			

DRILLING FLUID SPECIFICATIONS

Type S.H. Standard	Weight 12.0	Vis. 40-45	Filtration 6-8	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 2469.20	Mud Cost Cumulative 131968.20
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time 0330 a.m. ☒ p.m. ☐	Temp. Mud 120.0 °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.14 12.1	Plastic Viscosity, cp @ 70 °F	20 21
Viscosity, Sec./qt API @ 70 °F	43 41	Yield Point, lb/100 sq ft	6 4
Filtrate, ml, API	6.3 6.6	Gels, lb/100 sq ft., 10 Sec./10 min.	1/2 1/2
Filtrate, API HT-HP @ 70 °F	— —	Calcium Ion; ppm ☒ epm ☐	560 460
Cake, 32nd In. API ☒ HT-HP ☐	2/32 7/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Ni 1 Ni 1	
Sand Content ☐ sand only ☒ solids % by Vol	0.5 0.5	Pm, cc N/50 H ₂ SO ₄ 2 7	
Salt ppm ☐ Chloride ppm ☒	177000 183000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
pH electrode ☒ indicator ☐	7.0 7.0	Oil..... % by Vol	7
Solids..... % by Vol	14 7	Water..... % by Vol	79
Solids, av. sp. gr. ☐ ppb low gr. ☐	—	Liquid phase, Vol % oil/water	2
Ann 64 °F	0.08	Electrical Stability, volts	2
1140 12500	7880	Total hardness cpm	100

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	160 Sacks Salt
	10 MT. Baryte
	15 Sacks Dispersant
	30 Sacks CMC
	2 Drums Bit Lube

COMMENTS Drilling. Getting some increase in cuttings. Possibility of drilling some salts. Only minor variations seen in chloride content.	BAROID SALES ENGINEER		TELEPHONE
	NAME Devlin	MOBILE	
	HOME ADDRESS	HOME	
	STORE ADDRESS	STORE	

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BAROID DIVISION

NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 17 May 1968

Operator PHILLIPS PETRO		Contractor ODECO		Rig No. O VIKING	
Address STAVANGER		Address RIL		Spud Date 25 FEB	
Report for Mr. CUSTER		Report for Mr. DORSAI		Sec. Twp. Rng.	
Well Name and No. 7-11-1V		Field or Block No. 7-11		County, Parish or Offshore Area N-SEA	
State/Province NORWAY		Operation Drilling		Casing	
Depth 12350		Mud Vol. Bbl. 960		Circulation Data	
Surface in. @ Ft. 960		Pits 600		Annular Vel. Ft./Min. 220	
Bit Size in. 8 1/2 No. 35		Total Circulating Vol. 1560		Opp DP 220	
Intermediate in. @ 9 1/8 10248		Bbl./Cyc. 224		Opp Col.	
Drill Pipe Size 5		In Storage		Stand Pipe Press, psi 100	
Production or Liner		Cyc./Min. 45		Circulating Bottom Up, Min. 96	
Drill Collar: Size 6 1/2 Length 723		Wt. of Stored Mud		Circulating Total, Min. 156	
Bbl./Min. 9.98					

DRILLING FLUID SPECIFICATIONS

Type SATUR SALT	Weight 11.12	Vis. 40-44	Filtration 6-8	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 3015 72	Mud Cost Cumulative 129,499 20
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EQUIPMENT

Shale Shaker	☒ DD Shaker	☐ Desander	☒ Degasser	☐ Centrifuge	☐ Other
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MUD PROPERTIES

Time 0210 a.m.	Temp. Mud 125.30	Mud Sample Taken	Flowline	Pit
Weight of Mud lb/gal 12.1	Plastic Viscosity, cp @ 20	Yield Point, lb/100 sq ft 5	Gels, lb/100 sq ft., 10 Sec./10 min. 0/0	Calcium Ion; ppm 410
Viscosity, Sec./qt API @ 43	Alkalinity, API 2	Oil, % by Vol 6	Water, % by Vol 84	Liquid phase, Vol % oil/water 1
Funnel, ml, API 8.1	Electrical Stability, volts			
Filtrate, ml, API 10.6				
Filtrate, API HT-HP @ 5.4				
Cake, 32nd In. API HT-HP 2				
Sand Content 50				
Salt ppm 175,000				
Chloride ppm 175,000				
pH 7.2				
Solids, % by Vol 10				
Solids, av. sp. gr. 2.09				
ppb low gr. 7662				

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	18 MT BAROID	3 DRISPA C
	162 SALT	2 CM C
	15 FLO-60 L	3 AKIA FLO-5
	15 MILA	
	4 BILLOBI	

COMMENTS DRILLING	BAROID SALES ENGINEER		TELEPHONE
	NAME M. Stelzer + D. Doul.	MOBILE	
	HOME ADDRESS	HOME	
	STORE ADDRESS	STORE	

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 16 MAY 1968

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>ODECO</u>		Rig No. <u>0 VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>MEGAN</u>		Report for Mr. <u>DORSA</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1Y</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N. SEA</u>	
State/Province <u>NORWAY</u>		Mud Vol. Bbl. <u>760</u>		Circulation Data <u>64 15</u>	
Operation <u>Drilling (IRP)</u>		Hole Pits <u>700</u>		Annular Vel. Ft./Min. <u>226</u>	
Depth <u>12 200</u>		Pump Size <u>6 1/2 X 15</u> in.		Opp DP <u>3000</u> Opp Col.	
Bit Size in. <u>8 1/2</u> No. <u>34</u>		Total Circulating Vol. <u>1660</u>		Stand Pipe Press. psi <u>100</u>	
Intermediate <u>9 1/2</u> in. @ <u>10248</u> Ft.		Bbl./Cyc. <u>224</u>		Circulating Bottom Up, Min. <u>174</u>	
Drill Pipe Size <u>5</u>		Cyc./Min. <u>43</u>		Circulating Total, Min. <u>174</u>	
Production or Liner in. @ <u>10248</u> Ft.		In Storage <u>---</u>		Bbl./Min. <u>1.6</u>	
Drill Collar: Size <u>6 1/2</u> Length <u>123</u>		Wt. of Stored Mud <u>---</u>		Circulating Total, Min. <u>174</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>11</u>	Vis. <u>40-44</u>	Filtration <u>4-7cc</u>	Operator's Written ☐ Authority: ☐ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>21</u>
Operator's Rep. ☐				Mud Cost Cumulative <u>58</u>	

EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☐	Degasser ☐	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>0730</u> p.m. ☐	Temp. Mud <u>1200</u> °F	Mud Sample Taken ☐	Flowline ☐	Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present -	Plastic Viscosity, cp @ <u>---</u> °F	<u>17</u> <u>18</u> <u>20</u>	
Viscosity, Sec./qt API @ <u>---</u> °F	<u>12.1</u> <u>12</u> <u>11.7</u>	Yield Point, lb/100 sq ft	<u>5</u> <u>5</u> <u>6</u>	
Funnel, <u>---</u>	<u>41</u> <u>40</u> <u>44</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>0/0</u> <u>0.0</u> <u>0.2</u>	
Filtrate, ml, API	<u>10.4</u> <u>10</u> <u>9.5</u>	Calcium Ion; ppm ☐ epm ☐	<u>410</u> <u>400</u> <u>400</u>	
Filtrate, API HT-HP @ <u>---</u> °F	<u>---</u> <u>---</u> <u>---</u>	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ <u>NIL</u> <u>NIL</u> <u>NIL</u>		
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u> <u>2</u> <u>2</u>	{ Pm, cc N/50 H ₂ SO ₄ <u>2</u> <u>2</u> <u>2</u>		
Sand Content ☐ Sand only ☐ all solids % by Vol.	<u>.35</u> <u>.35</u> <u>.50</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐		
Salt ppm ☐ Chloride ppm ☐	<u>170000</u> <u>160000</u> <u>162000</u>	Oil..... % by Vol	<u>6</u>	
gpg ☐ electrode ☐ filtrate ☐	<u>7</u> <u>7</u> <u>7.3</u>	Water..... % by Vol	<u>83</u>	
pH indicator ☐ mud ☐	<u>---</u> <u>---</u> <u>---</u>	Liquid phase, Vol % oil/water	<u>1</u>	
Solids..... % by Vol	<u>11</u> <u>---</u> <u>---</u>	Electrical Stability, volts		
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>---</u> <u>---</u> <u>---</u>			
<u>RM @ 58 °F</u>	<u>.08</u> <u>---</u> <u>---</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED - USE D

<u>50</u>	<u>SALT</u>	<u>18 MT BAROID</u>
<u>9</u>	<u>CHL</u>	<u>15 FLOC-66L</u>
<u>5</u>	<u>HAISPA</u>	
<u>56</u>	<u>FLOSA</u>	
<u>56</u>	<u>BENTONITE</u>	

COMMENTS

<u>DRILLING</u>
<u>LAST 1000 BBLs mud.</u>
<u>Building volume 200 BBLs</u>

BAROID SALES ENGINEER

NAME <u>MAURICE STELTZ</u>	TELEPHONE <u>56474</u>
HOME ADDRESS <u>STAVANGER</u>	HOME <u>---</u>
STORE ADDRESS <u>Norvik Sea CH</u>	STORE <u>20012</u>

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 15 May 1968

Operator <u>PHILLIPS PETRO CO</u>		Contractor <u>ODECO</u>		Rig No. <u>0, VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIL</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>MELAN</u>		Report for Mr. <u>DORSAL</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-14</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N. SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>DRILLING</u>		Casing	
Depth <u>12050</u>		Surface in. @ Ft.		Mud Vol. Bbl.	
Bit Size in. <u>8 1/2</u>		Intermediate in. @ Ft. <u>7 1/8 10248</u>		Hole Pits <u>930 750</u>	
Drill Pipe Size <u>5</u>		Production in. @ Ft.		Total Circulating Vol. <u>1680</u>	
Drill Collar: Size Length <u>6 1/2 723</u>		In Storage		Bbl./Cyc. <u>224</u>	
		Wt. of Stored Mud		Cyc./Min. <u>88</u>	
				Bbl./Min. <u>8.5</u>	
				Annular Vel. Ft./Min. <u>178</u>	
				Opp DP <u>170</u>	
				Opp Col. <u>2700</u>	
				Stand Pipe Press. psi <u>107</u>	
				Circulating Bottom Up, Min. <u>107</u>	
				Circulating Total, Min. <u>178</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>11.2-12</u>	Vis. <u>40-44</u>	Filtration <u>6-10</u>	Operator's Written Operator's Rep. ☐	Authority: ☐ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>417 82</u>	Mud Cost Cumulative <u>123,703 37</u>
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☐	Centrifuge ☐	Other <u>LOGGING</u>
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MUD PROPERTIES

Time <u>06:00</u> a.m. ☐ p.m. ☐	Temp. Mud <u>150</u> °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present -	Plastic Viscosity, cp @ _____ °F	<u>18</u> <u>17</u>
Viscosity, Sec./qt API @ _____ °F	<u>40</u> <u>38</u>	Yield Point, lb/100 sq ft	<u>5</u> <u>4</u>
Filtrate, ml, API	<u>7.5</u> <u>8</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>0/0</u> <u>0/0</u>
Filtrate, API HT-HP @ _____ °F	<u>-</u> <u>-</u>	Calcium Ion; ppm ☐ epm ☐	<u>390</u> <u>390</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u> <u>2</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Pm, cc N/50 H ₂ SO ₄	<u>7</u> <u>7</u>
Sand Content ☐ Sand only ☐ all solids % by Vol	<u>.50</u> <u>.30</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>7</u>
Salt ppm ☐ gpg ☐ Chloride ppm ☐ gpg ☐	<u>18,100</u> <u>15,200</u>	Oil % by Vol	<u>83</u>
pH electrode ☐ indicator ☐	<u>7</u> <u>7</u>	Water % by Vol	<u>1</u>
Solids % by Vol	<u>10</u>	Liquid phase, Vol % oil/water	<u>1</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>.07</u>	Electrical Stability, volts	
<u>RHO 62°F</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

<u>2</u>	<u>MT BAROID</u>
<u>14</u>	<u>BENTONITE</u>
<u>14</u>	<u>FLOXAL</u>
<u>1</u>	<u>DRISPAK</u>
<u>2</u>	<u>CHE</u>

COMMENTS <u>DRILLING</u>
<u>1st 150 bbls. mud</u>
<u>Build 400 bbls</u>

BAROID SALES ENGINEER		TELEPHONE
NAME <u>MAURICE Stiller</u>	MOBILE	
HOME ADDRESS <u>STAVANGER</u>	HOME <u>56474</u>	
STORE ADDRESS <u>NORTH SEA EXP</u>	STORE <u>20012</u>	

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 14 MAY 19 68

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>O DECO</u>		Rig No. <u>O VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIL</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>MEGAN</u>		Report for Mr. <u>DORSAI</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1Y</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>DRILLING</u>		Casing	
Depth <u>11960</u>		Surface in. @ Ft. <u>130</u>		Pits <u>6000</u>	
Bit Size in. <u>8 1/2</u> No. <u>34</u>		Intermediate in. @ Ft. <u>9 1/2</u>		Total Circulating Vol. <u>1530</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft.		In Storage	
Drill Collar: Size <u>6 1/2</u> Length <u>723</u>		Wt. of Stored Mud		Bbl./Min. <u>10.3</u>	
Circulation Data		Annular Vel. Ft./Min.		Opp DP <u>235</u> Opp Col.	
Pump Size <u>674</u> in.		Stand Pipe Press, psi <u>2000</u>		Circulating Bottom Up, Min. <u>93</u>	
Cyc./Min. <u>46</u>		Circulating Total, Min. <u>147</u>			

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>11.7-12</u>	Vis. <u>40-44</u>	Filtration <u>6-10</u>	Operator's Written Operator's Rep. ☐	Authority: ☐ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>1057.32</u>	Mud Cost Cumulative <u>123.485</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☐	Centrifuge ☐	Other <u>Logging</u>
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MUD PROPERTIES

Time <u>0600</u> a.m. ☐ p.m. ☐	Temp. Mud <u>23.4</u>	Mud Sample Taken ☐	Flowline ☐	Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>12.1</u>	<u>12</u>	Plastic Viscosity, cp @ <u>17</u>	<u>16</u>
Viscosity, Sec./qt API @ <u>40</u>	<u>40</u>	<u>40</u>	Yield Point, lb/100 sq ft <u>4</u>	<u>4</u>
Filtrate, ml, API <u>2.4</u>	<u>9</u>	<u>9</u>	Gels, lb/100 sq ft., 10 Sec./10 min. <u>0/0</u>	<u>0/0</u>
Filtrate, API HT-HP @ <u>2</u>	<u>2</u>	<u>2</u>	Calcium Ion; ppm ☐ epm ☐ <u>380</u>	<u>380</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>40</u>	<u>50</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u>
Sand Content ☐ Sand only all solids % by Vol <u>40</u>	<u>50</u>	<u>50</u>	Pm, cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u>
Salt ppm ☐ gpg ☐ Chloride ppm ☐ gpg ☐	<u>128000</u>	<u>128000</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
pH electrode ☒ indicator ☐	<u>7</u>	<u>1</u>	Oil..... % by Vol <u>8</u>	
Solids..... % by Vol <u>10</u>			Water..... % by Vol <u>12</u>	
Solids, av. sp. gr. ☐ ppb low gr. ☐			Liquid phase, Vol % oil/water <u>1</u>	
<u>RH @ 57°F</u>	<u>.09</u>		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	<u>2 MT BAROID</u>
	<u>4 DRISPALE</u>
	<u>9 CMC</u>
	<u>3 AKTAFLOS</u>

COMMENTS <u>Drill Core</u>	BAROID SALES ENGINEER		TELEPHONE
	NAME <u>MAURICE STOLZEN</u>	MOBILE	
	HOME ADDRESS <u>STAVANGER</u>	HOME <u>56424</u>	
	STORE ADDRESS <u>NORTH BETHANY</u>	STORE <u>20012</u>	
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BAROID DIVISION NATIONAL LEAD COMPANY

Orlo office

DRILLING MUD REPORT

Date 13 MAR 1968

Operator PHILLIPS PETR CO		Contractor O DRACO		Rig No. 0 DRILLING	
Address STAVANGER		Address RIL		Spud Date 25 FEB	
Report for Mr. SEABOERN		Report for Mr. D'ORSAY		Sec. Twp. Rng.	
Well Name and No. 7-11-1V		Field or Block No. 7-11		County, Parish or Offshore Area N-5-E	
State/Province NORWAY		Casing		Mud Vol. Bbl.	
Operation 11740		Surface in. @ Ft.		Circulation Data	
Depth 11740		Hole Pits 925 400		Annular Vel. Ft./Min.	
Bit Size in. 8 1/2 No. 33		Intermediate 178 10248		Pump Size 64 X 18 in.	
Drill Pipe Size 5		Production in. @ Ft.		Opp DP 190 Opp Col.	
Drill Collar: Size 8 1/2 Length 723		In Storage		Stand Pipe Press, psi 2700	
		Wt. of Stored Mud		Circulating Bottom Up, Min. 108	
				Circulating Total, Min. 191	

DRILLING FLUID SPECIFICATIONS

Type SATUR SALT	Weight 11.7-12	Vis. 40-44	Filtration 8-10	Operator's Written Operator's Rep.	Authority: ☐ Drilling Contractor ☐ Other:	Mud Cost Daily 140.52	Mud Cost Cumulative 122,428.30
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EQUIPMENT

Shale Shaker	☐	DD Shaker	☐	Desander	☐	Degasser	☐	Centrifuge	☐	Other 1000 in. c
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MUD PROPERTIES

Time a.m. ☐ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐	Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present 12.1	Plastic Viscosity, cp @ °F 11		
Viscosity, Sec./qt API @ °F 44		Yield Point, lb/100 sq ft 6		
Filtrate, ml, API 8		Gels, lb/100 sq ft., 10 Sec./10 min. 0/1		
Filtrate, API HT-HP @ °F —		Calcium Ion; ppm ☐ epm ☐ 310		
Cake, 32nd In. API ☐ HT-HP ☐ 2		Alkalinity, API { Pf, cc N/50 H2SO4 7 Pm, cc N/50 H2SO4 7		
Sand Content ☐ Sand only all solids % by Vol .50		lb/bbl lime ☐ gyp ☐ CaCl2 ☐		
Salt ppm ☐ Chloride ppm ☐ 174000		Oil % by Vol 8		
pH electrode ☐ filtrate ☐ mud ☐ 7		Water % by Vol 81		
Solids % by Vol 11		Liquid phase, Vol % oil/water 1		
Solids, av. sp. gr. ☐ ppb low gr. ☐		Electrical Stability, volts		
KM @ 58°F .09				

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	2 MT DRILLING
	1 SK DRILLING

COMMENTS DRILLING	BAROID SALES ENGINEER NAME MAURICE STOLICA	TELEPHONE MOBILE 50470
	HOME ADDRESS STAVANGER	HOME 50470
	STORE ADDRESS NORWAY SEA CYC	STORE 50470

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BAROID DIVISION
NATIONAL LEAD COMPANY

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DRILLING MUD REPORT

Date 12 May 1968

Operator: PHILLIPS PETRO CO	Contractor: ODECO	Rig No. O'Viking
Address: STAVANGER	Address: RIG	Spud Date: 25 FEB
Report for Mr. SEA BOURN	Report for Mr. D'ORSAY	Sec. Twp. Rng.
Well Name and No. 7-11-1V	Field or Block No. 7-11	County, Parish or Offshore Area N-SEA
State/Province NORWAY	Operation: Drilling (For Bit)	Casing: in. @ Ft.
Depth: 11700	Surface: in. @ Ft.	Hole: 12.5 Pits 700
Bit Size in. 8 1/2 No. 33	Intermediate: 9 1/2 10098	Total Circulating Vol. 1625
Drill Pipe Size 5	Production in. @ Ft.	In Storage: 38
Drill Collar: Size 6 1/2 Length 722	Wt. of Stored Mud: 8.5	Bbl./Min. 38
Mud Vol. Bbl.	Circulation Data	Annular Vel. Ft./Min.
Pump Size 6 1/4 X 18	Opp DP 190	Opp Col. 375
Bbl./Cyc. 224	Stand Pipe Press. psi 2600	Circulating Bottom Up. Min. 108
Cyc./Min. 38	Circulating Total. Min. 191	

DRILLING FLUID SPECIFICATIONS:

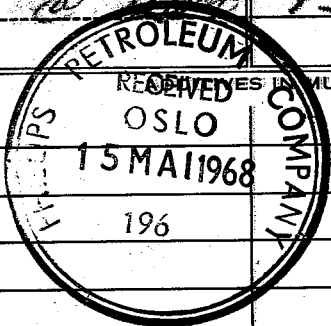
Type: SATUR SALF	Weight: 11.2-12	Vis: 40-44	Filtration: 8-10	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 1173.44	Mud Cost Cumulative 122,237.52
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EQUIPMENT:

Shale Shaker: ☒ DD Shaker	☐ Desander	☒ Degasser	☐ Centrifuge	☐ Other
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MUD PROPERTIES

Time: 0400 a.m. ☐ p.m. ☐	Temp. Mud: 33.0 °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present: 12.1	12.1	Plastic Viscosity, cp @ 7 °F 18 19
Viscosity, Sec./qt API @ 7 °F 39	41	Yield Point, lb/100 sq. ft. 5 6	
Funnel, 7.8	10	Gels, lb/100 sq. ft., 10 Sec./10 min. 0/0 0/0	
Filtrate, ml, API		Calcium Ion; ppm ☐ epm ☐ 370 370	
Filtrate, API HT-HP @ 7 °F		Alkalinity, API { PF, cc N/50 H ₂ SO ₄ 7 7	
Cake, 32nd In. API ☐ HT-HP ☐		{ Pm, cc N/50 H ₂ SO ₄ 7 7	
Sand Content ☐ Sand only ☐ all solids % by Vol .40 .45		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
Salt ppm ☐ Chloride ppm ☐	174000 178000	Oil % by Vol 8 8	
pH electrode ☐ filtrate ☐	7 7	Water % by Vol 81 82	
Solids % by Vol 11 10		Liquid phase, Vol % oil/water 1	
Solids, av. sp. gr. ☐ ppb low gr. ☐		Electrical Stability, volts	
RM @ 57 °F 4000	7538		
HM @ 120 °F			



MATERIALS RECOMMENDED

15 CMC	
1 MT BAROID	
51 FLOSAF	
81 BENTONITE	

COMMENTS

DRILLING

Build 1000 Gals. Volume

BAROID SALES ENGINEER

NAME MAURITZ STILICA	TELEPHONE
HOME ADDRESS STAVANGER	MOBILE 56470
STORE ADDRESS NORTH SEA Expl	STORE 20012

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 11 MAY 1968

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>O DECO</u>		Rig No. <u>0 Viking</u>	
Address <u>STAUNGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>SEA BOURN</u>		Report for Mr. <u>D'ORSANI</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>Drilling</u>		Casing	
Depth <u>11 800</u>		Surface in. @ Ft.		Mud Vol. Bbl.	
Bit Size in. No. <u>8 1/2 32</u>		Intermediate in. @ Ft. <u>10248</u>		Pits <u>8400</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft.		Total Circulating Vol. <u>1725</u>	
Drill Collar: Size Length <u>6 1/2 723</u>		Wt. of Stored Mud		Bbl./Min. <u>8.3</u>	
Circulation Data		Annular Vel. Ft./Min.		Opp DP <u>184</u> Opp Col.	
Pump Size <u>6 1/4 X 18</u>		Stand Pipe Press, psi <u>2800</u>		Circulating Bottom Up, Min. <u>99</u>	
Bbl./Cyc. <u>220</u>		Circulating Total, Min. <u>189</u>		Cyc./Min. <u>37</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>11.9-12</u>	Vis. <u>40-44</u>	Filtration <u>9-10</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>1631</u>	Mud Cost Cumulative <u>121,064</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>0800</u> a.m. ☐ p.m. ☐	Temp. Mud <u>141</u> °F	Mud Sample Taken <u>2400</u>	Flowline ☐ Pit ☐	
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present -	Plastic Viscosity, cp @ <u>18</u> °F	<u>17</u>	<u>19</u>
Viscosity, Sec./qt API @ <u>34</u> °F	<u>37</u>	Yield Point, lb/100 sq ft	<u>4</u>	<u>5</u>
Funnel, <u>8.8</u>	<u>8.4</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>0/0</u>	<u>0-0</u>
Filtrate, ml, API	<u>7.8</u>	Calcium Ion, ppm ☐ epm ☐	<u>370</u>	<u>380</u>
Filtrate, API HT-HP @ <u>2</u> °F	<u>2</u>	Alkalinity, API { Pf. cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u>	<u>7</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u>	Pm. cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u>	<u>7</u>
Sand Content ☐ Sand only ☐ all solids % by Vol <u>.50</u>	<u>.50</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>8</u>	<u>8</u>
Salt ppm ☐ Chloride ppm ☐	<u>181000</u>	Oil..... % by Vol	<u>82</u>	<u>81</u>
gpg ☐ filtrate ☐	<u>7</u>	Water..... % by Vol	<u>1</u>	
pH electrode ☐ mud ☐	<u>7</u>	Liquid phase, Vol % oil/water		
Solids..... % by Vol	<u>10</u>	Electrical Stability, volts		
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>11</u>			
<u>RM @ 60°F</u>	<u>.08</u>			
<u>HM @ 11</u>				

ADDITIVES IN MUD

MATERIALS RECOMMENDED - USED

<u>60 SALT</u>	
<u>2 MT BAROID</u>	
<u>60 SOLTEX</u>	
<u>9 FLOSAK</u>	
<u>20 BRL DIESEL</u>	

COMMENTS <u>Drilling</u> <u>DIFFICULT RAISING</u> <u>JULIOS 17</u> <u>BUILD 150 BBLs Volume</u>	BAROID SALES ENGINEER		TELEPHONE
	NAME <u>MAURICE SIELER</u>		MOBILE
	HOME ADDRESS <u>STAUNGER</u>		HOME <u>56470</u>
	STORE ADDRESS <u>NORTH SEA EXPL</u>		STORE <u>20012</u>

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 10 MAY 68

Operator <u>PHILLIPS PETR CO</u>	Contractor <u>O DECO</u>	Rig No. <u>0 VIKING</u>
Address <u>STAVANGER</u>	Address <u>RIG</u>	Spud Date <u>25 FEB</u>
Report for Mr. <u>SEA BOURN</u>	Report for Mr. <u>REDFORD</u>	Sec. <u> </u> Twp. <u> </u> Rng. <u> </u>

Well Name and No. <u>7-11-14</u>	Field or Block No. <u>7-11</u>	County, Parish or Offshore Area <u>N-SEA</u>	State/Province <u>NORWAY</u>
Operation <u>Drilling (Tripick)</u>	Casing <u> </u>	Mud Vol. Bbl. <u> </u>	Circulation Data <u>(Before Trip) (After)</u>
Depth <u>11724</u>	Surface in. @ <u> </u> Ft. <u> </u>	Hole Pits <u>920 700</u>	Pump Size X in. <u>6 1/4 18</u>
Bit Size in. <u>8 1/2</u> No. <u>31</u>	Intermediate in. @ <u>978 10248</u> Ft. <u> </u>	Total Circulating Vol. <u>1620</u>	Bbl./Cyc. <u>1224</u>
Drill Pipe Size <u>5</u>	Production or Liner in. @ <u> </u> Ft. <u> </u>	In Storage <u> </u>	Cyc./Min. <u>42 37</u>
Drill Collar: Size <u>6 1/2</u> Length <u>723</u>	Wt. of Stored Mud <u> </u>	Bbl./Min. <u>9.4 8.3</u>	Stand Pipe Press, psi <u>3000 3000</u>
			Circulating Bottom Up, Min. <u>98</u>
			Circulating Total, Min. <u>177</u>

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>11.9-12</u>	Vis. <u>40-44</u>	Filtration <u>9-10</u>	Operator's Written Operator's Rep. <u> </u>	Authority: ☐ Drilling Contractor ☐ Other: <u> </u>	Mud Cost Daily <u>4619.64</u>	Mud Cost Cumulative <u>119,432.31</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>0800</u> a.m. ☐ p.m. ☐	Temp. Mud <u>120°F</u>	Mud Sample Taken <u> </u>	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present - <u>12.1 12.1 12.1</u>	Plastic Viscosity, cp @ <u> </u> °F <u>22 23 22</u>	
Viscosity, Sec./qt API @ <u> </u> °F <u>41 43 41</u>		Yield Point, lb/100 sq ft <u>6 7 5</u>	
Funnel, ml, API <u>7.9 8 8.1</u>		Gels, lb/100 sq ft., 10 Sec./10 min. <u>0/1 0-2 0-0</u>	
Filtrate, ml, API <u> </u>		Calcium Ion, ppm ☒ epm ☐ <u>380 380 370</u>	
Cake, 32nd In. API ☐ HT-HP ☐	<u>2 2 2</u>	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ <u>7 7 7</u> Pm, cc N/50 H ₂ SO ₄ <u>7 7 7</u>	
Sand Content ☐ Sand only ☐ all solids % by Vol <u>.50 .50 .50</u>		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
Salt ppm ☐ Chloride ppm ☐	<u>190000 188000 18500</u>	Oil % by Vol <u>7 8</u>	
pH electrode ☐ filtrate ☐ mud ☐	<u>7.1 7.1 7</u>	Water % by Vol <u>81 80</u>	
Solids % by Vol <u>12 12</u>		Liquid phase, Vol % oil/water <u>1</u>	
Solids, av. sp. gr. ☐ ppb low gr. ☐		Electrical Stability, volts <u> </u>	
<u>Rm @ 60°F</u> <u>.09 60°F .08</u>			
<u>HH @ 11800</u> <u>7309</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

<u>14 MT BAROID</u>
<u>11 CMC</u>
<u>4 DRISPA</u>
<u>20 FLOSA</u>
<u>50 SALT</u>

COMMENTS <u>DRILLING MUD</u>

BAROID SALES ENGINEER		TELEPHONE
NAME <u>MAURIE STELZER</u>	MOBILE <u>564741</u>	
HOME ADDRESS <u>STAVANGER</u>	HOME <u>20012</u>	
STORE ADDRESS <u>NORWAY SEA FUEL</u>	STORE <u>20012</u>	

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 9 MAY 1968

Operator <u>PHILLIPS PERK CO</u>		Contractor <u>O DECO</u>		Rig No. <u>O. VIKIN</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>SEABOURN</u>		Report for Mr. <u>REDFORD</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-14</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>Drilling</u>		Casing	
Depth <u>11615</u>		Mud Vol. Bbl. <u>920</u>		Pits <u>750</u>	
Surface in. @ Ft. <u>1 1/2</u>		Hole in. @ Ft. <u>1 1/2</u>		Pump Size <u>6 1/4 X 18</u>	
Bit-Size in. No. <u>3</u>		Total Circulating Vol. <u>1670</u>		Bbl./Cyc. <u>220</u>	
Intermediate in. @ Ft. <u>1 1/2</u>		In Storage <u>100</u>		Cyc./Min. <u>40</u>	
Drill Pipe Size <u>5</u>		Wt. of Stored Mud <u>12</u>		Bbl./Min. <u>8.9</u>	
Drill Collar: Size <u>6 1/2</u> Length <u>723</u>					

DRILLING FLUID SPECIFICATIONS

Type <u>SATURATED</u>	Weight <u>12.4</u>	Vis. <u>44</u>	Filtration <u>9-10 cc</u>	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>4100.00</u>
Operator's Written Operator's Rep. ☐					Mud Cost Cumulative <u>117,813.00</u>

EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>0700</u> ☐ a.m. ☐ p.m. ☐	Temp. Mud <u>120</u>	Sample Taken ☐	Flowline ☐	Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present -			
Viscosity, Sec./qt API @ <u>30</u> °F	<u>11.9</u>	<u>12</u>	<u>12</u>	Plastic Viscosity, cp @ <u>30</u> °F
Funnel, <u>38</u>	<u>38</u>	<u>37</u>	<u>43</u>	Yield Point, lb/100 sq ft
Filtrate, ml, API	<u>10.8</u>	<u>11.2</u>	<u>8</u>	Gels, lb/100 sq ft., 10 Sec./10 min.
Filtrate, API HT-HP @ <u>30</u> °F	<u>10.8</u>	<u>11.2</u>	<u>8</u>	Calcium Ion; ppm ☐ epm ☐
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u>	<u>2</u>	<u>2</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄
Sand Content ☐ Sand only ☐ all solids % by Vol	<u>.35</u>	<u>.35</u>	<u>.35</u>	{ Pm, cc N/50 H ₂ SO ₄
Salt ppm ☐ Chloride ppm ☐	<u>174000</u>	<u>117000</u>	<u>170000</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐
pH electrode ☐ indicator ☐	<u>7.1</u>	<u>7.1</u>	<u>7.1</u>	Oil..... % by Vol
Solids..... % by Vol	<u>12</u>			Water..... % by Vol
Solids, av. sp. gr. ☐ ppb low gr. ☐				Liquid phase, Vol % oil/water
<u>RM @ 60°F</u>	<u>.077</u>			Electrical Stability, volts
<u>HN @ 11000</u>	<u>7226</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED - USED

	<u>14 BBL'S BITULUBE</u>
	<u>174 SALT</u>
	<u>3 DRISPALE</u>
	<u>50 SOLTEX</u>
	<u>7 CMC</u>
	<u>20 BBL'S DIESEL</u>
	<u>3 AKTA FLO</u>

COMMENTS	BAROID SALES ENGINEER	TELEPHONE
<u>DRILLING</u>	NAME <u>MAURICE SELTZER</u>	MOBILE
<u>ADDING CMC & DRISPALE FOR</u>	HOME ADDRESS <u>STAVANGER</u>	HOME <u>56474</u>
<u>FILTRATE TOWARD</u>	STORE ADDRESS <u>ALORIN SON & SONS</u>	STORE <u>20012</u>
<u>BUILDING VOLUME</u>		

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **8 MAY 1968**

Operator PHILLIPS PETRO CO	Contractor ODECO	Rig No. 0 VIKING
Address STAVANGER	Address RIL	Spud Date 25 FEB
Report for Mr. SEA BUCK	Report for Mr. REDFORD	Sec. --- Twp. --- Rng. ---

Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area N. SEA	State/Province NORWAY
Operation Drilling	Casing	Mud Vol. Bbl.	Circulation Data
Depth 11566	Surface in. @ --- Ft. ---	Hole 9 1/8 Pits 700	Pump Size 6 1/2 X 1 1/2 in.
Bit Size in. 8 1/2 No. 29	Inter-mediate in. @ 1 1/8 10248	Total Circulating Vol. 1610	Bbl./Cyc. 22 1/2
Drill Pipe Size 5	Production or Liner in. @ --- Ft. ---	In Storage	Cyc./Min. 40
Drill Collar: Size 2 1/8 Length 723	Wt. of Stored Mud	Bbl./Min. 8.7	Annular Vel. Ft./Min. ---
			Opp DP 197 Opp Col. ---
			Stand Pipe Press, psi 3000
			Circulating Bottom Up, Min. 102
			Circulating Total, Min. 125

DRILLING FLUID SPECIFICATIONS

Type SATUR SALT	Weight 117.12	Vis. 40-44	Filtration 9-10 sec	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 933.54	Mud Cost Cumulative 113,713.02
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐ LOGGING
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MUD PROPERTIES

Time 0500 ☐ a.m. ☐ p.m. ☐	Temp. Mud 190°F	Mud Sample Taken 2300	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present - 12 12.1 21	Plastic Viscosity, cp @ --- °F	24 21 20
Viscosity, Sec./qt API @ --- °F	45 44 42	Yield Point, lb/100 sq ft	12 8 6
Funnel, ---	10 11 8.4	Gels, lb/100 sq ft., 10 Sec./10 min.	116 1.4 0
Filtrate, ml, API	---	Calcium Ion; ppm ☐ epm ☐	380 310 7
Filtrate, API HT-HP @ --- °F	2 2 2	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ 7 Pm, cc N/50 H ₂ SO ₄ 7	7 7 7
Cake, 32nd In. API ☐ HT-HP ☐	50 40 35	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	6 81 1
Sand Content ☐ Sand only ☐ all solids % by Vol	18500 18400 17800	Oil..... % by Vol	---
Salt ppm ☐ Chloride ppm ☒	7 7 7	Water..... % by Vol	---
gpg ☐ filtrate ☐	---	Liquid phase, Vol % oil/water	---
pH electrode ☐ indicator ☐ mud ☐	---	Electrical Stability, volts	---
Solids..... % by Vol	13		
Solids, av. sp. gr. ☐ ppb low gr. ☐	---		
RM @ 59°F	.07		

ADDITIVES IN MUD

MATERIALS RECOMMENDED **USED**

	74 SALT
	21 FLO SALT
	21 BENTONITE
	7 HT BAROID

COMMENTS Drilling Adding CME / Dispac For Filtrate Control. SALTING UP	BAROID SALES ENGINEER	TELEPHONE
	NAME HAURIE Seltzer	MOBILE
	HOME ADDRESS STAVANGER	HOME 56474
	STORE ADDRESS North Sea Exp	STORE 20012

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **7 MAY 19 68**

Operator PHILLIPS PETRO CO		Contractor ODECO		Rig No. O VIKING	
Address STAVANGER		Address RIL		Spud Date 25 FEB	
Report for Mr. SEABURN		Report for Mr. RED FORD		Sec. Twp. Bag	
Well Name and No. 7-11-1V		Field or Block No. 7-11		County, Parish or Offshore Area N-SEA	
State/Province NORWAY		Operation DRILLING		Casing	
Depth 11460		Surface in. @ 900 Pits 650		Pump Size 6 1/4 X 18	
Bit Size in. 8 1/2 No. 10242		Total Circulating Vol. 1550		Bbl./Cyc. 224	
Drill Pipe Size 5		In Storage -		Cyc./Min. 40	
Drill Collar: Size 6 1/2 Length 620		Wt. of Stored Mud -		Bbl./Min. 8.7	
Annular Vel. Ft./Min. 197		Opp DP 197		Opp Col. 197	
Stand Pipe Press, psi 3000		Circulating Bottom Up, Min. 102		Circulating Total, Min. 175	

DRILLING FLUID SPECIFICATIONS

Type SATUR SALT	Weight 11.9	Vis. 40	Filtration 9-10 cc	Operator's Written Operator's Rep. ☐	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 620	Mud Cost Cumulative 112 777 42
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☐	Other LOGGING
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MUD PROPERTIES

Time 0200 ☐ a.m. ☐ p.m. ☐	Temp. Mud 20.0	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present 11.9	Plastic Viscosity, cp @ 19	17
Viscosity, Sec./qt API @ 39	37	Yield Point, lb/100 sq ft 6	5
Filtrate, ml, API 9	9.4	Gels, lb/100 sq ft., 10 Sec./10 min. 0/1	0/1
Filtrate, API HT-HP @ -	-	Calcium Ion; ppm ☐ epm ☐	400
Cake, 32nd In. API ☐ HT-HP ☐	2	Alkalinity, API ☐ PF, cc N/50 H ₂ SO ₄ 7	7
Sand Content ☐ Sand only ☐ all solids % by Vol .50	.50	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2
Salt ppm ☐ Chloride ppm ☐	178000	Oil % by Vol 6	
pH electrode ☐ filtrate ☐ mud ☐	7	Water % by Vol 82	
Solids % by Vol 12		Liquid phase, Vol % oil/water 1	
Solids, av. sp. gr. ☐ ppb low gr. ☐	.08	Electrical Stability, volts	
RM @ 58°F			

ADDITIVES IN MUD

MATERIALS RECOMMENDED USE

13 CMC	
6 DRISPAE	
4 FLOSAE	
4 BENIONITE	
1 MT BAROID	

COMMENTS Drilling
Adding Flosal 1 Benionite
For viscosity 17.1 adding salt

BAROID SALES ENGINEER		TELEPHONE
NAME MAURICE STELLER	MOBILE	
HOME ADDRESS STAVANGER	HOME 56474	
STORE ADDRESS North Sea Exp	STORE 20012	

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BAROID DIVISION

NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 6 May 1968

Operator PHILLIPS PETR CO		Contractor ODECO		Rig No. 0 VIKING	
Address STAVANGER		Address RIL		Spud Date 25 FEB	
Report for Mr. BOYD		Report for Mr. REDFORD		Sec. Twp. Rng.	
Well Name and No. 2-11-14		Field or Block No. 7-11		County, Parish or Offshore Area N-SEA	
State/Province NORWAY		Operation Drilling (Test Run)		Casing	
Depth 11400		Surface in. @ Ft. 12 1/8 @ 6572		Mud Vol. Bbl. 9400 7000	
Bit Size in. No. 8 1/2 31		Intermediate in. @ Ft. 9 7/8 @ 10248		Circulation Data Pump Size 6 1/4 X 18 in.	
Drill Pipe Size 5		Production or Liner in. @ Ft.		Bbl./Cyc. 224	
Drill Collar: Size Length 6 1/2 630		In Storage 1800		Cyc./Min. 43	
		Wt. of Stored Mud 12		Bbl./Min. 9.5	
				Annular Vel. Ft./Min. 159	

DRILLING FLUID SPECIFICATIONS

Type SALT	Weight 12	Vis. 40-44	Filtration 100/100	Authority: Operator's Written Operator's Rep.	☐ Drilling Contractor ☐ Other	Mud Cost Daily 1758.40	Mud Cost Cumulative 112159.03
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EQUIPMENT

Shale Shaker	☐ DD Shaker	☐ Desander	☒ Degasser	☐ Centrifuge	☐ Other 1066106
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MUD PROPERTIES

Time 0700 a.m. ☐ p.m. ☐	Temp. Mud °F 240	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present 12.1	12.2	Plastic Viscosity, cp @ °F 20 21
Viscosity, Sec./qt API @ °F	40	39	Yield Point, lb/100 sq ft 7 1
Funnel, ml, API	6.2	8	Gels, lb/100 sq ft., 10 Sec./10 min. 0/1 0-2
Filtrate, API HT-HP @ °F	-	-	Calcium Ion; ppm ☐ epm ☐ 370 380
Cake, 32nd In. API ☐ HT-HP ☐	2	2	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ 7 7 Pm, cc N/50 H ₂ SO ₄
Sand Content ☐ Sand only ☐ all solids % by Vol	40	50	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐
Salt ppm ☐ Chloride ppm ☒	183000	180000	Oil % by Vol 7
pH electrode ☐ filtrate ☐ mud ☐	7.1	7.1	Water % by Vol 88
Solids % by Vol	12		Liquid phase, Vol % oil/water 1
Solids, av. sp. gr. ☐ ppb low gr. ☐			Electrical Stability, volts
RM @ 52°F	1.078		

ADDITIVES IN MUD

MATERIALS RECOMMENDED

378 SALT	
9 DRISPA	
14 CMC	
4 M.T. BAROID	

COMMENTS
Drilling
ADDITIVE DRISPA, CMC
FOR FILTRATE CONTROL.
ADDING BENZONITE AND
FLUAT FOR VISCOSITY

BAROID SALES ENGINEER		TELEPHONE
NAME	MAURICE SUTHER	MOBILE
HOME ADDRESS	STAVANGER	HOME
STORE ADDRESS	NORTH SEA OIL	STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 5 MAY 19 68

Operator <u>PHILLIPS PETRO</u>		Contractor <u>ODECO</u>		Rig No. <u>0 VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>Boyd</u>		Report for Mr. <u>REDFORD</u>		Sec. <u> </u> Twp. <u> </u> Rng. <u> </u>	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Mud Vol. Bbl. <u>860</u>		Circulation Data <u>644 18</u>	
Operation <u>TRIP FOR BIT</u>		Mud Vol. Bbl. <u>700</u>		Annular Vel. Ft./Min. <u>212</u>	
Depth <u>11330</u>		Hole Pits <u>860 700</u>		Pump Size <u>644 18</u>	
Surface in. @ Ft. <u> </u>		Total Circulating Vol. <u>1460</u>		Opp DP <u>312</u> Opp Col. <u> </u>	
Bit Size in. <u>9 1/2</u> No. <u> </u>		Bbl./Cyc. <u>224</u>		Stand Pipe Press, psi <u>3000</u>	
Intermediate in. @ Ft. <u>9 7/8 100 48</u>		Cyc./Min. <u>43</u>		Circulating Bottom Up, Min. <u>90</u>	
Drill Pipe Size <u>5</u>		In Storage <u>100</u>		Circulating Total, Min. <u>153</u>	
Production or Liner in. @ Ft. <u> </u>		Wt. of Stored Mud <u>12</u>		Bbl./Min. <u>9.5</u>	
Drill Collar: Size <u>6 1/2</u> Length <u>630</u>					

DRILLING FLUID SPECIFICATIONS

Type <u>SATUR SALT</u>	Weight <u>12</u>	Vis. <u>40-48</u>	Filtration <u>10 OR LESS</u>	Operator's Written <u> </u>	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>1425 65</u>
						Mud Cost Cumulative <u>110401 65</u>

EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☐	Other <u>1066ING</u>
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MUD PROPERTIES

Time <u>0645</u> a.m. ☐ p.m. ☐	Temp. Mud <u>1300 F</u>	Sample Taken <u>24000</u>	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>12</u> <u>12.1</u> <u>12.1</u>	Plastic Viscosity, cp @ <u> </u> °F	<u>22</u> <u>23</u> <u>20</u>
Viscosity, Sec./qt API @ <u> </u> °F	<u>46</u> <u>47</u> <u>46</u>	Yield Point, lb/100 sq ft	<u>10</u> <u>11</u> <u>10</u>
Funnel, <u> </u>	<u>7.4</u> <u>11.2</u> <u>9.6</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>1/6</u> <u>2-6</u> <u>1-5</u>
Filtrate, ml, API	<u> </u> <u> </u> <u> </u>	Calcium Ion; ppm ☐ epm ☐	<u>410</u> <u>380</u> <u>380</u>
Filtrate, API HT-HP @ <u> </u> °F	<u>2</u> <u>3</u> <u>3</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u> <u>7</u> <u>7</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>.50</u> <u>.40</u> <u>.40</u>	Pm, cc N/50 H ₂ SO ₄ <u>7</u>	<u>7</u> <u>7</u> <u>7</u>
Sand Content ☐ Sand only ☐ all solids % by Vol	<u>161000</u> <u>188000</u> <u>186000</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>7</u> <u>80</u> <u>1</u>
Salt ppm ☐ Chloride ppm ☐	<u>7.2</u> <u>7.1</u> <u>7.1</u>	Oil..... % by Vol	<u>7</u> <u>80</u> <u>1</u>
gpg ☐ electrode ☐ filtrate ☐	<u>13</u> <u> </u> <u> </u>	Water..... % by Vol	<u>7</u> <u>80</u> <u>1</u>
pH indicator ☐ mud ☐	<u>.07</u> <u> </u> <u> </u>	Liquid phase, Vol % oil/water	<u>7</u> <u>80</u> <u>1</u>
Solids..... % by Vol	<u> </u> <u> </u> <u> </u>	Electrical Stability, volts	<u>7</u> <u>80</u> <u>1</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u> </u> <u> </u> <u> </u>		<u>7</u> <u>80</u> <u>1</u>
<u>RM @ 60°F</u>	<u> </u> <u> </u> <u> </u>		<u>7</u> <u>80</u> <u>1</u>

ADDITIVES IN MUD

MATERIALS RECOMMENDED USED

	<u>340 SALT</u>
	<u>2MT BAROID</u>
	<u>2 DESCO</u>
	<u>20 SOLTEY</u>
	<u>100 BBLs DIESEL</u>

COMMENTS
Unilliant, adding CMC
DRISPA FOR FILTRATE
CONTROL. SALTING UP

BAROID SALES ENGINEER		TELEPHONE
NAME	<u>MAURICE STELZER</u>	MOBILE
HOME ADDRESS	<u>STAVANGER</u>	HOME <u>56474</u>
STORE ADDRESS	<u>NORTH SEA EXP</u>	STORE <u>20012</u>

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 4 MAY 19 68

Operator <u>PHILLIPS PETR Co</u>	Contractor <u>ODECO</u>	Rig No. <u>0 VIKING</u>
Address <u>STAVANGER</u>	Address <u>RIG</u>	Spud Date <u>25 FEB</u>
Report for Mr. <u>BOYD</u>	Report for Mr. <u>REDFORD</u>	Sec. Twp. Rng.

Well Name and No. <u>7-11-1V</u>	Field or Block No. <u>7-11</u>	County, Parish or Offshore Area <u>N. SEA</u>	State/Province <u>NORWAY</u>
Operation <u>DRILL</u>	Casing <u>11193</u>	Mud Vol. Bbl. <u>850</u>	Circulation Data <u>700</u>
Depth <u>11193</u>	Surface in. @ <u>8 1/2</u>	Pump Size <u>6 3/4 X 18</u>	Annular Vel. Ft./Min. <u>205</u>
Bit Size in. No. <u>8 1/2</u>	Intermediate in. @ <u>9 3/4 10248</u>	Total Circulating Vol. <u>1550</u>	Stand Pipe Press, psi <u>3000</u>
Drill Pipe Size <u>5</u>	Production or Liner in. @ <u>5</u>	In Storage <u>40</u>	Circulating Bottom Up, Min. <u>96</u>
Drill Collar: Size Length <u>6 1/2</u>	Wt. of Stored Mud <u>9</u>	Bbl./Min. <u>9</u>	Circulating Total, Min. <u>174</u>

DRILLING FLUID SPECIFICATIONS

Type <u>SALT</u>	Weight <u>12.0</u>	Vis. <u>40-50</u>	Filtration <u>10 cc/100 ml</u>	Operator's Written Operator's Rep. ☐	Authority: ☒ Drilling Contractor ☐ ☐ Other	Mud Cost Daily <u>31.35 85</u>	Mud Cost Cumulative <u>108,976 00</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>0645</u> a.m. ☐ p.m. ☐	Temp. Mud <u>124.5</u>	Sample Taken <u>1700</u>	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present -	Plastic Viscosity, cp @ <u>70</u> °F	<u>21</u> <u>21</u> <u>21</u>
Viscosity, Sec./qt API @ <u>70</u> °F	<u>12.1</u> <u>12.1</u> <u>12</u>	Yield Point, lb/100 sq ft	<u>9</u> <u>10</u> <u>8</u>
Funnel, <u>43</u>	<u>41</u> <u>44</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>1/4</u> <u>1-5</u> <u>0-3</u>
Filtrate, ml, API	<u>6.8</u> <u>6</u> <u>7.1</u>	Calcium Ion, ppm ☐ epm ☐	<u>400</u> <u>400</u> <u>410</u>
Filtrate, API HT-HP @ <u>70</u> °F	<u>-</u> <u>-</u> <u>-</u>	Alkalinity, API { Pf, cc N/50 H2SO4	<u>2</u> <u>7</u> <u>7</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u> <u>2</u> <u>2</u>	{ Pm, cc N/50 H2SO4	<u>-</u> <u>7</u> <u>7</u>
Sand Content ☐ Sand only ☐ all solids % by Vol	<u>.50</u> <u>.50</u> <u>.50</u>	lb/bbl lime ☐ gyp ☐ CaCl2 ☐	<u>-</u> <u>7</u> <u>7</u>
Salt ppm ☐ Chloride ppm ☒	<u>91000</u> <u>104000</u> <u>132000</u>	Oil, % by Vol	<u>2</u> <u>7</u>
gpg ☐ filtrate ☒	<u>7.2</u> <u>7.2</u> <u>7.2</u>	Water, % by Vol	<u>84</u> <u>81</u>
pH indicator ☒ mud ☐	<u>14</u> <u>12</u>	Liquid phase, Vol % oil/water	<u>1</u>
Solids, % by Vol	<u>123</u>	Electrical Stability, volts	
Solids, av. sp. gr. ☐ ppb low gr. ☐			
<u>RM @ 54°</u>			

ADDITIVES IN MUD

	<u>37 DESLO</u>
	<u>2 CML</u>
	<u>17 DRISPAL</u>
	<u>208 SALT</u>
	<u>3 AKTA FLO-S</u>

MATERIALS RECOMMENDED USED

COMMENTS <u>(TRIP FOR BIT)</u> <u>DRILLING AHEAD ADDING SALT.</u> <u>ADDING DIESEL + SOLTIX</u>	BAROID SALES ENGINEER NAME <u>MAURICE STELZER</u> HOME ADDRESS <u>STAVANGER</u> STORE ADDRESS <u>NORTHSEA EYD</u>	TELEPHONE MOBILE <u>56474</u> HOME <u>20012</u>
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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 3 May 1968

Operator <u>Phillips Pet. Co.</u>		Contractor <u>ODECO</u>		Rig No. <u>Viking</u>	
Address <u>Stavanger</u>		Address <u>Riz</u>		Spud Date <u>25 Feb</u>	
Report for Mr. <u>Mega</u>		Report for Mr. <u>Reifford</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N. Sea</u>	
State/Province <u>Norway</u>		Operation <u>Daily Trip for bit</u>		Casing	
Depth <u>11057</u>		Surface in. @ Ft.		Hole <u>850</u> Pits <u>600</u>	
Bit Size in. <u>8 1/2</u> No.		Intermediate <u>990</u> in. @ <u>10240</u> Ft.		Total Circulating Vol. <u>1450</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft.		In Storage <u>—</u>	
Drill Collar: Size Length		Wt. of Stored Mud <u>—</u>		Bbl./Min. <u>9.6</u>	
Circulation Data		Annular Vel. Ft./Min.		Opp DP <u>224</u> Opp Col.	
Pump Size <u>6 1/4 X 18</u> in.		Stand Pipe Press. psi <u>3000</u>		Circulating Bottom Up, Min. <u>89</u>	
Cyc./Min. <u>43</u>		Circulating Total, Min. <u>151</u>			
Bbl./Min. <u>9.6</u>					

DRILLING FLUID SPECIFICATIONS

Type <u>Salt</u>	Weight <u>12.0</u>	Vis. <u>40-50</u>	Filtration <u><10 cc</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>1954.62</u>	Mud Cost Cumulative <u>105840.15</u>
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time <u>0600</u> a.m. ☒ p.m. ☐	Temp. Mud <u>1700</u> °F <u>3000</u>	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present <u>12.2</u> <u>12.2</u> <u>12.1</u>	Plastic Viscosity, cp @ <u>—</u> °F	<u>16</u> <u>18</u>
Viscosity, Sec./qt API @ <u>—</u> °F	<u>44</u> <u>48</u> <u>43</u>	Yield Point, lb/100 sq ft	<u>14</u> <u>11</u>
Filtrate, ml, API	<u>11.8</u> <u>10</u> <u>8</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>8/27</u> <u>4/15</u>
Filtrate, API HT-HP @ <u>—</u> °F	<u>—</u> <u>—</u> <u>—</u>	Calcium Ion; ppm ☒ epm ☐	<u>380</u> <u>400</u>
Cake, 32nd in. API ☒ HT-HP ☐	<u>3/32</u> <u>3</u> <u>2</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>N.I</u> <u>NIL</u>	<u>2</u> <u>2</u>
Sand Content ☐ Sand only ☒ All solids % by Vol	<u>0.5</u> <u>.50</u> <u>.50</u>	Pm, cc N/50 H ₂ SO ₄	
Salt ppm ☐ Chloride ppm ☒	<u>89000</u> <u>8500</u> <u>8400</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
gpg ☐ electrode ☒ filtrate ☐ mud ☒	<u>7.0</u> <u>7.</u> <u>7.2</u>	Oil..... % by Vol	<u>2</u>
pH indicator ☒		Water..... % by Vol	<u>83</u>
Solids..... % by Vol	<u>15</u>	Liquid phase, Vol % oil/water	<u>1</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>0.12</u>	Electrical Stability, volts	
<u>Rm @ 56°F</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

<u>92 Sx. Desco</u>	
<u>228 Sx Salt</u>	
<u>2 M.T. Bayte</u>	

COMMENTS

Drilling ahead adding salt.
No major problems controlling flow
properties. Adding Dunsap to assist
in filtration control

BAROID SALES ENGINEER

NAME <u>Devlin</u>	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Osc

Date 2 May 19 68

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address Ris		Spud Date 25 Feb	
Report for Mr. Megath		Report for Mr. Doo		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County Parish or Offshore Area. NT Sea	
State/Province Norway		Casing		Mud Vol. Bbl.	
Depth 10910		Surface in. @ Ft.		Circulation Data	
Hole 840 Pits 600		Pump Size 6 1/4 X 18 in.		Annular Vel. Ft./Min.	
Bit Size in. 8 1/2 No.		Inter-mediate 9 1/2 in. @ 10248 Ft.		Total Circulating Vol. 1440	
Drill Pipe Size 5		Production or Liner in. @		Bbl./Cyc. .224	
Drill Collar: Size Length		Wt. of Stored Mud		Cyc./Min. 40	
				Stand Pipe Press. psi 3000	
				Circulating Bottom Up, Min. 95	
				Circulating Total, Min. 161	

DRILLING FLUID SPECIFICATIONS

Weight 12.0	Vis. 40-50	Filtration <10cc	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 1738 31
					Mud Cost Cumulative 103885 53

EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0630 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☒
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.0 12.1	Plastic Viscosity, cp @ °F	19 17
Viscosity, Sec./qt API @ °F	45 46	Yield Point, lb/100 sq ft	16 23
Filtrate, ml, API	9.0 9.6	Gels, lb/100 sq ft., 10 Sec./10 min.	7/32 12/40
Filtrate, API HT-HP @ °F	— —	Calcium Ion; ppm ☒ epm ☐	380
Cake, 32nd In. API ☒ HT-HP ☐	3/32 3/32	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ N.1	7
Sand Content ☐ Sand only ☒ All solids % by Vol	0.5 0.5	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2
Salt ppm ☐ Chloride ppm ☒	57000 70000	Oil % by Vol	3
pH electrode ☒ indicator ☐	7.0 7.0	Water % by Vol	81
Solids % by Vol	16	Liquid phase, Vol % oil/water	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.15	Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	248 Sx. Salt
	38 Sx. Desco
	3 MT. Bayte

COMMENTS Drilling ahead adding salt, seawater, + Desco. Yield point & gels increasing while mixing, but not severely. Viscosity breaking back somewhat on circulation through holes during trips.	BAROID SALES ENGINEER	TELEPHONE
	NAME Devlin	MOBILE
	HOME ADDRESS	HOME
	STORE ADDRESS	STORE

THIS COPY TO CONTRACTOR

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **30 April 68**

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address R. 1		Spud Date 25 Feb.	
Report for Mr. Seabour		Report for Mr. Dorsey		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County, Offshore Area N. Sea	
State/Province Norway		Casing		Mud Vol. Bbl.	
Depth 10578		Surface in. @ 9 1/8 Ft. @ 10298		Hole 830 Pits 600	
Bit Size in. 8 1/2 No.		Intermediate 9 1/8 in. @ 10298 Ft.		Total Circulating Vol. 1430	
Drill Pipe Size 5		Production or Liner in. @		In Storage —	
Drill Collar: Size Length		Wt. of Stored Mud —		Circulation Data	
				Pump Size 674 in.	
				Bbl./Cyc. .229	
				Cyc./Min. 40	
				Bbl./Min. 8.9	
				Annular Vel. Ft./Min. 192	
				Opp DP 192 Opp Col.	
				Stand Pipe Press. psi 3000	
				Circulating Bottom Up. Min. 43	
				Circulating Total. Min. 161	

DRILLING FLUID SPECIFICATIONS

Seawater	Weight 12.0	Vis. 40	Filtration 410cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 332.00	Mud Cost Cumulative 101461.39
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0530 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.1 12.1	Plastic Viscosity, cp @ _____ °F	22
Viscosity, Sec./qt API @ _____ °F	39 38	Yield Point, lb/100 sq ft	4
Filtrate, ml, API	6.4 6.0	Gels, lb/100 sq ft., 10 Sec./10 min.	3/6
Filtrate, API HT-HP @ _____ °F	— —	Calcium Ion; ppm ☒ epm ☐	420
Cake, 32nd In. API ☒ HT-HP ☐	2/32 2/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄	M.1
Sand Content ☒ and only all solids % by Vol	0.75 0.75	{ Pm, cc N/50 H ₂ SO ₄	2
Salt ppm ☐ Chloride ppm ☐	22000 22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	4
pH electrode ☒ filtrate ☐ mud ☐	16	Oil..... % by Vol	80
Solids..... % by Vol	—	Water..... % by Vol	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35	Liquid phase, Vol % oil/water	—
Amo 65°		Electrical Stability, volts	

ADDITIVES IN MUD

	2 1/2 MT. Barite
	3 Sacks Dolapac

MATERIALS RECOMMENDED used.

COMMENTS Drilling ahead.	BAROID SALES ENGINEER		TELEPHONE
	NAME Devlin	7 M11968	
	HOME ADDRESS	HOME	
	STORE ADDRESS	STORE	

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 29 April 1968

Operator: Phillips Pet. Co	Contractor: ODECO	Rig No. Viking
Address: Stanger	Address: Rig	Spud Date: 25 Feb.
Report for Mr. Seaborn	Report for Mr. D. D. D.	Sec. Twp. Rng.

Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area: M. Sea	State/Province: Norway
Operation: Drilling	Casing	Mud Vol. Bbl.	Circulation Data
Depth: 10420	Surface in. @ Ft.	Hole 816 Pits 600	Pump Size 6 3/4 x 18 in.
Bit Size in. 1 1/2 No.	Intermediate 9 1/2 in. @ 10248 Ft.	Total Circulating Vol. 1416	Bbl./Cyc. .224
Drill Pipe Size 5	Production in. @ Ft.	In Storage	Cyc./Min. 40
Drill Collar: Size Length	Wt. of Stored Mud	Bbl./Min. 8.9	Circulating Bottom Up, Min. 12

DRILLING FLUID SPECIFICATIONS

Seawater	Weight 12.0	Vis. 40	Filtration 210 cc	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 1645.36	Mud Cost Cumulative 101129.20
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EQUIPMENT

Shale Shaker	☒ DD Shaker	☐ Desander	☒ Degasser	☒ Centrifuge	☐ Other
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MUD PROPERTIES

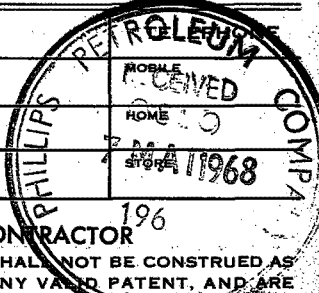
Time 0400 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.1 12.1	Plastic Viscosity, cp @ °F	21 7
Viscosity, Sec./qt API @ °F	40 40	Yield Point, lb/100 sq ft	5
Filtrate, ml, API	7.2 6.8	Gels, lb/100 sq ft., 10 Sec./10 min.	3/8
Filtrate, API HT-HP @ °F	— —	Calcium Ion; ppm ☒ epm ☐	380
Cake, 32nd In. API ☒ HT-HP ☐	2/32 2/32	Alkalinity, API { Pf, cc N/50 H2SO4	N.1
Sand Content ☐ Sand only ☒ All solids % by Vol	0.75 0.75	Pm, cc N/50 H2SO4	2
Salt ppm ☐ Chloride ppm ☒	21000 21000	lb/bbl lime ☐ gyp ☐ CaCl2 ☐	4
pH electrode ☒ filtrate ☐ mud ☒	7.5 7	Oil % by Vol	80
Solids % by Vol	16	Water % by Vol	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.34	Liquid phase, Vol % oil/water	
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	15 Sx Soda ash	10 MT. Baryte
	6 Sx Desco	
	9 Sx Drispac	
	10 Sx Soltex	
	50 Bbls. Diesel	

COMMENTS: Drilling ahead. Treated for cement contamination.	BAROID SALES ENGINEER
	NAME: Devlin
	HOME ADDRESS:
	STORE ADDRESS:



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BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date **28 April 68**

Operator Phillips Pet. Co	Contractor ODECO	Rig No. Y King
Address Stavanger	Address R. 1	Spud Date 25 Feb.
Report for Mr. Seabourn	Report for Mr. D. Orsey	Sec. Twp. Rng.

Well Name and No. 7-11-1X	Field or Block No. 7-11	County Parish or Offshore Area N. Sea	State/Province Norway
Operation Drilling (Imp)	Casing	Mud Vol. Bbl.	Circulation Data
Depth 10248	Surface in. @ Ft.	Hole 794 Pits 600	Pump Size 6 1/4 X 18 in.
Bit Size in. 8 1/2 No.	Intermediate 9 5/8 in. @ 10248 Ft.	Total Circulating Vol. 1344	Bbl./Cyc. .224
Drill Pipe Size 5	Production or Liner in. @ Ft.	In Storage —	Cyc./Min. 40
Drill Collar: Size Length	Wt. of Stored Mud —	Bbl./Min. 8.9	Annular Vel. Ft./Min. 192
			Opp DP 192 Opp Col.
			Stand Pipe Press. psi 3000
			Circulating Bottom Up, Min. 70
			Circulating Total, Min. 153

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 12.0	Vis. 40	Filtration <10cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 1671.50	Mud Cost Cumulative 99485.50
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.0 12.0 12.1	Plastic Viscosity, cp @ _____ °F	18
Viscosity, Sec./qt API @ _____ °F	40 40 41	Yield Point, lb/100 sq ft	4
Filtrate, ml, API	11.2 9.4 8.0	Gels, lb/100 sq ft., 10 Sec./10 min.	3/9
Filtrate, API HT-HP @ _____ °F	3/32 — 3/32	Calcium Ion; ppm ☒ epm ☐	520
Cake, 32nd In. API ☐ HT-HP ☐	3/32 3/32 3/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Pm, cc N/50 H ₂ SO ₄	N.I
Sand Content ☒ sand only ☐ all solids % by Vol	1.25 — 1.0	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	7
Salt ppm ☐ Chloride ppm ☐	22000 — 7	Oil..... % by Vol	2
pH electrode ☒ indicator ☐	7.5 — —	Water..... % by Vol	82
Solids..... % by Vol	16 — —	Liquid phase, Vol % oil/water	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	— — —	Electrical Stability, volts	—
Am @ 57°	0.34 — —		

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	5 Sacks Drispac
	12 M.T. Dargite

COMMENTS Cutting mud weight back to 12.0 lb/gal prior to drilling out.	BAROID SALES ENGINEER RECEIVED	TELEPHONE
	NAME Devlin	MOBILE
	HOME ADDRESS	7 MAI 1968
	STORE ADDRESS	196
		STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

OSCO

Date 19 April 1968

Operator	Phillips Pet. Co	Contractor	ODECO	Rig No.	Viking
Address	Stavanger	Address	Bj.	Spud Date	25 Feb
Report for Mr.	F.H.O.	Report for Mr.	Redford	Sec.	Twp. Rng.
Well Name and No.	7-11-1X	Field or Block No.	7-11	County Parish or Offshore Area	N. Sea
Operation	Drilling	Casing		Circulation Data	
Depth	10000	Surface in. @ Ft.		Pump Size	6 3/4 X 18 in.
Bit Size in. No.	12 1/4	Intermediate 3 in. @ Ft.	600	Bbl./Cyc.	.224
Drill Pipe Size	5	Production in. @ Ft.	2180	Cyc./Min.	59
Drill Collar: Size Length		In Storage	—	Bbl./Min.	13.1
		Wt. of Stored Mud	—		

DRILLING FLUID SPECIFICATIONS

Type	Seawater	Weight	13.0	Vis.	50	Filtration	10 cc	Operator's Written	Operator's Rep.	Authority:	Drilling Contractor	Mud Cost Daily	612.43
										Other:		Mud Cost Cumulative	715.71

EQUIPMENT

Shale Shaker	☒	DD Shaker	☐	Desander	☐	Degasser	☒	Centrifuge	☒	Other	☐
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MUD PROPERTIES

Time	0500 a.m.	p.m.	Temp. Mud	130 °F	Mud Sample Taken	Flowline	Pit
Weight of Mud lb/gal	12.9	12.9	Plastic Viscosity, cp @	25			
Viscosity, Sec./qt API @	68	72	Yield Point, lb/100 sq ft	35			
Filtrate, ml, API	6.0	6.2	Gels, lb/100 sq ft., 10 Sec./10 min.	23/32			
Filtrate, API HT-HP @	—	—	Calcium Ion; ppm	400	400		
Cake, 32nd In. API HT-HP	2/32	2/32	Alkalinity, API	N.I			
Sand Content	2	2		Z			
Salt ppm	22000	22000	lb/bbl lime	2			
pH	7.5	7	Oil % by Vol	77			
Solids % by Vol	—	—	Water % by Vol	/			
Solids, av. sp. gr.	5		Liquid phase, Vol % oil/water				
Est. ppb. Beft on Hc	25		Electrical Stability, volts				
Rm. @ 67°F	0.36						

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	15 MT. Dantec
	140 Sn Descal
	3 Drums Actaflu-S
	2 Sn. Dispacer

COMMENTS	Difficulty controlling visc. - looks like bentonitic drill solids causing difficulty.
BAROID SALES ENGINEER	NAME: Devlin
HOME ADDRESS	
STORE ADDRESS	
TELEPHONE	HOME: 1968 STORE: 1968

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 20 April 1968

Operator <u>Phillips Pet. Co.</u>	Contractor <u>ODECO</u>	Rig No. <u>Wiking</u>
Address <u>St. Louis</u>	Address <u>St. Louis</u>	Spud Date <u>25 Feb</u>
Report for Mr. <u>F. H. J.</u>	Report for Mr. <u>H. F. J.</u>	Sec. <u>Tw.</u> Rng.

Well Name and No. <u>7-11-IX</u>	Field or Block No. <u>7-11</u>	County, Parish or Offshore Area <u>N. Sea</u>	State/Province <u>Norway</u>
Operation <u>D. H. J.</u>	Casing	Mud Vol. Bbl.	Circulation Data
Depth <u>10170</u>	Surface in. @ <u>1580</u> Ft.	Hole <u>600</u> Pits	Pump Size <u>6 1/2 X 18</u> in.
Bit Size in. <u>12 1/4</u> No.	Intermediate <u>1 1/2</u> in. @ <u>6441</u> Ft.	Total Circulating Vol. <u>2180</u>	Bbl./Cyc. <u>.224</u>
Drill Pipe Size <u>5</u>	Production or Liner in. @ <u>—</u> Ft.	In Storage <u>—</u>	Cyc./Min. <u>57</u>
Drill Collar: Size <u>—</u> Length <u>—</u>	Wt. of Stored Mud <u>—</u>	Bbl./Min. <u>12.6</u>	Circulating Total, Min. <u>113</u>

DRILLING FLUID SPECIFICATIONS

Type <u>Seawater</u>	Weight <u>13.0</u>	Vis. <u>30</u>	Filtration <u>1000</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily <u>2614.50</u>	Mud Cost Cumulative <u>94186.4</u>
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time <u>0430</u> a.m. ☒ p.m. ☐	Temp. Mud <u>134</u> °F	Mud Sample Taken ☒	Flowline ☒	Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Plastic Viscosity, cp @ <u>—</u> °F	<u>25</u>	<u>30</u>	
Viscosity, Sec./qt API @ <u>—</u> °F	Yield Point, lb/100 sq ft	<u>25</u>	<u>35</u>	
Funnel, <u>6.0</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>25/35</u>	<u>15-25</u>	
Filtrate, ml, API	Calcium Ion; ppm ☒ epm ☐	<u>420</u>	<u>430</u>	
Filtrate, API HT-HP @ <u>—</u> °F	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>Nil</u> Pm, cc N/50 H ₂ SO ₄ <u>2</u>	<u>Nil</u>	<u>Nil</u>	
Cake, 32nd In. API ☒ HT-HP ☐	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>2</u>	<u>2</u>	
Sand Content ☐ Sand only ☒ All solids % by Vol	Oil..... % by Vol	<u>2</u>	<u>2</u>	
Salt ppm ☐ Chloride ppm ☒	Water..... % by Vol	<u>77</u>	<u>78</u>	
gpg ☐ filtrate ☐	Liquid phase, Vol % oil/water	<u>1</u>		
pH electrode ☒ indicator ☐ mud: ☒	Electrical Stability, volts			
Solids..... % by Vol				
Solids, av. sp. gr. ☐ ppb low gr. ☐				
<u>Rm @ 72° F</u>				
<u>0.34</u>				

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	<u>Used April 19</u>
	<u>20 MT. Baryte</u>
	<u>41 Sx. Desob</u>
	<u>1150 D April 20</u>

COMMENTS <u>Drilling ahead - some difficulty controlling flow properties</u>	NAME <u>Devlin</u>	TELEPHONE
	HOME ADDRESS	MOBILE
	STORE ADDRESS	HOME
		STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date APRIL 21 19 67

Operator <u>PHILLIPS PETRO Co</u>		Contractor <u>ODFLO</u>		Rig No. <u>VIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>FETTERS</u>		Report for Mr. <u>REDFORD</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1Y</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N. SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>Drilling</u>		Casing	
Depth <u>10280</u>		Surface in. @ Ft. <u>1600</u> Pits <u>650</u>		Pump Size <u>6 3/4 X 18</u> in.	
Bit Size in. No. <u>12 1/4 15</u>		Intermediate <u>1 3/8 6001</u> in. @ Ft. <u>2250</u>		Total Circulating Vol. <u>224</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @ Ft. <u>60</u>		Cyc./Min. <u>18.2</u>	
Drill Collar: Size <u>7 1/4</u> Length <u>-</u>		Wt. of Stored Mud <u>-</u>		Bbl./Min. <u>170</u>	

DRILLING FLUID SPECIFICATIONS

Shawmuck <u>13</u>	Weight <u>50</u>	Vis. <u>1000</u>	Filtration	Operator's Written Operator's Rep. ☐	Authority: ☐ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>4226.30</u>	Mud Cost Cumulative <u>98412.34</u>
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EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☐	Degasser ☐	Centrifuge ☐	Other ☐
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MUD PROPERTIES

Time <u>2200</u> h. ☐ p.m. ☐	Temp. Mud <u>°F</u>	Mud Sample Taken	Flowline ☐	Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>13.1</u>	Plastic Viscosity, cp @ <u>°F</u>	<u>25</u>	
Viscosity, Sec./qt API @ <u>°F</u>	<u>68</u>	Yield Point, lb/100 sq ft	<u>35</u>	
Filtrate, ml, API	<u>6</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>14/25</u>	
Filtrate, API HT-HP @ <u>°F</u>	<u>-</u>	Calcium Ion; ppm ☐ epm ☐	<u>440</u>	
Cake, 32nd In. API ☐ HT-HP ☐	<u>2</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>NIL</u>		
Sand Content ☐ Sand only ☐ all solids % by Vol <u>2</u>		Pm, cc N/50 H ₂ SO ₄ <u>2</u>		
Salt ppm ☐ gpg ☐ Chloride ppm ☐ gpg ☐	<u>22000</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐		
pH electrode ☐ indicator ☒	<u>7.3</u>	Oil..... % by Vol <u>2</u>		
Sp. ls..... % by Vol <u>21</u>		Water..... % by Vol <u>77</u>		
Solids, av. sp. gr. ☐ ppb low gr. ☐		Liquid phase, Vol % oil/water <u>1</u>		
		Electrical Stability, volts		

ADDITIVES IN MUD

MATERIALS RECOMMENDED USE D

<u>32 MT BAKITE</u>	
<u>47 SKS DISCO</u>	

COMMENTS <u>Normal Drilling</u>

BAROID SALES ENGINEER		TELEPHONE	
NAME <u>MAURICE SUTHER</u>	MOBILE		
HOME ADDRESS <u>STAVANGER</u>	HOME		<u>56474</u>
STORE ADDRESS <u>N. SEA EXPLOR</u>	STORE		<u>20012</u>

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BAROID DIVISION

NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date APRIL 22 19 68

Operator <u>PHILLIPS PETR CO</u>		Contractor <u>O DECO</u>		Rig No. <u>0 UIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIL</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>FETTERS</u>		Report for Mr. <u>REDFORD</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-14</u>		Field or Block No. <u>F 11</u>		County, Parish or Offshore Area <u>N. SEA</u>	
State/Province <u>NORWAY</u>		Operation <u>Drilling</u>		Casing	
Depth <u>10300</u>		Surface in. @ Ft. <u>1600 800</u>		Mud Vol. Bbl. <u>2400</u>	
Bit Size in. <u>12 1/4</u> No. <u>15</u>		Intermediate in. @ Ft. <u>1378 6441</u>		Total Circulating Vol. <u>2400</u>	
Drill Pipe Size <u>5</u>		Production in. @ Ft.		In Storage	
Drill Collar Size Length		Wt. of Stored Mud		Circulation Data	
				Annular Vel. Ft./Min.	
				Opp DP <u>112</u> Opp Col.	
				Stand Pipe Press. psi <u>1000</u>	
				Circulating Bottom Up, Min. <u>126</u>	
				Circulating Total, Min. <u>170</u>	

DRILLING FLUID SPECIFICATIONS

Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily
Operator's Written Operator's Rep. ☐	Mud Cost Cumulative <u>98,412</u>
Weight <u>13</u> Vis. <u>50</u> Filtration <u>1000</u>	

EQUIPMENT

Shale Shaker ☐	DD Shaker ☐	Desander ☒	Degasser ☐	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time <u>0500</u> a.m. ☐ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>13</u>	Plastic Viscosity, cp @ °F <u>20</u>	
Viscosity, Sec./qt API @ °F <u>61</u>		Yield Point, lb/100 sq ft <u>31</u>	
Filtrate, ml, API <u>6.1</u>		Gels, lb/100 sq ft., 10 Sec./10 min. <u>15/22</u>	
Filtrate, API HT-HP @ °F <u>-</u>		Calcium Ion, ppm ☒ epm ☐ <u>400</u>	
Cake, 32nd In. API ☐ HT-HP ☐ <u>2</u>		Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>nd</u>	
Sand Content ☐ Sand only ☐ all solids % by Vol <u>2</u>		Pm, cc N/50 H ₂ SO ₄ <u>2</u>	
Salt ppm ☐ Chloride ppm ☐ <u>22000</u>		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
pH electrode ☐ filtrate ☐ mud ☐ <u>7.2</u>		Oil % by Vol <u>2</u>	
Solids % by Vol <u>21</u>		Water % by Vol <u>77</u>	
Solids, av. sp. gr. ☐ ppb low gr. ☐		Liquid phase, Vol % oil/water <u>1</u>	
<u>RH @ °</u>		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	<u>112 215 Baroid</u>

COMMENTS <u>Logging</u>	BAROID SALES ENGINEER		TELEPHONE
	NAME <u>Harold S. Sider</u>		MOBILE
	HOME ADDRESS <u>STAVANGER</u>		HOME <u>56474</u>
	STORE ADDRESS <u>W. S. A. K. H. H.</u>		STORE <u>24012</u>

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 18 April 1967

Operator Phillips Pet. Co		Contractor ODECO		Rig No. Viking	
Address Stord-gau		Address R. 5		Spud Date 25 Feb 66	
Report for Mr. F. H. H. C.		Report for Mr. D. J. O. S.		Sec. Twp. Rng.	
Well Name and No. 7-11-IX		Field or Block No. 7-11		County, Parish or Offshore Area N. 5. 5. 5.	
State/Province Norway		Operation Drilling		Casing	
Depth 7840 ft		Mud Vol. Bbl. 1540 Pits 600		Circulation Data	
Surface in. @ 12 1/4 No.		Hole 1540 Pits 600		Annular Vel. Ft./Min. 112	
Bit Size in. 12 1/4 No.		Total Circulating Vol. 2140		Opp DP 112 Opp Col.	
Intermediate 13 1/8 @ 6444 Ft.		Bbl./Cyc. 1224		Stand Pipe Press. psi 300	
Drill Pipe Size 5		In Storage —		Cyc./Min. 61	
Production or Liner		Circulating Bottom Up, Min. 113		Circulating Total, Min. 157	
Drill Collar: Size Length		Wt. of Stored Mud —		Bbl./Min. 13.6	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 10 cc	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 1291.50	Mud Cost Cumulative 85443.21
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EQUIPMENT

Shale Shaker	☒ DD Shaker	☐ Desander	☒ Degasser	☒ Centrifuge	☐ Other
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 13.1 13.0	Plastic Viscosity, cp @ — °F	25 26
Viscosity, Sec./qt API @ — °F	60 70	Yield Point, lb/100 sq ft	25 30
Filtrate, ml, API	7.0 7.4	Gels, lb/100 sq ft., 10 Sec./10 min.	18/26 27/31
Filtrate, API HT-HP @ — °F	— —	Calcium Ion; ppm ☐ epm ☐	420 400
Cake, 32nd In. API ☒ HT-HP ☐	2/32 2/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄	N.I. 7
Sand Content ☐ Sand only ☒ All solids % by Vol	1.25 1.25	Pm, cc N/50 H ₂ SO ₄	Z L
Salt ppm ☐ Chloride ppm ☐	22000 22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2 77
pH electrode ☒ indicator ☐	7.5 7.5	Oil..... % by Vol	2 77
Solids..... % by Vol	21 7	Water..... % by Vol	77 L
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35 L	Liquid phase, Vol % oil/water	/
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	W.M.T. Bayte
	20 Descal

COMMENTS Drilling ahead. Difficulty controlling viscosity.	BAROID SALES ENGINEER		TELEPHONE
	NAME	Devlin	MOBILE
	HOME ADDRESS		HOME
	STORE ADDRESS		STORE
EXTRA COPY			
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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **17 April 1968**

Operator Ph. Hips Pet. Co.	Contractor OUECO	Rig No. Viking
Address Stavanger	Address N.	Spud Date 25 Feb
Report for Mr. Fellers	Report for Mr. D. O. S.	Sec. --- Twp. --- Rng. ---

Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area N. Sea	State/Province Norway
Operation Coring	Casing	Mud Vol. Bbl.	Circulation Data
Depth 1700	Surface 13 1/2 in. @ 6444 Ft.	Hole 1530 Pits 600	Pump Size 6 1/4 X 18 in.
Bit Size in. --- No. ---	Intermediate in. @ --- Ft. ---	Total Circulating Vol. 2130	Bbl./Cyc. .224
Drill Pipe Size 5	Production or Liner in. @ --- Ft. ---	In Storage ---	Cyc./Min. 40
Drill Collar: Size --- Length ---	Wt. of Stored Mud ---	Bbl./Min. 8.9	Annular Vel. Ft./Min. 72
			Opp DP --- Opp Col. ---
			Stand Pipe Press. psi 1500
			Circulating Bottom Up, Min. 172
			Circulating Total, Min. 240

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 10cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 540.55	Mud Cost Cumulative 84151.71
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud --- °F	Mud Sample Taken ---	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 13.01 13.0	Plastic Viscosity, cp @ --- °F	25 29
Viscosity, Sec./qt API @ --- °F	57 78	Yield Point, lb/100 sq ft	27 30
Funnel, ---	10.2 9.4	Gels, lb/100 sq ft., 10 Sec./10 min.	22/29 24/32
Filtrate, ml, API	--- ---	Calcium Ion; ppm ☒ epm ☐	420 7
Filtrate, API HT-HP @ --- °F	3/32 7/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ N.I.	---
Cake, 32nd In. API ☒ HT-HP ☐	1.25 1.25	{ Pm, cc N/50 H ₂ SO ₄ 7	---
Sand Content ☒ Sand only ☐ All solids % by Vol	22000 22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	---
Salt ppm ☐ Chloride ppm ☐	7.0 7.5	Oil..... % by Vol	2
pH ☒ electrode ☐ filtrate ☐ mud ☒	21 ---	Water..... % by Vol	77
Solids..... % by Vol	--- ---	Liquid phase, Vol % oil/water	---
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.36 ---	Electrical Stability, volts	---
Rue 64'			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

5 M.T. Barte	
10 Sks. Solter	
50 Bbls. Diesel	

COMMENTS

Cutting Core 3. Added oil + Solter - experiencing difficulty with viscosity build up again

BAROID SALES ENGINEER

NAME Devlin	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 16 April 68

Operator Ph. H. P. Co.	Contractor ODECO	Rig No. Viking
Address Stavanger	Address R.	Spud Date 25 Feb 68
Report for Mr. Seabrook	Report for Mr. D. O. S.	Sec. Twp. Rng.
Well Name and No. 7-11-1X	Field or Block No. 7-11	County or Offshore Area N Sea
State/Province Norway		
Operation Top hole, heavy	Casing	Mud Vol. Bbl.
Depth 9688	Surface in. @ Ft.	Circulation Data
Bit Size in. 12 1/4 No.	Hole 1350 Pits 600	Annular Vel. Ft./Min.
Drill Pipe Size 5	Intermediate 13 1/4 in. @ 6444 Ft.	Pump Size 6 1/4 X 18 in.
Drill Collar: Size Length	Total Circulating Vol. 1950	Opp DP 113 Opp Col.
	In Storage —	Stand Pipe Press. psi 2750
	Wt. of Stored Mud —	Circulating Bottom Up, Min. 98
		Circulating Total, Min. 141

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 1000	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 2137	Mud Cost Cumulative 85611
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EQUIPMENT

Shale Shaker 0600 ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☐ lb/cu ft ☐	13.0 13.1	Plastic Viscosity, cp @ — °F	23
Viscosity, Sec./qt API @ — °F	52 56	Yield Point, lb/100 sq ft	27
Filtrate, ml, API	9.0 9.4	Gels, lb/100 sq ft., 10 Sec./10 min.	17/26
Filtrate, API HT-HP @ — °F	— —	Calcium Ion; ppm ☒ epm ☐	400
Cake, 32nd In. API ☐ HT-HP ☐	3/32 3/32	Alkalinity, API { Pf, cc N/50 H2SO4	N.I.
Sand Content ☐ Sand only ☐ all solids % by Vol	1.25 —	{ Pm, cc N/50 H2SO4	Z
Salt ppm ☐ Chloride ppm ☐	21000 21000	lb/bbl lime ☐ gyp ☐ CaCl2 ☐	2
pH electrode ☐ filtrate ☐ mud ☐	7.5	Oil..... % by Vol	78
Solids..... % by Vol	20	Water..... % by Vol	/
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35	Liquid phase, Vol % oil/water	
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED Used

27 Descro	
20 M.T. Baryte	

COMMENTS

Took Core #2. Tr. w/ bit to
beam rat hole. 1

BAROID SALES ENGINEER

NAME Devlin	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **15 April 68**

Operator Phillips Pet. Co.		Contractor ODECO		Rig Viking	
Address Stavanger		Address N. 11		Spud Date 23 Feb	
Report for Mr. Seabach		Report for Mr. DBA		Sec. Twp. Rng.	
Well Name and No. 7-11-1A		Field or Block No. 7-11		County Parish or Offshore Area North Sea	
State Province Norway		Operation Coring		Casing	
Depth 9660		Mud Vol. Bbl. 1350		Circulation Data	
Bit Size in. 5		Hole 600		Pump Size 6 3/4 X 19	
Inter-mediate 6444		Total Circulating Vol. 1950		Bbl./Cyc. 1.22	
Production in. @ 5		In Storage —		Cyc./Min. 42	
Drill Collars Size Length		Wt. of Stored Mud —		Bbl./Min. 9.3	
				Annular Vel. Ft./Min. 76	
				Opp DP 76	
				Opp Col. 76	
				Stand Pipe Press. psi 1800	
				Circulating Bottom Up. Min. 116	
				Circulating Total. Min. 210	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 10.0	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 1939.50	Mud Cost Cumulative 31437.46
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0400 a.m. ☒ p.m. ☐	Temp. Mud °F 13.0	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	13.0	Plastic Viscosity, cp @ 20 °F	20
Viscosity, Sec./qt API @ 53 °F	54	Yield Point, lb/100 sq ft	26
Filtrate, ml, API 9.6	9.2	Gels, lb/100 sq ft., 10 Sec./10 min.	19/17
Filtrate, API HT-HP @ — °F	—	Calcium Ion; ppm ☒ epm ☐	400
Cake, 32nd In. API ☒ HT-HP ☐	2 1/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ 11.1	11.1
Sand Content ☒ Solid only ☐ All solids % by Vol 1.25	2 1/32	Pm, cc N/50 H ₂ SO ₄ 2	2
Salt ppm ☒ Chloride ppm ☒	21000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2
pH electrode ☒ indicator ☒	7.5	Oil % by Vol 2	2
Solids % by Vol 2.0	2.0	Water % by Vol 78	78
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35	Liquid phase, Vol % oil/water /	/
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

31 Sz. Desox	
7 M.T. Barge	

COMMENTS Cutting Core #2. Good recovery on Core 1.

BAROID SALES ENGINEER		TELEPHONE	
NAME Derlin		MOBILE	
HOME ADDRESS		HOME	
STORE ADDRESS		STORE	

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **14 April 68**

Operator Phillips Pet. Co	Contractor ODECO	Rig No. Viking
Address Stavanger	Address R.	Spud Date 25 Feb
Report for Mr. Scabardin	Report for Mr. Drou...	Sec. Twp. Rng.

Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area N. Sea	State/Province Norway	
Operation Coring	Casing	Mud Vol. Bbl.	Circulation Data	Annular Vel. Ft./Min.
Depth 9600	Surface in. @ Ft.	Hole 1510 Pits 600	Pump Size 6 3/8 in.	Opp DP 70 Opp Col.
Bit Size in. — No.	Intermediate 13 3/8 in. @ 6444 Ft.	Total Circulating Vol. 2110	Bbl./Cyc. .224	Stand Pipe Press. psi 1200
Drill Pipe Size 5	Production or Liner in. @ Ft.	In Storage —	Cyc./Min. 38	Circulating Bottom Up, Min. 175
Drill Collar: Size Length	Wt. of Stored Mud —	Bbl./Min. 8.6	Circulating Total, Min. 246	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 1000	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 4437.50	Mud Cost Cumulative 79998.44
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	13.0 13.0	Plastic Viscosity, cp @ °F	25 7
Viscosity, Sec./qt API @ °F	55 54	Yield Point, lb/100 sq ft	30
Funnel, ml, API	9.4 10.0	Gels, lb/100 sq ft., 10 Sec./10 min.	24/29
Filtrate, ml, API	— —	Calcium Ion; ppm ☒ epm ☐	480
Cake, 32nd In. API ☐ HT-HP ☐	7/32 2/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ 11.1	7
Sand Content ☐ Sand only ☐ all solids % by Vol	1.0 7	{ Pm, cc N/50 H ₂ SO ₄ 2	7
Salt ppm ☐ Chloride ppm ☐	21000 7	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	2
pH electrode ☐ filtrate ☐	7.5 7	Oil % by Vol	81
indicator ☐ mud ☐	19 7	Water % by Vol	7
Solids % by Vol	— 7	Liquid phase, Vol % oil/water	7
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.34 7	Electrical Stability, volts	7
A-0 66°			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

37 Desco	
50 MT. Bayte	

COMMENTS

Coring. Maintaining 13.0 lb/gal mud

BAROID SALES ENGINEER

NAME Devlin	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 13 April 68

Operator Phillips Pet. Co	Contractor DDECO	Rig No. Viking
Address Stavanger	Address R.	Spud Date 25 Feb
Report for Mr. Seaborn	Report for Mr. D. Brown	Sec. Twp. Rng.

Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area N. Sea	State/Province Norway	
Operation Drilling	Casing	Mud Vol. Bbl.	Circulation Data	Annular Vel. Ft./Min.
Depth 7500	Surface in. @ Ft.	Hole 1500 Pits 600	Pump Size 6 3/4 X 18 in.	Opp DP 148 Opp Col.
Bit Size in. 12 1/4 No.	Intermediate 13 7/8 @ 6444 Ft.	Total Circulating Vol. 2100	Bbl./Cyc. - .224	Stand Pipe Press, psi 3000
Drill Pipe Size 5	Production in. @ Ft.	In Storage -	Cyc./Min. 81	Circulating Bottom Up, Min. 85
Drill Collar: Size Length		Wt. of Stored Mud -	Bbl./Min. 18.1	Circulating Total, Min. 116

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 13.0	Vis. 50	Filtration 10 cc	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 6351.50 Mud Cost Cumulative 75540.36
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EQUIPMENT

Shale Shaker ☒ DD Shaker ☐ Desander ☒ Degasser ☒ Centrifuge ☐ Other

MUD PROPERTIES

Time 0500 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐		
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present -	Plastic Viscosity, cp @ °F	20	7	22
Viscosity, Sec./qt API @ °F	12.8 12.9 13.0	Yield Point, lb/100 sq ft	17	7	26
Funnel, ml, API	55 64 61	Gels, lb/100 sq ft., 10 Sec./10 min.	15/27	7	18/30
Filtrate, ml, API	8.4 8.6 9.0	Calcium Ion; ppm ☐ epm ☐	480	7	7
Cake, 32nd In. API ☐ HT-HP ☐	- - -	Alkalinity, API { Pf, cc N/50 H2SO4 Pm, cc N/50 H2SO4	M.I	7	7
Sand Content ☐ Sand only ☐ all solids % by Vol	1.0 7 1.0	lb/bbl lime ☐ gyp ☐ CaCl2 ☐	Z	7	7
Salt ppm ☐ Chloride ppm ☐	21000 7 21000	Oil % by Vol	2	7	7
pH electrode ☐ filtrate ☐	7.5 7 7	Water % by Vol	81	7	7
Solids % by Vol	19 7 7	Liquid phase, Vol % oil/water	/	7	7
Solids, av. sp. gr. ☐ ppb low gr. ☐	- 7 7	Electrical Stability, volts			
Rm e 75	0.36 7 7				

ADDITIVES IN MUD

MATERIALS RECOMMENDED Used

60 MT Baute	
75 Sr Desab	

COMMENTS

Drilling ahead. Weighting to 13.0 lb/gal.

BAROID SALES ENGINEER

NAME Davlin	TELEPHONE
HOME ADDRESS	MOBILE
STORE ADDRESS	HOME
	STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **12 April 19 68**

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address Rog		Spud Date	
Report for Mr. Seaborg		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County, Parish or Offshore Area N. Sea	
State/Province Norway		Operation Drilling		Casing	
Mud Vol. Bbl.		Circulation Data		Annular Vel. Ft./Min.	
Depth 9300		Surface in. @ Ft.		Hole 14 1/2 Pits 600	
Pump Size 6 1/2 X 18 in.		Opp DP 113		Opp Col.	
Bit Size in. 12 1/4		Intermediate 13 1/8 in. @ 6444 Ft.		Total Circulating Vol. 200	
Bbl./Cyc. 224		Stand Pipe Press. psi 3000		Circulating Bottom Up, Min. 100	
Drill Pipe Size 5		Production or Liner in. @ Ft.		In-Storage —	
Cyc./Min. 63		Circulating Total, Min. 146		Bbl./Min. 13.8	
Drill Collar: Size Length		Wt. of Stored Mud —		Bbl./Min. 13.8	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 12.6	Vis. 50	Filtration 100	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 8462.31	Mud Cost Cumulative 69209.36
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 12.6 12.6 12.7	Plastic Viscosity, cp @ _____ °F	28
Viscosity, Sec./qt API @ _____ °F	96 70 89	Yield Point, lb/100 sq ft	37
Filtrate, ml, API	7.6 7.4 8.0	Gels, lb/100 sq ft., 10 Sec./10 min.	24/31
Filtrate, API HT-HP @ _____ °F	— — —	Calcium Ion; ppm ☐ epm ☐	380
Cake, 32nd In. API ☒ HT-HP ☐	2 1/2 2 1/2 2 1/2	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ N.I.	
Sand Content ☐ Sand only ☒ All solids % by Vol	1.0 7 7	Pm, cc N/50 H ₂ SO ₄ 2	
Salt ppm ☐ Chloride ppm ☒	21000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
gpg ☐ electrode ☒ filtrate ☐ mud ☒	7.5	Oil % by Vol 2	
pH indicator ☒	18	Water % by Vol 80	
Solids % by Vol	—	Liquid phase, Vol % oil/water 1	
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35	Electrical Stability, volts	
Rm @ 72°			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

60MT Bayte	10 Sx Stauch
101 Sx Desob	
10 Saltex	
11 Drispac	
2 Actoflo-S	

COMMENTS Drilling ahead increasing weight. Difficult controlling viscosity due to solids

BAROID SALES ENGINEER		TELEPHONE
NAME Dustin	MOBILE	
HOME ADDRESS	HOME	
STORE ADDRESS	STORE	

EXTRA COPY

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 11 April 19 68

Operator <u>Phillips Pet. Co</u>		Contractor <u>ODECO</u>		Rig No. <u>Viking</u>	
Address <u>Stavanger</u>		Address <u>R.</u>		Spud Date <u>25 Feb</u>	
Report for Mr. <u>Seaborn</u>		Report for Mr. <u>Rafford</u>		Sec. <u>Tw</u> Rng. <u>V</u>	
Well Name and No. <u>7-11-1K</u>		Field or Block No. <u>7-11</u>		County Parish or Offshore Area <u>Norway</u>	
Operation <u>Drilling</u>		Casing		Mud Vol. Bbl. <u>1400</u>	
Depth <u>8800</u>		Surface in. @ <u>13 1/8</u> Ft. <u>6444</u>		Hole Pits <u>600</u>	
Bit Size in. <u>12 1/4</u>		Intermediate in. @ <u>5</u> Ft. <u>—</u>		Pump Size <u>6 1/4 X 18</u> in.	
Drill Pipe Size <u>5</u>		Production or Liner in. @ <u>—</u> Ft. <u>—</u>		Bbl./Cyc. <u>224</u>	
Drill Collar: Size Length		Wt. of Stored Mud <u>—</u>		Cyc./Min. <u>62</u>	
				Bbl./Min. <u>13.8</u>	
				Annular Vel. Ft./Min. <u>145</u>	
				Opp DP <u>113</u> Opp Col. <u>—</u>	
				Stand Pipe Press, psi <u>3000</u>	
				Circulating Bottom Up, Min. <u>90</u>	
				Circulating Total, Min. <u>145</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>Seawater</u>	Weight <u>12.5</u>	Vis. <u>50</u>	Filtration <u>10 cc</u>	Operator's Written ☒ Drilling Contractor ☐	Other: ☐	Mud Cost Daily <u>\$101.96</u>	Mud Cost Cumulative <u>\$6074.12</u>
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time <u>0100</u> a.m. ☐ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present <u>12.5</u> <u>12.5</u> <u>12.5</u>	Plastic Viscosity, cp @ _____ °F	<u>35</u> <u>7</u> <u>32</u>
Viscosity, Sec./qt API @ _____ °F	<u>107</u> <u>110</u> <u>105</u>	Yield Point, lb/100 sq ft	<u>40</u> <u>7</u> <u>38</u>
Funnel	<u>11.6</u> <u>8.8</u> <u>8.4</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>24/27</u> <u>7</u> <u>24/30</u>
Filtrate, ml, API	<u>—</u> <u>—</u> <u>—</u>	Calcium Ion, ppm ☒ epm ☐	<u>520</u> <u>7</u> <u>7</u>
Filtrate, API HT-HP @ _____ °F	<u>3/32</u> <u>2/32</u> <u>4/32</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>N/1</u>	<u>7</u> <u>7</u> <u>7</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>1.0</u> <u>7</u> <u>7</u>	Pm, cc N/50 H ₂ SO ₄ <u>2</u>	<u>7</u> <u>7</u> <u>7</u>
Sand Content ☒ Sand only ☐ all solids % by Vol	<u>21000</u> <u>7</u> <u>7</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>1</u> <u>7</u> <u>7</u>
Salt ppm ☐ Chloride ppm ☐	<u>7.5</u> <u>7</u> <u>7</u>	Oil % by Vol	<u>81</u> <u>7</u> <u>7</u>
gpg ☐ filtrate ☐	<u>18</u> <u>7</u> <u>7</u>	Water % by Vol	<u>7</u> <u>7</u> <u>7</u>
pH electrode ☒ indicator ☐	<u>—</u> <u>7</u> <u>7</u>	Liquid phase, Vol % oil/water	<u>7</u> <u>7</u> <u>7</u>
Solids % by Vol	<u>0.38</u> <u>7</u> <u>7</u>	Electrical Stability, volts	<u>7</u> <u>7</u> <u>7</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>—</u> <u>7</u> <u>7</u>		
<u>An @ 68</u>			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

<u>32 Descos (52)</u>
<u>8 Drispac</u>
<u>18 Fench. Ideclyde</u>
<u>15 Soda ash</u>
<u>110 MT David</u>

COMMENTS <u>Weighting up while drilling</u>
<u>Difficulty controlling solids &</u>
<u>viscosity</u>

BAROID SALES ENGINEER		TELEPHONE
NAME <u>Dorlin</u>	MOBILE	
HOME ADDRESS	HOME	
STORE ADDRESS	STORE	

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 10/1/1968

Operator Phillips Pet. Co		Contractor ODECO		Rig No. U.K. 11	
Address Stavanger		Address A. 11		Spud Date 25 Feb	
Report for Mr. Seaburn		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County, Parish or Offshore Area N. Sea	
Operation Drilling		Casing		State/Province Norway	
Depth 7720		Mud Vol. Bbl.		Annular Vel. Ft./Min. 0	
Surface in. @ Ft.		Hole 1300 Pits 600		Pump Size 6 1/4 X 1 3/8 in. Opp DP 120 Opp Col.	
Bit Size in. 12 1/4 No.		Intermediate 13 1/8 in. @ 6444 Ft.		Total Circulating Vol. 1400 Bbl./Cyc. 65.224 Stand Pipe Press. psi 3000	
Drill Pipe Size 5		Production in. @ Ft.		In Storage — Cyc./Min. 65 Circulating Bottom Up, Min. 70	
Drill Collar: Size Length		Wt. of Stored Mud —		Bbl./Min. 19.5 Circulating Total, Min. 131	

DRILLING FLUID SPECIFICATIONS

Type	Seawater	Weight	11.8	Vis.	50	Filtration	10 sec	Operator's Written	Operator's Rep.	Authority:	Drilling Contractor ☐	Other: ☒	10212 =
										Mud Cost Cumulative	51842 B		

EQUIPMENT

Shale Shaker ☒ DD Shaker ☐ Desander ☒ Degasser ☒ Centrifuge ☐ Other

MUD PROPERTIES

Time <u>05:00</u> a.m. ☒ p.m. ☐	Temp. Mud <u>11.8</u> °F	Temp. Sample <u>12.0</u> °F	Mud Sample Taken <u>12.5</u> °F	Flowline ☒ Pit ☐			
Weight of Mud lb/gal ☒ lb/cu ft ☐	<u>11.8</u>	<u>12.0</u>	<u>12.5</u>	Plastic Viscosity, cp @ _____ °F	<u>23</u>	<u>7</u>	<u>25</u>
Viscosity, Funnel, Sec./qt API @ _____ °F	<u>75</u>	<u>80</u>	<u>92</u>	Yield Point, lb/100 sq ft	<u>29</u>	<u>7</u>	<u>28</u>
Filtrate, ml, API	<u>10.0</u>	<u>10.2</u>	<u>10.2</u>	Gels, lb/100 sq ft., 10 Sec./10 min.	<u>0/22</u>	<u>7</u>	<u>10/2</u>
Filtrate, API HT-HP @ _____ °F	<u>2/3</u>	<u>—</u>	<u>—</u>	Calcium Ion; ppm ☒ epm ☐	<u>560</u>	<u>7</u>	<u>7</u>
Cake, 32nd In. API ☒ HT-HP ☐	<u>3/32</u>	<u>2/32</u>	<u>2/32</u>	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Pm, cc N/50 H ₂ SO ₄	<u>N.1</u>	<u>7</u>	<u>7</u>
Sand Content ☐ Sand only ☒ All solids % by Vol	<u>1</u>	<u>1.0</u>	<u>—</u>	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>2</u>	<u>7</u>	<u>7</u>
Salt ppm ☐ Chloride ppm ☒	<u>21000</u>	<u>7</u>	<u>21000</u>	Oil..... % by Vol	<u>1</u>	<u>7</u>	<u>7</u>
gpg ☐ electrode ☒ filtrate ☐	<u>7.5</u>	<u>7</u>	<u>7</u>	Water..... % by Vol	<u>83</u>	<u>7</u>	<u>7</u>
pH indicator ☒ mud ☒	<u>16</u>	<u>7</u>	<u>7</u>	Liquid phase, Vol % oil/water	<u>/</u>	<u>7</u>	<u>7</u>
Solids..... % by Vol	<u>—</u>	<u>7</u>	<u>7</u>	Electrical Stability, volts		<u>7</u>	<u>7</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>0.35</u>	<u>7</u>	<u>7</u>			<u>7</u>	<u>7</u>
<u>Am @ 66'</u>							

ADDITIVES IN MUD

MATERIALS RECOMMENDED

38 Desco	
37 Soltex	
14 Drispa	
8 Act. f10-5	
88 M.T. Bant	

COMMENTS

Weighting up & dealing ahead.
Difficulty controlling solids & viscosity

BAROID SALES ENGINEER

NAME	Devlin	MOBILE
HOME ADDRESS		HOME
STORE ADDRESS		STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **9 April 1968**

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Wiking	
Address Stamper		Address Al		Spud Date 25 Feb.	
Report for Mr. Seaboard		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-1K		Field or Block No. 7-11		County Parish or Offshore Area No. Sea	
State/Province Alaska		Operation Drilling		Casing	
Depth 7400'		Surface in. @ Ft.		Mud Vol. Bbl.	
Bit Size in. 12 1/4		Hole Pits 1210 600		Circulation Data	
Drill Pipe Size 5		Total Circulating Vol. 1810		Annular Vel. Ft./Min.	
Drill Collar: Size Length		In Storage		Pump Size 6 1/4" X 18 in.	
		Wt. of Stored Mud		Opp DP 111 Opp Col.	
				Stand Pipe Press. psi 3000	
				Circulating Bottom Up, Min. 90	
				Circulating Total, Min. 135	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 11.8	Vis. 50	Filtration 1000	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 3824.35	Mud Cost Cumulative 71630.12
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0530 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	11.6	11.7	Plastic Viscosity, cp @ °F 30
Viscosity, Sec./qt API @ °F	65	78	Yield Point, lb/100 sq ft 30
Filtrate, ml, API	16.4	12.4	Gels, lb/100 sq ft., 10 Sec./10 min. 20/31
Filtrate, API HT-HP @ °F	—	—	Calcium Ion; ppm ☒ epm ☐ 660 640
Cake, 32nd In. API ☒ HT-HP ☐	3/32	2/32	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ Nil
Sand Content ☐ Sand only ☒ All solids % by Vol	.75	.75	{ Pm, cc N/50 H ₂ SO ₄ 2
Salt ppm ☐ Chloride ppm ☐	21000	21000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐
pH electrode ☒ indicator ☐	7.0	7	Oil % by Vol 2
Solids % by Vol	17	7	Water % by Vol 81
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.35	7	Liquid phase, Vol % oil/water /
			Electrical Stability, volts

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	49 Dosco
	30 Stuck
	7 Selter
	30 M.T. Barge

COMMENTS Weighting up D. difficulty controlling viscosity due to solids building up	BAROID SALES ENGINEER		TELEPHONE
	NAME Devlin		MOBILE
	HOME ADDRESS		HOME
	STORE ADDRESS		STORE

EXTRA COPY

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BAROID DIVISION
NATIONAL LEAD COMPANY

DRILLING MUD REPORT

DPG
OSCO

Date 8 April 1968

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address R.		Spud Date 25 Feb	
Report for Mr. See Canyon		Report for Mr. R. E. Ford		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County/Parish or Offshore Area No. Sea	
State/Province Norway		Operation Drilling		Casing	
Mud Vol. Bbl. 1660		Circulation Data		Annular Vel. Ft./Min. 114	
Depth 6500		Surface in. @ Ft. 1660		Pits 600	
Pump Size 6 3/4 X 18 in.		Opp DP 114		Opp Col.	
Bit Size in. 12 1/4		Intermediate in. @ Ft. 6444		Total Circulating Vol. 1660	
Bbl./Cyc. 1224		Stand Pipe Press, psi 3000		Drill Pipe Size 5	
Production in. @ Ft.		In Storage		Cyc./Min. 62	
Circulating Bottom Up, Min. 77		Drill Collar: Size Length		Wt. of Stored Mud	
Bbl./Min. 13.0		Circulating Total, Min. 120			

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 11.0	Vis. 50	Filtration 1000	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily 323.52	Mud Cost Cumulative 37796.44
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0200 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present 11.65	Plastic Viscosity, cp @ °F 25	
Viscosity, Sec./qt API @ °F 64		Yield Point, lb/100 sq ft 32	
Filtrate, ml, API 16.0		Gels, lb/100 sq ft, 10 Sec./10 min. 12/28	
Filtrate, API HT-HP @ °F		Calcium Ion, ppm ☒ epm ☐ 640	
Cake, 32nd In. API ☒ HT-HP ☐	3/32	Alkalinity, API { PF, cc N/50 H2SO4 11.1	
Sand Content ☐ Sand only ☐ all solids % by Vol 1.0		Pm, cc N/50 H2SO4 7	
Salt ppm ☐ Chloride ppm ☐	22000	Lb/bbl lime ☐ gyp ☐ CaCl2 ☐	
gpg ☐ electrode ☐ filtrate ☐	7.5	Oil, % by Vol 2	
pH indicator ☒ mud ☒		Water, % by Vol 81	
Solids, % by Vol 17		Liquid phase, Vol % oil/water /	
Solids, av. sp. gr. ☐ ppg low gr. ☐		Electrical Stability, volts	
Re 66'	0.36		

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	20 starch
	16 Bicarbonate
	20 Formaldehyde

COMMENTS: Weight too high. Difficultly controlled. Uncontrolled solid build up. Drilling in soft clay. Treating correct while drilling out of casing.	BAROID SALES ENGINEER NAME Dealer	TELEPHONE
	HOME ADDRESS	HOME
	STORE ADDRESS	STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **28 Mar 1968**

Operator Phillips Pet. Co		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address Ris		Spud Date	
Report for Mr. Seaborn		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-1X		Field or Block No. 7-11		County Parish or Offshore Area N. Sea	
State Province Norway		Operation Circ.		Casing	
Depth 6512		Surface in. @ 20 Ft. 1520		Hole Pits 2060 600	
Bit Size in. 17/32 No.		Intermediate in. @		Total Circulating Vol. 2660	
Drill Pipe Size 5		Production in. @		In Storage	
Drill Collar: Size Length		Wt. of Stored Mud		Circulation Data	
				Annular Vel. Ft./Min. 83	
				Opp DP 83 Opp Col.	
				Stand Pipe Press. psi 2550	
				Circulating Bottom Up, Min. 93	
				Circulating Total, Min. 118	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 11.8	Vis. 60	Filtration <10	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other:	Mud Cost Daily Nil	Mud Cost Cumulative 322.25
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0330 a.m. ☒ p.m. ☐	Temp. Mud 0900 °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present 11.7 11.8	Plastic Viscosity, cp @ _____ °F	23 25
Viscosity, Sec./qt API @ _____ °F	65 70	Yield Point, lb/100 sq ft	24 28
Funnel, _____	10.4 10.0	Gels, lb/100 sq ft., 10 Sec./10 min.	14/25 18/30
Filtrate, ml, API	— —	Calcium Ion; ppm ☐ epm ☐	320 27
Filtrate, API HT-HP @ _____ °F	2/32 2/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄	Nil
Cake, 32nd In. API ☐ HT-HP ☐	10 1.0	{ Pm, cc N/50 H ₂ SO ₄	2
Sand Content ☐ Sand only ☐ all solids % by Vol	22000 7	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	3
Salt ppm ☐ gpg ☐ Chloride ppm ☐ gpg ☐	7.0 7	Oil % by Vol	80
pH electrode ☐ indicator ☐	17 7	Water % by Vol	80
Solids % by Vol	0.36 7	Liquid phase, Vol % oil/water	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.36 7	Electrical Stability, volts	

ADDITIONS IN MUD Materials Used

28 Mar.	50 MT - Barite Daily - 4197³⁰
4 Drum Aktal - Total - 37420¹²	
10 Starch	

MATERIALS RECOMMENDED

55 MT Barite	Nil
4 Drum Aktal	

COMMENTS Raise mud weight to 13 3/8 casing

BAROID SALES ENGINEER		TELEPHONE
NAME Devlin	MOBILE	
HOME ADDRESS	HOME	
STORE ADDRESS	STORE	

THIS COPY TO CONTRACTOR

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **27 Mar. 19 68**

Operator Phillips Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address Ryg		Spud Date 25 Feb	
Report for Mr. Seaborn		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-IX		Field or Block No. 7-11		County Parish or Offshore Area N. Sea	
State/Province Norway		Operation Logging		Casing	
Depth 6802		Surface in. @ 20 Ft. 1520		Mud Vol. Bbl. 2060 Pits 600	
Bit Size in. 17/32 No.		Intermediate in. @		Total Circulating Vol. 2660	
Drill Pipe Size 5		Production or Liner in. @		In Storage	
Drill Collar: Size Length		Wt. of Stored Mud		Circulation Data	
				Pump Size 6 1/4 X 19 in.	
				Bbl./Cyc. —	
				Cyc./Min. 105	
				Stand Pipe Press. psi 2400	
				Circulating Bottom Up, Min. 79	
				Circulating Total, Min. 100	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 11.2	Vis. 60	Filtration <10cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 10091.00	Mud Cost Cumulative 33223.62
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

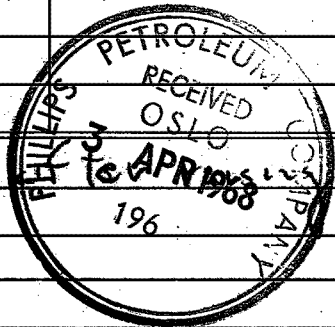
Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 11.2	Plastic Viscosity, cp @ °F 18	
Viscosity, Sec./qt API @ °F 55		Yield Point, lb/100 sq ft 18	
Filtrate, ml, API 9.0		Gels, lb/100 sq ft., 10 Sec./10 min. 8/17	
Filtrate, API HT-HP @ °F —		Calcium Ion; ppm ☒ epm ☐ 340	
Cake, 32nd In. API ☒ HT-HP ☐ 4/32		Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ Nil	
Sand Content ☐ Sand only ☒ All solids % by Vol 6.75		Pm, cc N/50 H ₂ SO ₄ 7	
Salt ppm ☐ Chloride ppm ☒ 22000		lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
pH indicator ☒ 7.0		Oil % by Vol 3	
Solids % by Vol 16		Water % by Vol 81	
Solids, av. sp. gr. ☐ ppb low gr. ☐ 0.32		Liquid phase, Vol % oil/water /	
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	140 MT Barite
	4 Act. Flo S

COMMENTS Logging mud weight



BAROID SALES ENGINEER		TELEPHONE
NAME Devlin	MOBILE	
HOME ADDRESS	HOME	
STORE ADDRESS	STORE	

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **26 Mar 1968**

Operator Phillips Pet Co.	Contractor ODECO	Rig No.
Address Staravner	Address Rog	Spud Date
Report for Mr. Seaburn	Report for Mr. Redford	Sec. Twp. Rng.

Well Name and No. 7-11-K	Field or Block No. 7-11	County Parish or Offshore Area N. Sea	State/Province Norway
Operator Circ.	Casing	Mud Vol. Bbl.	Circulation Data
Depth 6512	Surface 20 in. @ 1320 Ft.	Hole 2060 Pits 600	Pump Size 4-7 1/2 in.
Bit Size in. 17 1/2 No.	Intermediate in. @	Total Circulating Vol. 2660	Bbl./Cyc. —
Drill Pipe Size 5	Production or Liner in. @	In Storage	Cyc./Min. 105
Drill Collar: Size Length		Wt. of Stored Mud	Bbl./Min. 26.3
			Annular Vel. Ft./Min. 93
			Opp DP 93 Opp Col.
			Stand Pipe Press. psi 1700
			Circulating Bottom Up, Min. 79
			Circulating Total, Min. 100

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 11.2	Vis. 60	Filtration <10cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 79.80	Mud Cost Cumulative 23142
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☒	Centrifuge ☐	Other ☐
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MUD PROPERTIES

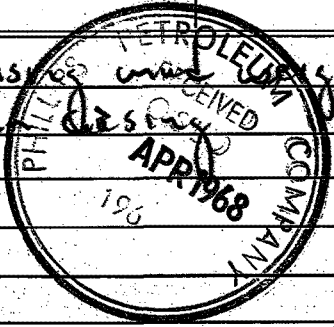
Time 0700 a.m. ☐ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☐ Pit ☒
Weight of Mud lb/gal ☒ lb/eu ft ☐	Present 11.2	Plastic Viscosity, cp @ °F	14
Viscosity, Sec./qt API @ °F	65	Yield Point, lb/100 sq ft	20
Filtrate, ml, API	1.6	Gels, lb/100 sq ft., 10 Sec./10 min.	12/21
Filtrate, API HT-HP @ °F	—	Calcium Ion; ppm ☒ epm ☐	340
Cake, 32nd In. API ☒ HT-HP ☐	2 1/2	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ N.I	
Sand Content ☒ Sand only ☐ all solids % by Vol	1.0	Pm, cc N/50 H ₂ SO ₄ Z	
Salt ppm ☐ Chloride ppm ☒	22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	3
pH electrode ☒ indicator ☐	7.0	Oil % by Vol	81
Solids % by Vol	16	Water % by Vol	1
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.32	Liquid phase, Vol % oil/water	
Rm @ 64°F		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

15 Paraformaldehyde

COMMENTS **Analysis was brought to log & run**



BAROID SALES ENGINEER

TELEPHONE

NAME **Devlin**
HOME ADDRESS
STORE ADDRESS

MOBILE
HOME
STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **25 Mar 19 68**

Operator Phillips Pet. Co	Contractor ODECO	Rig No. Viking
Address Stavanger	Address Ris	Spud Date 25 Feb
Report for Mr. Seaborn	Report for Mr. Redford	Sec. Twp. Rng.

Well Name and No. 7-11-1K	Field or Block No. 7-11	County Parish or Offshore Area N. Sea	State/Province Norway
Operation Reaming & Cwc.	Casing	Mud Vol. Bbl.	Circulation Data
Depth 6512	Surface in. @ 20 Ft. 1320	Hole Pits 2060 600	Pump Size 7 1/2 X 19 in.
Bit Size in. 17 1/2 No.	Intermediate in. @	Total Circulating Vol. 2660	Bbl./Cyc. —
Drill Pipe Size 5	Production or Liner in. @	In Storage —	Cyc./Min. 98
Drill Collar: Size Length	Wt. of Stored Mud —	Bbl./Min. 1100 262	Annular Vel. Ft./Min. 93 Opp Col.
			Stand Pipe Press. psi 2400
			Circulating Bottom Up, Min. 76
			Circulating Total, Min. 100

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 9.5	Vis. 60	Filtration <10 cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 1779.50	Mud Cost Cumulative 23062.52
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0600 a.m. ☒ p.m. ☐	Temp. Mud °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 9.7 10.2	Plastic Viscosity, cp @ °F 16 7	
Viscosity, Sec./qt API @ °F 62 64		Yield Point, lb/100 sq ft 22	
Filtrate, ml, API 4.6 6.8		Gels, lb/100 sq ft., 10 Sec./10 min. 9/16	
Filtrate, API HT-HP @ °F 2 1/32 2 1/32		Calcium Ion; ppm ☒ epm ☐ 360	
Cake, 32nd In. API ☒ HT-HP ☐ 7.0 7.0		Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ N.I.	
Sand Content ☐ Sand only ☒ all solids % by Vol 1.0 7		{ Pm, cc N/50 H ₂ SO ₄ Z	
Salt ppm ☐ Chloride ppm ☒ 22000		Lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐ 4	
pH electrode ☐ indicator ☒ 7.0		Oil..... % by Vol 86	
Solids..... % by Vol 10		Water..... % by Vol 1	
Solids, av. sp. gr. ☐ ppb low gr. ☐ 0.32		Liquid phase, Vol % oil/water	
		Electrical Stability, volts	

ADDITIVES IN MUD

MATERIALS RECOMMENDED

Desco-30	
Flacel-40	
Driscoll-10	

COMMENTS Reamed & logged. Acc. logs would not go. Appeared to bottom.
186
1968

BAROID SALES ENGINEER	TELEPHONE
NAME Devlin	MOBILE
HOME ADDRESS	HOME
STORE ADDRESS	STORE

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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date **24 Mar. 19 68**

Operator Phillip Pet. Co.		Contractor ODECO		Rig No. Viking	
Address Stavanger		Address Ry		Spud Date 25 Feb	
Report for Mr. Megard		Report for Mr. Redford		Sec. Twp. Rng.	
Well Name and No. 7-11-K		Field or Block No. 7-11		County, Parish or Offshore Area N. Sea	
State/Province Norway		Operation Reaming		Casing	
Depth 5800 (6500 TD)		Surface in. @ 20 Ft. 1520		Hole (5800') its 600	
Bit Size in. 17 1/2 No.		Intermediate in. @		Total Circulating Vol. 2430	
Drill Pipe Size 5		Production or Liner in. @		In Storage	
Drill Collar: Size Length		Wt. of Stored Mud		Circulation Data	
				Annular Vel. Ft./Min.	
				Opp DP 102 Opp Col.	
				Stand Pipe Press. psi 2300	
				Circulating Bottom Up Min. 66 (5800')	
				Circulating Total, Min. 88	

DRILLING FLUID SPECIFICATIONS

Type Seawater	Weight 9.5t	Vis. 60	Filtration <10cc	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily 4842.20	Mud Cost Cumulative 21283.22
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time 0630 a.m. ☒ p.m. ☐	Temp. Mud 1500 °F	Mud Sample Taken	Flowline ☒ Pit ☐
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 9.7	Plastic Viscosity, cp @ 20 °F	16
Viscosity, Sec./qt API @ 75 °F	62	Yield Point, lb/100 sq ft	26
Filtrate, ml, API	3.9	Gels, lb/100 sq ft., 10 Sec./10 min.	7/20
Filtrate, API HT-HP @ 2/32 °F	4.6	Calcium Ion; ppm ☒ epm ☐	9/23
Cake, 32nd In. API HT-HP ☒	2/32	Alkalinity, API { PF, cc N/50 H ₂ SO ₄ N.I.	7
Sand Content ☒ Solid only ☐ all solids % by Vol	0.75	Pm, cc N/50 H ₂ SO ₄ Z	
Salt ppm ☒ Chloride ppm ☒	22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	
pH electrode ☒ indicator ☐	7.0	Oil..... % by Vol 4	
Solids..... % by Vol	10	Water..... % by Vol 86	
Solids, av. sp. gr. ☐ ppb low gr. ☐	0.32	Liquid phase, Vol % oil/water /	
Rn @ 62°	3280	Electrical Stability, volts	
H.H. @ 6500'			

ADDITIVES IN MUD

MATERIALS RECOMMENDED Used.

Paraformaldehyde-30 Sx	
Drispac-60 Sx	
Floccul-30 Sx	
Desco-20 Sx	

COMMENTS light hole when pulling pipe to logs.
APR 1968

BAROID SALES ENGINEER		TELEPHONE
NAME Devlin	MOBILE	
HOME ADDRESS	HOME	
STORE ADDRESS	STORE	

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BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date 23 Mar 1968

Operator Phillips Pet. Co.	Contractor ODECO	Rig No. Viking
Address Stavanger	Address Rys	Spud Date 25 Feb.
Report for Mr. Meyer	Report for Mr. Redford	Sec. Twp. Rng.

Well Name and No. T-11-K	Field or Block No. T-11	County Parish or Offshore Area N. Sea	State/Province Norway
Operation Drilling	Casing	Mud Vol. Bbl.	Circulation Data
Depth 6460	Surface 20 in. @ 1520 Ft.	Hole 2060 Pits 600	Pump Size 7 1/2 X 13 in.
Bit Size in. No.	Intermediate in. @ Ft.	Total Circulating Vol. 2660	Bbl./Cyc.
Drill Pipe Size 5	Production or Liner in. @ Ft.	In Storage	Cyc./Min. 90
Drill Collar: Size Length	Wt. of Stored Mud	Bbl./Min. 2.5	Annular Vel. Ft./Min.

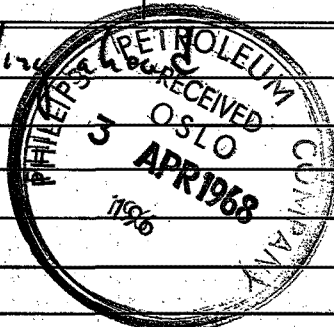
DRILLING FLUID SPECIFICATIONS				Authority:		Mud Cost Daily 6.50
Type Seawater	Weight 9.5	Vis. 60	Filtration 2/10 cc	Operator's Written Operator's Rep.	☒ Drilling Contractor ☐ Other	Mud Cost Cumulative 164.12

EQUIPMENT						
Shale Shaker	☒ DD Shaker	☐ Desander	☒ Degasser	☒ Centrifuge	☐ Other	

MUD PROPERTIES						
Time a.m. ☐ p.m. ☒	Temp. Mud 0200 0630 °F	Mud Sample Taken	Flowline ☐ Pit ☐			
Weight of Mud lb/gal ☒ lb/cu ft ☐	Present 9.6+ 9.6+	Plastic Viscosity, cp @ _____ °F		7	22	
Viscosity, Sec./qt API @ _____ °F	100 102	Yield Point, lb/100 sq ft			36	
Filtrate, ml, API	6.4 4.6	Gels, lb/100 sq ft., 10 Sec./10 min.			9/30	
Filtrate, API HT-HP @ _____ °F	— —	Calcium Ion; ppm ☒ epm ☐			320	
Cake, 32nd In. API ☐ HT-HP ☐	2/32 2/32	Alkalinity, API { Pf, cc N/50 H ₂ SO ₄			N.I	
Sand Content ☐ Sand only ☒ all solids % by Vol	0.75 0.75	{ Pm, cc N/50 H ₂ SO ₄			2	
Salt ppm ☐ Chloride ppm ☒	7 22000	lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐			4	
pH electrode ☒ indicator ☐	7 7.0	Oil % by Vol			85	
Solids % by Vol	11	Water % by Vol				
Solids, av. sp. gr. ☐ ppb low gr. ☐	—	Liquid phase, Vol % oil/water				
Rm @ 60°F	0.32	Electrical Stability, volts				
H.H. @ 2400'	3210					

ADDITIVES IN MUD		MATERIALS RECOMMENDED Used	
		Diesel-205 bbls	Dextonite-7 Sx.
		Soltex-71 Sx	Actaflo-S-3 bbls
		Dispac-40 Sx.	Baryte-5 MT.
		Floal-38 Sx.	
		Floegel-16 Sx	

COMMENTS Drilling	BAROID SALES ENGINEER		TELEPHONE
	NAME Devlin		MOBILE
	HOME ADDRESS		HOME
	STORE ADDRESS		STORE



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BAROID DIVISION NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date 22 MAR 19 68

Operator <u>Phillips Pet. Co.</u>		Contractor <u>ODECO</u>		Rig No. <u>0 Viking</u>	
Address <u>Stavanger</u>		Address <u>Ny</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>Megard</u>		Report for Mr. <u>Redford</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N. Sea.</u>	
State/Province <u>Norway</u>		Casing		Mud Vol. Bbl.	
Depth <u>5500</u>		Surface in. @ <u>1520</u> Ft.		Hole <u>1760</u> Pits <u>600</u>	
Bit Size in. <u>1 7/8</u> No.		Intermediate in. @		Total Circulating Vol. <u>2360</u>	
Drill Pipe Size <u>5</u>		Production or Liner in. @		In Storage	
Drill Collar: Size Length		Wt. of Stored Mud		Circulation Data	
				Pump Size <u>7 1/2</u> X <u>18</u> in.	
				Opp DP <u>85</u> Opp Co	
				Stand. Pipe Press. psi <u>2200</u>	
				Circulating Bottom Up Min. <u>75</u>	
				Circulating Total Min. <u>101</u>	

DRILLING FLUID SPECIFICATIONS

Type <u>Seawater</u>	Weight <u>9.5</u>	Vis. <u>60</u>	Filtration <u><15</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily
						Mud Cost Cumulative

EQUIPMENT

Shale Shaker ☒	DD Shaker ☒	Desander ☐	Degasser ☒	Centrifuge ☒	Other ☐
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MUD PROPERTIES

Time <u>0930</u> a.m. ☒ p.m. ☐	Temp. Mud <u>100</u> °F	20:00	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☒ cu ft ☐	Present <u>9.5</u>	<u>9.6</u>	<u>9.7</u>
Viscosity, Sec./qt API @ _____ °F	<u>58</u>	<u>63</u>	<u>95</u>
Filtrate, ml, API	<u>18.4</u>	<u>14.4</u>	<u>8.0</u>
Filtrate, API HT-HP @ _____ °F	<u>-</u>		
Cake, 32nd In. API ☐ HT-HP ☐	<u>3</u>	<u>3</u>	<u>2</u>
Sand Content ☐ sand only ☐ all solids % by Vol	<u>.75</u>	<u>.50</u>	<u>0.75</u>
Salt ppm ☐ Chloride ppm ☐	<u>21000</u>	<u>22000</u>	<u>7</u>
pH electrode ☐ indicator ☒	<u>7</u>	<u>7.3</u>	<u>7</u>
Solids, % by Vol	<u>10</u>		
Solids, av. sp. gr. ☐ ppb low gr. ☐			
Plastic Viscosity, cp @ _____ °F	<u>13</u>	<u>14</u>	<u>19</u>
Yield Point, lb/100 sq ft	<u>17</u>	<u>17</u>	<u>29</u>
Gels, lb/100 sq ft., 10 Sec./10 min.	<u>7/8</u>	<u>8-10</u>	<u>9/25</u>
Calcium Ion; ppm ☒ epm ☐	<u>440</u>	<u>450</u>	<u>7</u>
Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ <u>.00</u> Pm, cc N/50 H ₂ SO ₄ <u>.04</u>	<u>.00</u>	<u>.00</u>	<u>.02</u>
lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>3</u>		
Oil, % by Vol	<u>1</u>		
Water, % by Vol			
Liquid phase, Vol % oil/water			
Electrical Stability, volts			

ADDITIVES IN MUD

MATERIALS RECOMMENDED

COMMENTS

WASH 15 OFF TO BOTTOM.
AFTER BEING SUB. TRIP (LEAK).
PUT 16/14 IN. AND ALL ON CONNECTION'S

BAROID SALES ENGINEER

NAME Stelzer & Devlin
HOME ADDRESS
STORE ADDRESS

TELEPHONE

MOBILE
HOME
STORE

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BAROID DIVISION
NATIONAL LEAD COMPANY
DRILLING MUD REPORT

Date 21 MAR 19 68

Operator PHILLIPS PETR CO	Contractor O.D.E.C.O.	Rig No. 0. Viking
Address STAVANGER	Address RIG	Spud Date 25 FEB
Report for Mr. MEGAN	Report for Mr. REDFORD	Sec. Twp. Rng.
Well Name and No. 7-11-1X	Field or Block No. 7-11	County, Parish or Offshore Area N-SEA
State/Province NORWAY	Operation DRILLING	Casing 30 450
Depth 5450	Surface in. @ 20 1520	Mud Vol. Bbl. 1625 800
Bit Size in. 17 1/2 4	Inter-mediate in. @ 2425	Circulation Data 7 1/2 18
Drill Pipe Size 5	Production or Liner in. @ 40-45	Annular Vel. Ft./Min. 85
Drill Collar: Size Length 18 77 1/4	Wt. of Stored Mud 23.5	Stand Pipe Press, psi 2200
		Circulating Bottom Up, Min. 70
		Circulating Total, Min. 110

DRILLING FLUID SPECIFICATIONS

Type SEA WATER	Weight 9	Vis. 40	Filtration 15	Operator's Written Operator's Rep.	Authority: ☒ Drilling Contractor ☐ Other	Mud Cost Daily 2968.22	Mud Cost Cumulative 10290.27
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EQUIPMENT

Shale Shaker	☐ DD Shaker	☐ Desander	☒ Degasser	☐ Centrifuge	☐ Other
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MUD PROPERTIES

Time 0600	Temp. Mud 2340	Sample Taken	Flowline	Pit
Weight of Mud lb/gal 9.4	Plastic Viscosity, cp @ 9.5	Yield Point, lb/100 sq ft 15	15	20
Viscosity, Sec./qt API @ 41	Gels, lb/100 sq ft., 10 sec./10 min. 7.5	Calcium Ion, ppm 7/8	18-25	440
Filtrate, ml, API 16.2	Alkalinity, API 4.50	lb/bbl lime 100	105	103
Filtrate, API HT-HP @ 3	Oil % by Vol 7	Water % by Vol 84	1	85
Cake, 32nd In. API HT-HP 3	Liquid phase, Vol % oil/water 1	Electrical Stability, volts		
Sand Content .75				
Salt 21000				
pH 7.3				
Solids 9				
Solids, av. sp. gr. 1.12				

ADDITIVES IN MUD

MATERIALS RECOMMENDED

	5 MT BAROID 21 SOLTEY
	26 DRISPA L 110 BBLs DIESEL
	38 EDE GEL 5 FORMALDEHYDE
	3 AKTAFLO-S

COMMENTS WORK ON PUMPS 4800-5450. APR 1968 TOCHER RUMER S.B.	BAROID SALES ENGINEER NAME MAURICE STEINER HOME ADDRESS STAVANGER STORE ADDRESS NORTH SEA EXP	TELEPHONE MOBILE 56474 HOME 20012
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BAROID DIVISION

NATIONAL LEAD COMPANY

DRILLING MUD REPORT

Date MAR 20 19 68

Operator <u>PHILLIPS PET CO</u>		Contractor <u>O DELCO</u>		Rig No. <u>ONIKING</u>	
Address <u>STAVANGER</u>		Address <u>RIG</u>		Spud Date <u>25 FEB</u>	
Report for Mr. <u>MEGAN</u>		Report for Mr. <u>DORSA</u>		Sec. Twp. Rng.	
Well Name and No. <u>7-11-1X</u>		Field or Block No. <u>7-11</u>		County, Parish or Offshore Area <u>N-SEA</u>	
State/Province <u>NORWAY</u>		Casing <u>30 450</u>		Mud Vol. Bbl. <u>700</u>	
Operation <u>DRILLING</u>		Depth <u>4800</u>		Circulation Data	
Surface in. @ <u>20</u>		Ft. <u>1520</u>		Annular Vel. Ft./Min. <u>100</u>	
Hole Pits <u>1430</u>		Pump Size <u>7 1/2 X 18</u>		Opp DP <u>100</u>	
Total Circulating Vol. <u>2130</u>		Bbl./Cyc. <u>50-50</u>		Opp Col. <u>100</u>	
Stand Pipe Press. psi <u>2700</u>		Circulating Bottom Up, Min. <u>2700</u>		Circulating Total, Min. <u>2700</u>	
Drill Pipe Size <u>5</u>		Wt. of Stored Mud <u>22.6</u>		Circulating Bottom Up, Min. <u>2700</u>	
Drill Collar: Size Length		Wt. of Stored Mud		Circulating Total, Min.	

DRILLING FLUID SPECIFICATIONS

Type <u>SEA-WATER</u>	Weight <u>9</u>	Vis. <u>40</u>	Filtration <u>15</u>	Operator's Written Operator's Rep. ☒	Authority: ☒ Drilling Contractor ☐ Other: ☐	Mud Cost Daily <u>108.935</u>	Mud Cost Cumulative <u>7321.50</u>
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EQUIPMENT

Shale Shaker ☒	DD Shaker ☐	Desander ☐	Degasser ☐	Centrifuge ☐	Other <u>2066 ING.</u>
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MUD PROPERTIES

Time <u>0600</u> a.m. ☐ p.m. ☐	Temp. Mud <u>1130 F</u>	Sample Taken <u>2300</u>	Flowline ☐ Pit ☐
Weight of Mud lb/gal ☐ lb/cu ft ☐	Present <u>9.1</u>	<u>9.6</u>	<u>10</u>
Viscosity, Sec./qt API @ <u>—</u> °F	<u>42</u>	<u>52</u>	<u>43</u>
Filtrate, ml, API	<u>14.8</u>	<u>21</u>	<u>17</u>
Filtrate, API HT-HP @ <u>—</u> °F	<u>—</u>	<u>—</u>	<u>—</u>
Cake, 32nd In. API ☐ HT-HP ☐	<u>3</u>	<u>4</u>	<u>3</u>
Sand Content ☐ sand only ☐ all solids % by Vol	<u>.50</u>	<u>.75</u>	<u>.75</u>
Salt ppm ☐ Chloride ppm ☐	<u>22000</u>	<u>21000</u>	<u>22000</u>
pH indicator ☐	<u>7</u>	<u>7</u>	<u>7</u>
Solids, % by Vol	<u>7</u>	<u>7</u>	<u>12</u>
Solids, av. sp. gr. ☐ ppb low gr. ☐	<u>.54</u>	<u>—</u>	<u>—</u>
Plastic Viscosity, cp @ <u>—</u> °F	<u>10</u>	<u>12</u>	<u>11</u>
Yield Point, lb/100 sq ft	<u>15</u>	<u>18</u>	<u>15</u>
Gels, lb/100 sq ft., 10 Sec./10 min.	<u>8/15</u>	<u>14/20</u>	<u>10/14</u>
Calcium Ion; ppm ☐ epm ☐	<u>420</u>	<u>450</u>	<u>450</u>
Alkalinity, API { Pf, cc N/50 H ₂ SO ₄ ☐ Pm, cc N/50 H ₂ SO ₄ ☐	<u>2.00</u>	<u>1.20</u>	<u>.90</u>
lb/bbl lime ☐ gyp ☐ CaCl ₂ ☐	<u>—</u>	<u>—</u>	<u>—</u>
Oil, % by Vol	<u>4</u>	<u>2</u>	<u>3</u>
Water, % by Vol	<u>85</u>	<u>—</u>	<u>85</u>
Liquid phase, Vol % oil/water	<u>—</u>	<u>—</u>	<u>—</u>
Electrical Stability, volts	<u>—</u>	<u>—</u>	<u>—</u>

ADDITIVES IN MUD

<u>SHOT DOWN 14 DAYS</u>
<u>WOW</u>
<u>MUD IN HOLE SOURCED</u>

MATERIALS RECOMMENDED USED

<u>75 FLOC-GEL</u>
<u>75 FORMALDEHYDE</u>
<u>60 DESCO</u>
<u>80 BBLS DIESEL</u>

COMMENTS

<u>WAS PETROLEUM</u>
<u>14 90 3 4000 14 HRS.</u>
<u>PHILLIPS RECEIVED</u>
<u>3 OSL</u>
<u>APR 1968</u>
<u>196</u>

BAROID SALES ENGINEER

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THIS COPY TO CONTRACTOR

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