NAME
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GOLDEN EAGLE REFINING CO.OF CANADA LIMITED 1965

Shoal Point No. 1 Drilling Report; Golden Eagle Refining Company of Canada Limited, Unpub. Report BRINEX

[redacted] G65005

No 12B/10 (163)

12B/10 (163)

SHOAL POINT NO. 2

DRILLING REPORT

GOLDEN EAGLE REFINING COMPANY OF CANADA LIMITED

SHOAL POINT NO. 2

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58°55'

58°50'

SHOAL POINT N° 1
48° 38' 35" N
58° 50' 36" W

SHOAL POINT

SHOAL POINT N° 2
48° 37' 22" N
58° 51' 00" W

EAST BAY

WEST BAY

SOUTH HEAD

48°35'

PICCADILLY BAY

COSTA BAY

BOSWARLOS

PICCADILLY

58°55'

GOLDEN EAGLE OIL AND GAS LIMITED

SHOAL POINT
PORT AU PORT PENINSULA

LOCATION OF WELLS SHOAL POINT N° 1 AND N° 2

SCALE 1 : 50,000

OCT. 1965

WELL SUMMARY

WELL NAME: Shoal Point No. 2

LOCATION: 48° 37' 22" N
58° 51' 00" W

ELEVATIONS: Ground Level: 6 ft.
K.B.: 15 ft.

DATE SPUDDED: August 29, 1965

CONTRACTOR: Big Indian Drilling Company

CASING RECORD: Surface

Landed: 131.80 feet
Date: August 30, 1965
Make: Mannesman
Size: 7"
Range: 2
Type: Seamless
Weight: 17 lb.
Grade: H-40
Cement: 35 sacks cement + 2% $CaCl_2$
Plug down at 11:00 a.m. August 31, 1965

Production

Landed: 2278.00 feet
Date: September 25, 1965
Make: Mannesman
Size: 4½"
Range: 2
Type: Seamless
Weight: 9.5 lb.
Grade: J-55
Cement: 150 sacks

323 feet of this casing was subsequently backed off and recovered.

TESTING:

Company: Big Indian Drilling Company
Date: September 18, 1965
DST #1 - Interval 2005 - 2170 - Misrun
Date: September 28, 1965
Swab Test #1 - Interval 2278 - 2335
No fluid entry.
Date: October 3, 1965
Swab Test #2 - Interval 2278 - 2335
No fluid entry.

Date: October 6, 1965
Swab Test #3 - Interval 2230 - 2255
- Interval 2287 - 2289
No fluid entry.
Date: October 7, 1965
Swab Test #4 - Interval 2278 - 2335
- Interval 2151 - 2163
- Interval 2097 - 2101
- Interval 2103 - 2110
- Interval 2058 - 2068
- Interval 2040 - 2048
- Interval 2019 - 2026
No fluid entry.
Date: October 8, 1965
Swab Test #5 - Interval 2159 - 2164
No fluid entry.
Date: October 9, 1965
Swab Test #6 - Interval 95 - 105
No fluid entry.

CORING: Company: Big Indian Drilling Company
Date: September 4, 1965
Core #1 - Interval 831 - 841 - Recovered 100%
Date: September 15, 1965
Core #2 - Interval 2053 - 2061 - Recovered 100%
Date: September 21, 1965
Core #3 - Interval 2278 - 2296 - Recovered 100%
Date: September 22, 1965
Core #4 - Interval 2296 - 2314 - Recovered 100%
Date: September 23, 1965
Core #5 - Interval 2314 - 2335 - Recovered 100%

TOTAL DEPTH: 2335 feet.

RIG RELEASED: October 10, 1965

CASING HEAD EQUIPMENT: 7" x 2" swage and 2" 2000 lb. plug valve.

LOGGING: Company: Electronic Logging & Velocity Co. Ltd.
Date: August 31, 1965 - Electric Log - Self potential and resistivity
0 - 132
Date: September 9, 1965 - Electric Log - Self potential and resistivity
132 - 1532
Date: September 18, 1965 - Electric Log - Self potential and resistivity
132 - 2172

Date: September 24, 1965 - Electric Log - Self potential and resistivity

2000 - 2335

STATUS: Suspended.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

SHOAL POINT NO.2

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.O.G.	REMARKS
Aug. 30	0	75	75	9	1A	30 65	3/4 ½	Drilling 9 inch hole. SPUDDED 10:30 p.m. AUGUST 29th
Aug. 31	75	132	57	14	1A	129	1½	Cementing surface casing. Drilled 9 inch hole to 132 feet. Ran Electric Log from 132 feet to surface. Ran 4 joints (123.00 feet) 7 inch 17 lb. H-40 casing and set at 131.80 ft.
Sept. 1		132	0	0	-			Waiting on cement. Cemented casing with 35 sacks of construction cement plus 2% $CaCl_2$. Plug down 11:00 a.m. August 31st. No cement returns. Found cement down 7 feet. Mixed 5 sacks and cemented to surface.
Sept. 2	132	395	263	14	1 & 2	150 217 247 300 360	1 1½ 1 1 1½	Drilling 6¼ inch hole at 395 feet. Drilled out at 12:30 p.m. September 1st. Drilling with water. Mud Properties: Viscosity 33 Weight 8.0
Sept. 3	395	690	295	20¼	2 3	400 430 490 560 590	1-3/4 1¼ 1½ ½ 0	Drilling 6¼ inch hole at 690 feet. Drilling with water but beginning to mud up in preparation for coring. Mud Properties: Weight 8.5 Viscosity 32 Lithology: Shale
Sept. 4	690	830	140	10	3 & 4	690 750 780	3/4 1½ 1	Drilling 6¼ inch hole at 830 feet. Mud Properties: Weight 9.4 Viscosity 60 Water Loss 8.4 F.C. 2/32 pH 10

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 4 cont'd								Lithology: Shale. Last 5 feet limestone. Preparing to cut Core No. 1
Sept. 5	830	947	117	Coring 5½ Drilling 13-3/4	4 & 5	851 915	1-3/4 1½	Drilling 6½ inch hole at 947 feet. Mud Properties: Weight 9.2 Viscosity 50 Water Loss 8 F.C. 2/32 pH 11 Cut Core No. 1 from 831 - 841, 100% recovery. Lithology: Mainly Shale with Limestone stringers.
Sept. 6	947	1105	158	13½	5 & 6	980 1010 1070	1-3/4 1½ 1	Drilling 6½ inch hole at 1105 feet. Mud Properties: Weight 9.2 Viscosity 45 Water Loss 9.5 F.C. 2/32 pH 11 Became stuck in hole at 3:30 a.m. Lithology: Mainly Shale.
Sept. 7	1105	1247	142	12	6 & 7	1165 1230	1 1½	Drilling 6½ inch hole at 1247 feet. Mud Properties: Weight 9.3 Viscosity 50 Water Loss 5.2 F.C. 2/32 pH 10.5 Freed stuck pipe at 12:30 p.m.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 8	1247	1403	156	19	7& 8	1290 1330 1390	1½ 1½ 1½	Drilling 6¼ inch hole at 1403 feet. Mud Properties: Weight 9.8 Viscosity 77 Water Loss 6 F.C. 2/32 pH 11
Sept. 9	1403	1547	144	14	8& 9	1450 1515	2½ 2½	Drilling 6¼ inch hole at 1547 feet. Mud Properties: Weight 9.6 Viscosity 70 Water Loss 5 F.C. 2/32 pH 11 Operation at 8:00 a.m. - running Electric Log.
Sept. 10	1547	1655	108	15¼	10& --	1610	2	Drilling 6¼ inch hole at 1655 feet. Mud Properties: Weight 9.5 Viscosity 55 Water Loss 5.5 F.C. 2/32 pH 10.5 Ran Electric Log from 1372' to Shoe.
Sept. 11	1655	1732	77	18¼	11& 12	1675	2	Drilling 6¼ inch hole at 1732 feet. Mud Properties: Weight 9.2 Viscosity 50 Water Loss 5 F.C. 2/32 pH 12 Lithology. Sandstone and Shale.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G	REMARKS
Sept. 12	1732	1830	98	16½	12 & 13	1738 1800	3 2-3/4	Drilling 6¼ inch hole at 1830 feet. Mud Properties: Weight 9.3 Viscosity 52 Water Loss 5.5 F.C. 2/32 pH 12
Sept. 13	1830	1931	101	10-3/4	13 & 14	1867 1930	2½ 3	Drilling 6¼ inch hole at 1931 feet. Mud Properties: Weight 9.4 Viscosity 55 Water Loss 5 F.C. 2/32 pH 12
Sept. 14	1931	2053	122	19-3/4	14 & 15	1990	2¼	Drilling 6¼ inch hole at 2053 feet. Mud Properties: Weight 9.8 Viscosity 54 Water Loss 4.2 F.C. 2/32 pH 12 Lithology: Shale with Limestone and Sandstone stringers.
Sept. 15	2053	2060	Cored 7	3		-	-	Coring a 6-1/8 inch hole at 2060 feet. Mud Properties: Weight 9.7 Viscosity 65 Water Loss 3 F.C. 2/32 pH 12

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 16	2060	2113	Cored 1 Drilled 52	15¼	16 & 17	2055 2085	4 4½	Drilling 6¼ inch hole at 2113 feet. Mud Properties: Weight 10 Viscosity 55 Water Loss 4.4 F.C. 2/32 pH 12 Cut Core No. 2 from 2053' - 2061'. Total of 8'. 100% recovery. Lithology of core - an oil saturated dark coloured shale.
ept. 17	2113	2170	57	11	18	2121	4 5¼	Drilling 6¼ inch hole at 2170 feet. Mud Properties: Weight 9.7 Viscosity 50 Water Loss 4.4 F.C. 2/32 pH 11.5 Wind too strong to pull out of hole to log and test. Operation at 8:00 a.m. - circulating on bottom.
Sept. 18	2170	2170	-					Drilling 6¼ inch hole at 2170 feet. Mud Properties: Weight 9.7 Viscosity 97 Water Loss 4.7 F.C. 2/32 pH 11 High wind. Circulating on bottom - waiting for wind to d. down before pulling out of hole to log. 13½ hours circulating. Ran Electric Log from 2170 feet. 5 hours logging time. Operation at 8:00 a.m. - Pulling out of hole to run Drillstem Test No. 1. Test interval from 2005' - 2170'.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 19	2170	2195	25	8	18	-	-	Drilling 6¼ inch hole at 2195 feet. Mud Properties: Weight 9.8 Viscosity 60 Water Loss 5 F.C. 2/32 pH 10.5 Ran Drillstem Test No. 1 over the interval 2005' - 2170'. Misrun due to packer failure. Took on 360' drilling mud before pulling Test. Testing 11½ hours includes tripping.
Sept. 20	2195	2258	63	19	18& 19	2215	5½	Drilling 6¼ inch hole at 2258 feet. Mud Properties: Weight 9.3 Viscosity 48 Water Loss 5.2 F.C. 2/32 pH 11
Sept. 21	2258	2278	20	5½	19& 20	2275	3½	Drilling 6¼ inch hole at 2278 feet. Mud Properties: Weight 9.5 Viscosity 75 Water Loss 4.6 F.C. 2/32 pH 11 Attempting to cut Core No. 3 from 2278 feet. Unable to reach bottom with core barrel. Operation at 8:00 a.m. - reaming a bridge at the 300 foot mark.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 22	2278	2296	Cored 18'	12-3/4				Cored 6-1/8 inch hole from 2278' - 2296'. Mud Properties: Weight 9.6 Viscosity 70 Water Loss 4.6 F.C. 2/32 pH 11.0 Cut Core No. 3 from 2278' - 2296'. Operation at 8:00 a.m. - Pulling Core No. 3 Operations during the next 24 hours: Running Electric Log over bottom portion of hole from 2296' to 1950'. Preparing to run casing.
Sept. 23	2296	2317	Cored 21'	9-3/4				Coring 6-1/8 inch hole from 2278' - 2317'. Mud Properties: Weight 9.5 Viscosity 97 Water Loss 4.6 F.C. 2/32 pH 11.5 Ran Electric Log from 2296' - 1950'. 2 hours logging time. Cut Core No. 4 from 2296' - 2314', 100% recovery. Operation at 8:00 a.m. - Cutting Core No. 5 from 2314'.
Sept. 24	2317	2335	Cored 18'	9½				Cored 6-1/8 inch hole from 2278' - 2335'. Mud Properties: Weight 9.8 Viscosity 97 Water Loss 3.8 F.C. 2/32 pH 11.0 Cut Core No. 5 from 2314' - 2335', 100% recovery. Lithology of Core No. 5 was Shale throughout. Ran Electric Log from 2315' to 2000'. Operations for next 24 hours: Preparing to run casing.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 25	-	2335						Reamed rat hole to bottom 1½ hours. Circulated to condition hole (and waited on orders 3-3/4 hours). Dismantled BOP's and charged casing bowl. Completed running 74 stands of casing to 2278' at 4:15 a.m. (6½ hours running casing).
Sept. 26	-	2335						Cemented with 150 sacks of Portland normal cement. Weight 15 lbs/gallon. Ran 16 bbls. of water ahead. Displaced with 36 bbls. water. Bumped plug with 1100 psi. Plugged down at 2:00 p.m. Bled off - held good. Waiting on Cement at 2:00 p.m.
Sept. 27	-	2335						Waiting on cement. Touched plug at 2275 feet. Casing shoe set at 2278 feet. Drilling plug and shoe.
Sept. 28	-	2335						(1) Drilled out casing shoe at 2278' K.B. (2) Cleaned out with 3-3/4 inch bit to T.D. at 2335'. (3) Pulled bit and ran in with 2-3/8" tubing with barred collar on bottom and 2" pump shoe 1 foot from bottom.
Sept. 29	-	2335						Swabbed from 12:30 p.m. to 8:00 p.m. Lowered fluid level to 1470' in 7½hours. Swabbed approximately 18 bbls. (hole capacity 33 bbls.) Shut in over night. Fluid level at 7:00 a.m. at approximately 1450' (rise of fluid + 20') 8:00 a.m. Swabbing.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Sept. 30		2335						Operation swabbing. Swabbed from 1470 to 2200 feet pulling one swab per hour 8:00 a.m. to 6:00 p.m. Hole swabbed dry. Waiting on acid.
Oct. 1		2335						Measured swab in hole. Fluid level at 2190'. Pulled swab No. 1 and recovered half a barrel of drilling mud and water. Pulled swab No. 2 after 8 hours. Fluid level unchanged, no fluid recovery. Waiting on acid.
Oct. 2								Hauled acid from Port-aux Basques to location.
Oct. 3								Unable to acidize due to high winds and heavy rains.
Oct. 4								Operation at 8:00 a.m. swabbing. Operation 24 hours. Mixed 290 galls (7 barrels) of 15% HCl acid with Dowell A-9 and ammonium bifluoride additives. Spotted acid over interval 2378' to 2316' for 25 minutes. Pressured up to 900 psi. Unable to squeeze acid. Washed acid past interval 4 times at a rate of 3/4 b.p.m. at 300 psi. Pressured up with acid to 1100 psi. Maximum pressure for total of 2 hours. Unable to squeeze. Back-washed acid to surface. Recovered moderately spent acid and fine drilling solids along with slight oil slick. Swabbed 2½ hours approximately 22 barrels of water containing drilling solids and slight oil slick TSTM. Fluid level at 7:30 p.m. 1600 ft. Fluid level at 8:30 a.m. October 4, 1965 - 1600 ft. No rise.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Oct. 5								Swabbed from 1600 ft. to 2150 ft. Recovered approximately 8 bbls. of water. Waiting on PGOC Weather windy and rainy.
Oct. 6								Pulled tubing. Waiting on PGOC
Oct. 7								Perforated open hole interval 2280 ft. to 2285 ft. 2287 ft. to 2289 ft. 3-1/8" Torpedo Jet at 3 shots per foot. Ran tubing to 2262 ft. Swabbed well dry to 2200 ft. in 3 hours. 100% water.
Oct. 8								8:00 a.m. October 7, 1965 - checked fluid level with swab. No fluid rise. Perforated 2151' to 2163' at 4/ft. 48 shots 2097' to 2101' at 3/ft. 33 shots 2103' to 2110' 2058' to 2068' at 3/ft. 30 shots 2040' to 2048' at 4/ft. 32 shots 2019' to 2026' at 4/ft. 28 shots Above guns 2-1/8" SM (expendable) Ran tubing to 2000 ft. and shut in for darkness. 6:30 a.m. to 9:00 a.m. swabbed well dry to 1850 ft. Recovery 100% water.
Oct. 9								Pulled tubing. Perforated the interval 2159 ft. to 2164 ft. 3-1/8" Torpedo jet 11 shots. Ran tubing to 2000 ft. Swabbed dry to 1850 ft. Recovered water only.

GOLDEN EAGLE OIL AND GAS LIMITED

DAILY PROGRESS REPORT

DATE	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
Oct. 10								Ran swab - no increase in fluid level. Pulled tubing. Ran string shot and backed off 323 feet 4½" Perforated 95 feet to 105 feet in 7" surface casing. Ran 120 feet tubing. Swabbed dry.
Oct. 11								Checked fluid level - no rise. Installed 7" x 2" swage and 2" 2000 lb. plug valve on top of casing. Moving out drilling equipment.
Oct. 12								Moving drilling equipment.
Oct. 13								Moving drilling equipment.
Oct. 14								Moving drilling equipment.
Oct. 15								Loading drilling equipment for move to Port aux Basques.
Oct. 16								Loading drilling equipment for move to Port aux Basques.
Oct. 17								Move drilling equipment to Stephenville.
Oct. 18								Move drilling equipment to Port aux Basques and load on ferry.
Oct. 19								Load drilling equipment on rail cars at N. Sydney, N.S.

SHOAL POINT NO. 2

Lat. 48° 37' 22" N
Long. 58° 51' 00" W

REASONS FOR DRILLING

This well, located 150 yards north of the old oil wells on Shoal Point, Port au Port Peninsula, Newfoundland is being drilled to obtain structural and stratigraphic information.

The conspicuous group of NE-SW trending faults dissecting the Peninsula in the Piccadilly area are believed to cross Shoal Point, but the Humber Arm outcrops are too distorted and discontinuous to offer any hope of detecting their presence. It seems likely that the old abandoned oil wells and oil seeps are associated with this fault zone.

On Shoal Point the shape of the underlying carbonate sequence of the Table Head - St. George groups are not known, although they are believed to be more competent than the overlying contorted clastics of the Humber Arm group.

The re-interpretation of the gravity and magnetic data carried out by Huntec Ltd. (1964) supports field mapping reasonably well, with axes of folding corresponding with axes of minimum magnetic values. One such trend strikes north-eastwerds along a surface mapped anticlinal axis into West Bay, and then swings eastward to cross Shoal Point in the vicinity of the old wells. This offers support to the

idea that the carbonate sequence underlying the northern part of Shoal Point plunge northwards, and should be found at minimum depth close to the old wells.

The provisional programme is to drill two or three holes to attempt to establish the top of the Table Head group. This well is planned to be immediately north of the old wells on Shoal Point where there is a peat problem, and a special location will have to be prepared that will support a drilling rig. Depending on the results obtained, an intermediate test may be necessary. The location at which the Table Head is shallowest will be deepened to evaluate the St. George group.

SHOAL POINT NO. 2

SAMPLE DESCRIPTION

(Samples Lagged)

Well spudded into the Humber Arm group of the Ordovician System.

0' - 10'	Peat
10' - 20'	Limestone - cream to very light brown, crypto to finely crystalline, argillaceous, oil staining giving a lemon coloured fluorescence, slight inter-crystalline porosity in parts, slightly pyritic, angular, blocky, hard, mainly dense. Shale - pale green, non-calcareous, blocky, medium hard. Shale - medium grey, non-calcareous, slightly micro-micaceous, blocky, medium hard. Trace Calcite
20' - 50'	Shale - pale green, non-calcareous, micro-micaceous, blocky, medium hard, slightly pyritic in parts. Shale - medium to dark grey, non-calcareous, pyritic in parts, trace biotite, blocky, angular, medium hard. Trace Quartzite - light green, siliceous, angular, very hard, dense.
50' - 60'	Limestone - very light grey to cream, lithographic to crypto-crystalline, slightly argillaceous, blocky, tight, a trace of oil staining giving a lemon yellow fluorescence. Shale - pale green, non-calcareous, micro-micaceous, slightly pyritic, blocky, medium hard. Shale - medium to dark grey, non-calcareous, carbonaceous, pyritic in part, trace biotite, blocky, angular, medium hard.
60' - 70'	Shales - as above.
70' - 80'	Shale - black, non-calcareous, carbonaceous, white streak, micro-micaceous, pyritic in parts, fissile to sub-fissile, medium hard. Shale - pale green, non-calcareous, micro-micaceous, slightly pyritic in parts, blocky, medium hard.

Sandstone - light to medium grey, fine grained, well sorted, quartzose, very well cemented with a non-calcareous cement, very hard, tight.

80' - 90' Sandstone - quartzite, very light grey to pale green, siliceous, angular, blocky, very hard, dense.
Shale - pale green, non-calcareous, micro-micaceous, slightly pyritic, blocky, medium hard.
Trace Limestone - very light brown to cream, litho-graphic to crypto-crystalline, argillaceous, blocky, hard, dense.

90' - 110' Limestone - cream to very light brown, crypto to very finely crystalline, trace of lemon coloured fluorescence due to slight oil staining, slightly argillaceous, angular, blocky, very hard, tight.
Shale - medium to dark grey, non-calcareous, very slightly carbonaceous in parts, bituminous, blocky, medium hard.

110' - 150' Shale - pale waxy green to light grey, non-calcareous, fissile to sub-fissile, medium hard.
Trace Limestone - cream to very light grey, crypto-crystalline, blocky, medium hard, tight, trace of dead oil staining.

150' - 160' Shale - as above.
Limestone - light grey to light brown, crypto-crystalline, oil staining giving a lemon yellow fluorescence, blocky, medium hard, dense, occasional vugs which are typically oil stained.

160' - 180' Shale - black, grey streak, carbonaceous, some bituminous giving a brown streak, non-calcareous, fissile to sub-fissile, brittle.
Trace Pyrite

180' - 190' Shale - as above
Shale - pale green to medium grey, non-calcareous, fissile to sub-fissile, very slightly micro-micaceous, brittle to medium hard.
Trace Sandstone - (Quartzose), very light green to light grey, siliceous, angular, blocky, very hard, dense.

190' - 210' Shale - black, grey streak, carbonaceous, non-calcareous, fissile to sub-fissile, brittle, fragmental, pyritic in parts.

210' - 230'	Shale - as above. Shale - pale green, non-calcareous, fissile to sub-fissile, slightly micaceous, brittle to medium hard, pyritic in parts.
230' - 240'	Shale - black, grey streak, carbonaceous, non-calcareous, fissile to sub-fissile, fragmental, slightly micro-micaceous, brittle, becoming silty to arenaceous. Shale - pale green, non-calcareous, blocky, slight micaceous, brittle to medium soft. Limestone - cream to very light brown, finely crystalline, blocky, very well cemented, tight.
240' - 250'	Shale - pale green to medium grey, non-calcareous, slightly carbonaceous, fissile to sub-fissile, very slightly micro-micaceous, brittle to medium hard. Limestone - cream to light brown, light grey in parts, crypto to micro-crystalline, fragmental, angular, medium hard, dense.
250' - 260'	Shale - black, grey streak, carbonaceous, non-calcareous, fissile to sub-fissile, fragmental, micro-micaceous, brittle. Trace Limestone - cream to light grey, lithographic to crypto-crystalline, blocky, argillaceous, medium hard, dense.
260' - 280'	Shale - black, grey streak, carbonaceous, non-calcareous, fissile to sub-fissile, slightly pyritic in parts, fragmental, slightly micro-micaceous, brittle, becoming arenaceous. Trace Shale - pale green, non-calcareous, blocky, very slightly micro-micaceous, medium hard. Trace Limestone - cream to light grey, lithographic to micro-crystalline, blocky, hard, dense.
280' - 310'	Limestone - cream to light grey, crypto-crystalline to very finely crystalline, argillaceous, fragmental, hard, dense. Shale - medium to dark grey, non-calcareous, slightly micro-micaceous, slightly silty, fragmental, brittle, medium hard.
310' - 330'	Shale - medium to dark grey, micro-micaceous, non-calcareous, carbonaceous, fragmental, brittle. Trace Shale - pale green, non-calcareous, blocky, slightly micro-micaceous, medium hard.

330' - 340'	Shale - dark grey, micro-micaceous, non-calcareous, carbonaceous, fragmental, brittle, medium hard, slightly fissile. Trace Siltstone - medium brown, non-calcareous, fragmental, hard.
340' - 365'	Shale - medium to dark grey, micro-micaceous, non-calcareous, carbonaceous, fragmental, brittle, silty in parts. Trace Shale - pale green, non-calcareous, blocky, slightly micro-micaceous, medium hard.
365' - 380'	Shales - as above. Trace Limestone - cream to very light brown, micro to finely crystalline, fragmental, brittle, medium hard, dense.
380' - 390'	Shale - dark grey, micro-micaceous, non-calcareous, fragmental, slightly fissile, brittle, medium hard. Trace Shale - pale green, non-calcareous, blocky, slightly micro-micaceous, medium hard to hard.
390' - 440'	Shales - as above. Limestone - cream to very light brown, lithographic to micro-crystalline, fragmental to blocky, argillaceous, medium hard, dense.
440' - 460'	Shale - dark grey, non-calcareous, micro-micaceous, in parts carbonaceous and bituminous, silty, blocky, angular, medium hard. Trace Shale - pale green, non-calcareous, blocky, medium hard. Trace Limestone - cream to very light brown, lithographic to micro-crystalline, blocky, argillaceous, angular, hard, dense, very slight fluorescence.
460' - 475'	Shale - black, non-calcareous, micro-micaceous, carbonaceous, fragmental. silty in parts, medium hard. Limestone - cream to very light brown, lithographic to very finely crystalline, blocky to fragmental, lemon yellow oil fluorescence common, brittle to hard, tight, calcite common so faulting is apparent.
475' - 490'	Shale - dark grey to black, non-calcareous, micro-micaceous in parts, carbonaceous, bituminous giving a brown scratch, fissile to sub-fissile, slightly silty in parts, medium hard. Trace Pyrite

490' - 500'	Shale - dark grey to black, non-calcareous, micro-micaceous in parts, carbonaceous throughout, fissile to sub-fissile, slightly silty in parts, medium hard to brittle. Trace Shale - pale green, non-calcareous, blocky, medium hard. Trace Limestone - cream to light brown, in parts light to medium grey, crypto to micro-crystalline, argillaceous, blocky to fragmental, a slight lemon fluorescence, hard, tight.
500' - 540'	Shale - medium to dark grey, slightly bituminous, non-calcareous, fissile to sub-fissile, fragmental, brittle.
540' - 745'	Shale - as above. Shale - pale green, non-calcareous, blocky, medium hard.
745' - 760'	Shale - pale green, non-calcareous, blocky, medium hard. Shale - medium grey, non-calcareous, fissile to sub-fissile, fragmental, brittle. Limestone - brown, lithographic to crypto-crystalline, fragmental to blocky, argillaceous, medium hard, dense.
760' - 800'	Shale - light to medium grey to pale green, non-calcareous, very slightly micro-micaceous, blocky, medium hard, silty in parts.
800' - 831'	Limestone - light to medium brown, some cream, litho-graphic to micro-crystalline, some glauconite, blocky, argillaceous, hard, lemon fluorescence due to oil staining, tight. Shale - light to medium grey, some pale green, non-calcareous, blocky, medium hard.
831' - 841'	CORE NO. 1 831' - 841' See Core Description
841' - 850'	Shale - light to medium grey, some pale green, non-calcareous, slightly fissile, blocky, medium hard. Trace Limestone - light grey to light brown, crypto to micro-crystalline, argillaceous, blocky, slight fluorescence, hard, tight. Trace Calcite and Pyrite

850' - 890'	Shale - dark grey, silty to arenaceous, micro-micaceous, blocky to fragmental, very hard but brittle. Limestone - medium grey to medium brown, some cream, micro to finely crystalline, argillaceous, slight residual oil staining giving a weak fluorescence, blocky, hard, tight. Trace Siltstone - light grey to light brown, siliceous, quartzose, blocky, very hard, dense. Trace Pyrite
890' - 910'	Limestone - cream, lithographic to crypto-crystalline, slightly argillaceous, blocky, medium hard, dense. Shale - medium to dark grey, non-calcareous, micro-micaceous in parts, slightly silty, blocky to fragmental, medium hard to brittle.
910' - 920'	Shale - medium to dark grey, non-calcareous, micro-micaceous, silty in parts, blocky to fragmental, medium hard, trace of some pale green shale.
920' - 940'	Shale - as above. Trace Limestone - medium brown to light grey and cream, lithographic to micro-crystalline, fragmental, argillaceous, brittle, dense.
940' - 960'	Limestone - cream to light grey, lithographic to finely crystalline, argillaceous, blocky, dense. Shale - medium to dark grey, non-calcareous, micro-micaceous, fissile to sub-fissile, fragmental, medium soft.
960' - 980'	Shale - as above. Trace Limestone - as above. Trace Pyrite
980' - 1010'	Shale - very light grey to pale green, non-calcareous, blocky to fragmental, brittle, medium hard. Shale - medium grey, non-calcareous, blocky, medium hard.
1010' - 1030'	Shale - medium to dark grey, non-calcareous, carbonaceous, blocky, medium hard. Limestone - cream to light grey, micro-crystalline to very finely grained, angular, argillaceous in part, slight oil staining giving a lemon fluorescence, hard, tight.

1030' - 1050'	Shale - as above. Trace Limestone - cream to light grey, crypto to micro-crystalline, angular, argillaceous, a slight oil fluorescence, well cemented, hard, tight.
1050' - 1060'	Shale - medium to dark grey, some black, non-calcareous, carbonaceous in part, bituminous, fissile to sub-fissile, slightly micro-micaceous in parts, medium soft.
1060' - 1100'	Shale - as above. Trace Limestone - light grey to light brown, crypto-crystalline, blocky, angular, argillaceous, medium hard, dense, a slight oil fluorescence. Trace Sandstone - light grey to cream, fine to medium grained, calcareous cement, poorly sorted, conglomeratic in part, blocky, medium hard, brittle, tight, trace of oil staining.
1100' - 1110'	Shale - medium grey, non-calcareous, pyritic in parts, fissile to sub-fissile, medium soft. Limestone - cream to medium brown, micro-crystalline, argillaceous, blocky, medium hard, dense.
1110' - 1130'	Shale - as above.
1130' - 1140'	Shale - medium to dark grey, non-calcareous, micro-micaceous to micaceous, carbonaceous in parts, fissile to sub-fissile, fragmental, brittle, medium soft. Trace Limestone - cream to light brown, crypto to micro-crystalline, argillaceous, blocky, medium hard, tight.
1140' - 1160'	Shale - medium to dark grey, non-calcareous, micro-micaceous to micaceous, carbonaceous in parts, fissile to sub-fissile, fragmental, brittle, medium soft.
1160' - 1210'	Shale - light to medium grey, non-calcareous, slightly micro-micaceous, blocky, medium hard. Limestone - light grey to light brown, crypto to micro-crystalline, slightly argillaceous, blocky, hard, tight, trace of tarry residual oil staining. Trace Pyrite
1210' - 1240'	Shale - medium to dark grey, some black, non-calcareous, micro-micaceous in parts, carbonaceous in parts, becoming very silty, blocky, medium hard. Limestone - as above with residual oil staining. Trace Pyrite and Calcite

1240' - 1270'	Limestone - light brown to cream, micro to finely crystalline, argillaceous, blocky, slight dead oil staining, hard, tight. Shale - light to medium grey, non-calcareous, micro-micaceous, blocky, medium hard.
1270' - 1280'	Shale - black, non-calcareous, very carbonaceous, pyritic, bituminous giving a brown scratch, fissile to sub-fissile, brittle, medium soft, glossy lustre in parts, highly metamorphosed.
1280' - 1450'	Limestone - cream to very light brown, micro-crystalline, silty to sucrosic texture, argillaceous, blocky, oil fluorescence, medium hard to hard, tight, a tarry bituminous residue in parts. Shale - light to medium grey, non-calcareous, blocky to fragmental, medium hard, slightly silty in parts. Trace Calcite and Pyrite
1450' - 1470'	Limestone - cream to light brown, micro-crystalline to finely crystalline, sucrosic texture in part, trace of dead oil staining, argillaceous, blocky, very well cemented, medium hard to brittle, tight. Shale - light to medium grey, non-calcareous, very slightly micro-micaceous, blocky, medium hard, slightly metamorphosed. Trace Pyrite and Calcite
1470' - 1480'	Shale - light to medium grey, some black and carbonaceous, bituminous, non-calcareous, slightly micro-micaceous, blocky, medium hard.
1480' - 1540'	Sandstone - quartzose, colourless to light greyish-brown, very finely crystalline, well sorted, sucrosic texture, very well cemented with a non-calcareous cement, blocky, very hard, tight, trace of residual oil staining. Shale - light to medium grey, some black and carbonaceous, non-calcareous, slightly micro-micaceous, pyritic in parts, blocky, medium hard. Trace Limestone - light brown, micro-crystalline, argillaceous, blocky, hard, dense, slight oil staining giving a lemon fluorescence.
1540' - 1550'	Limestone - cream to light grey, micro-crystalline, argillaceous, blocky, some lemon oil fluorescence, trace of dead oil staining, some inter-crystalline porosity, mainly tight. Shale - light to medium grey, non-calcareous, fragmental, medium hard.

1550' - 1560'	Shale - black, non-calcareous, carbonaceous, slightly bituminous, micro-micaceous in part, grading to a dark grey siltstone in part, fissile to sub-fissile, brittle and soft. Trace Pyrite
1560' - 1570'	Shale - light to medium grey, non-calcareous, fragmental, medium hard. Trace Limestone - cream, crypto to micro-crystalline, argillaceous, blocky, tight.
1570' - 1600'	Shale - medium to dark grey, some black, non-calcareous, micro-micaceous, some carbonaceous, silty in parts, fissile to sub-fissile, medium soft. Trace Limestone - light grey to cream, lithographic to crypto-crystalline, blocky, argillaceous, trace of residual oil staining, tight.
1600' - 1620'	Limestone - cream to light brown, micro-crystalline to very finely crystalline, argillaceous, blocky, angular, slight oil staining, hard, tight. Shale - medium grey, non-calcareous, micro-micaceous, blocky, brittle.
1620' - 1680'	Shale - medium to dark grey, non-calcareous, micro-micaceous, silty, carbonaceous, fragmental, hard. Limestone - grey to light brown, fine grained, well cemented with non-calcareous cement, blocky, very hard, dense, some oil staining. Trace Pyrite and Calcite
1680' - 1730'	Shale - medium to dark grey, some black, non-calcareous, slightly carbonaceous in parts, micro-micaceous, silty, fissile to sub-fissile, fragmental, medium soft. Sandstone - quartzose, light to medium grey, very slightly calcareous, siliceous, very well cemented, blocky, very hard, dense. Trace Pyrite, Limestone and Calcite
1730' - 1800'	Shale - light to medium grey, non-calcareous, micro-micaceous, silty, fragmental, pyritic in parts, medium soft. Limestone - light grey to cream, very fine to fine grained, argillaceous, well cemented, blocky, trace of residual oil staining, hard, tight. Trace Calcite and Pyrite

1800' - 1830'	Shale - light to medium grey, non-calcareous, fissile to sub-fissile, fragmental, slightly silty in parts. Limestone - light grey to medium brown, very finely crystalline, blocky, slightly glauconitic in part, very hard, dense.
1830' - 1860'	Shale - as above. Possible cavings. Limestone - cream, micro-crystalline, blocky, argillaceous, pin-point porosity, oil staining in parts, hard, mainly tight, lemon fluorescence. Sandstone - quartzose, light grey, fine to medium grained, very well cemented with a non-calcareous cement, non-calcareous, biotite common, blocky, good sorting, very hard, dense. Trace Pyrite
1860' - 1900'	Shale - light to medium grey, non-calcareous, fissile to sub-fissile, brittle. Limestone - light to medium brown, some light grey, crypto to micro-crystalline, very argillaceous, trace of fracture porosity coated with live oil staining, hard, mainly tight. Trace Siderite
1900' - 1910'	Shale - light green to medium grey, non-calcareous, micro-micaceous, fissile to sub-fissile, medium hard. Limestone - cream to very light grey, crypto to micro-crystalline, pyritic in part, argillaceous, hard, dense.
1910' - 1950'	Limestone and Shale - as above. Trace Limestone - very light to light brown, micro-crystalline, very slight oil staining giving a lemon coloured fluorescence, argillaceous, blocky, tight, dense. Trace Pyrite and Calcite
1950' - 1960'	Shale - light grey to medium grey, non-calcareous, slightly micaceous, blocky, medium hard.
1960' - 1980'	Shale - as above. Limestone - cream to light grey, micro-crystalline, slight oil staining associated with fracture, argillaceous, blocky, hard, dense.

1980' - 1990'	Shale - medium grey to dark grey, non-calcareous, slightly carbonaceous, fissile to sub-fissile, micro-micaceous, brittle. Limestone - cream to light brown, micro-crystalline to very fine grained, slight oil staining in parts giving a lemon fluorescence, argillaceous, blocky to fragmental, mainly brittle, tight. Trace Calcite, Pyrite and Siderite
1990' - 2020'	Limestone - very light to light brown, micro-crystalline to very fine grained, argillaceous, blocky, angular, very hard, tight, trace of oil staining with a lemon coloured fluorescence. Trace Shale - Cavings.
2020' - 2053'	Limestone - very light to light brown, cream in parts, micro-crystalline to very fine grained, argillaceous and cemented, angular, slight oil staining, poor pin-point and inter-crystalline porosity in parts, mainly tight, very hard. Trace Shale - Cavings.
2053' - 2061'	Shale - (cuttings obtained from reaming rat hole) light green to medium grey, non-calcareous, micro-micaceous, very slightly fissile, blocky, medium hard.
	Core interval from 2053' - 2061'
2061' - 2080'	Limestone - light grey to light brown, argillaceous, very finely crystalline, poor inter-crystalline porosity in parts, mainly well cemented, fair oil staining giving a good lemon fluorescence. Trace Pyrite
2080' - 2110'	Limestone - as above. Shale - black, non-calcareous, carbonaceous, has a brown scratch, bituminous, fissile to sub-fissile, medium soft to brittle.
2110' - 2140'	Shale - medium to dark grey, slightly silty, non-calcareous, micro-micaceous, fragmental, brittle. Limestone - cream to light brown, fine grained, fragmental, very slight oil staining giving a lemon fluorescence, mainly tight, a trace of inter-granular porosity, very hard.
2140' - 2170'	Sandstone - quartzose, cream to very light greyish-brown, micro-crystalline to very fine grained, conglomeratic in parts, poorly to well sorted, trace of slight oil staining giving a bright lemon fluorescence, well cemented, hard, tight.

Trace Limestone - cream to light brown, crypto to micro-crystalline, angular, hard, dense.
Trace Shale - cavings and Calcite.

2170' - 2200' — Shale - light to medium grey, non-calcareous, blocky, medium hard.
Trace Sandstone - grey to very light brown, quartzose, non-calcareous cement, very fine grained, well sorted, blocky, hard, tight.

2200' - 2230' — Shale - dark grey to black, carbonaceous, non-calcareous, brown scratch, bituminous, fissile to sub-fissile, medium soft.
Trace Pyrite

2230' - 2270' — Shale - medium to dark grey, non-calcareous, slightly micro-micaceous in parts, fragmental, brittle.
Trace Sandstone - cream to very light brown, quartzose, micro-crystalline to very finely crystalline, non-calcareous cement, well sorted and cemented, a trace of poor oil staining, hard, mainly tight, calcitic in parts.
Trace Limestone - light brown, micro-crystalline, fragmental, very hard, tight.
Trace Pyrite

2270' - 2278' — Limestone - cream to very light greyish-brown, micro-crystalline to very fine grained, well cemented, trace of inter-granular porosity, slight oil staining, giving a lemon fluorescence, blocky, hard, mainly tight.
Trace Calcite in association with the Limestone.

2278' - 2296' — CORE NO. 3 (2278' - 2296') See Core Description.

2296' - 2314' — CORE NO. 4 (2296' - 2314') See Core Description.

2314' - 2335' — CORE NO. 5 (2314' - 2335') See Core Description.

FULL TOTAL DEPTH 2335 FEET.

SHOAL POINT NO. 2

CORE DESCRIPTION

Core No. 1	831' - 841' (10')
831' - 841' (10')	Shale - light to medium grey, non-calcareous, dips almost vertical to vertical, occasional calcite stringers, metamorphosed and phyllitic, crumbly.
Core No. 2	2053' - 2061' (8')
2053' - 2061' (8')	Shale - medium grey to very light green, non-calcareous, dips close to vertical, metamorphosed and phyllitic, slickensides have a glossy lustre, argillaceous, hard but brittle, a trace of slight oil staining between 2058' - 2059' giving a bright lemon fluorescence.
Core No. 3	2278' - 2296' (18')
2278' - 2280' (2')	Shale - medium grey, non-calcareous, brittle but hard, sheared and phyllitic, dip of 50°.
2280' - 2291' (11')	Limestone - cream to light brown, micro-crystalline, some inter-crystalline porosity which becomes occasionally vugular in parts, vugs up to ¼ inch across, live oil staining giving a bright lemon coloured fluorescence, hard.
2291' - 2296' (5')	Limestone - light to medium brown, fair vuggy porosity including poor to fair inter-crystalline porosity, micro-crystalline to very fine grained, very heavily oil stained with vugs containing a smearing of free light gravity oil.
Core No. 4	2296' - 2314' (18')
2296' - 2309' (13')	Limestone - cream to light brown, crypto to micro-crystalline, slight fracture, dipping at approximately 55°, fair to good pin-point porosity, scattered small vugs throughout interval, fractured, heavily oil stained, hard. A thin stringer of grey shale occurs at 2300' approximately 1' 6" thick.

2309' - 2314' (5')

Limestone - medium brown, micro-crystalline, poor porosity in places, fractured, fair to good oil staining.

Limestone interbedded with Shale - light to medium grey, very argillaceous, heavily oil stained in fractured zones, metamorphosed and phyllitic.

Core No. 5

2314' - 2335' (21')

2314' - 2335' (21')

Shale - medium to dark grey, non-calcareous, micro-micaceous, highly distorted in places, metamorphosed and phyllitic, average dip of 50°, fractures fairly common. Shale mainly soft and fissile to sub-fissile, numerous calcite stringers throughout. A trace of poor oil staining associated with fracture. Certain intervals of core has crumbled completely making measurements inaccurate.

SHOAL POINT NO. 2

RESULTS OF DRILLING

This well was spudded into the Humber Arm group and drilled to a total depth of 2335 feet at which point Humber Arm sediments were still being obtained. Oil stained fractures were common throughout and traces of pin-point and inter-crystalline porosity were observed in Limestone stringers in the intervals: 10' - 20', 1540' - 1550', 1830' - 1860', 2020' - 2053', 2061' - 2080', 2110' - 2140', 2270' - 2278', and 2296' - 2309'. Core No. 3 between the interval 2280' - 2296' contained scattered vuggy porosity.

The open hole interval below 2278 feet was acidized and shot with a 3-1/8 inch torpedo jet gun in an unsuccessful attempt to obtain fluid entry. Following this, six intervals between 2019 feet and 2163 feet were perforated. No fluid entry occurred from these perforations. A 320 foot section of the 4½ inch casing was backed off and the interval 95 feet to 105 feet of the surface casing was perforated and swabbed dry. The well was suspended for the winter on October 11, 1964.

The Humber Arm group consisted of a sequence of limestones and shales with occasional sandstone stringers. The shales were typically dark grey to black in colour, carbonaceous, fissile and bituminous. The limestones were cream to light brown, argillaceous with occasional inter-crystalline porosity. The carbonates often

gave a bright lemon-yellow fluorescence indicating the presence of oil.

The Humber Arm is poorly fossiliferous and the stratigraphy of the group is not sufficiently known to enable a precise age determination and the mode of the groups subsequent tectonic history is also confused. At the type locality, in the Humber Arm Valley these rocks fall into four broad units. The oldest rock is a succession of maroon and green argillaceous shales overlain by dark shales with interbedded orthoquartzites, conglomerates and greywackes. Lime breccias of the Cow Head type mark the base of the succeeding carbonate-shale unit. The older carbonates are mainly platey, current-bedded limestones interbedded with black shale. The youngest unit of the sequence consists of platey, sandy dolomite with interbedded green and black shale.

Based on the common occurrence of limestone in ditch cuttings obtained from Shoal Point No. 2 it appears as if the well was spudded high in the Humber Arm sequence. It is believed that due to faulting and high angle dips the entire well was drilled in the carbonate-shale unit of the Humber Arm group. It is suggested that this location was drilled on an anticlinal fold possibly overturned, the sediments of which have been considerably mashed by subsequent faulting. In contrast, Shoal Point No. 1 was spudded into the lowest unit of the Humber Arm group in an area where the

beds were steeply dipping but not disturbed to any great degree by faulting.

The five cores cut at this location indicates that the well was drilled in a fault zone. The dip of the beds range from 45 degrees to vertical and in sections brecciated zones occur. The shales are generally metamorphosed and phyllitic particularly from the 2000 foot mark to total depth.

The electric log indicates that possibly one interval has been repeated and that is the section occurring between the 400 and 510 foot mark.

The writer, (L. Corkin) had the opportunity to study the uppermost 1000 feet of cuttings produced from the current Canadian Javelin location at Parsons Pond. This well was drilled in the distorted shale-carbonate sequence of the Green Point group. A striking similarity exists between the cuttings at Parsons Pond and those obtained from Shoal Point No. 2. The similarity is so great that the writer is of the opinion that the Green Point group is equivalent to the shale-carbonate unit of the Humber Arm group. This point was discussed at some length with Dr. H. D. Lilly, Memorial University and he concurred in general principle with this interpretation. A detailed study of the Humber Arm group is required before the exact relationship of the two groups can be fully understood.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator Golden Eagle Oil And Gas Limited Interval Cored 2278' To 2314'

Well No. Shoal Point Number 2 Coring Fluid ---

Lab. No. C7866 Elevation --- Formation ---

Comments The following core report shows this well to have a total of 42.86 porosity feet and 3525.1 permeability feet.

The porosity is believed to be primarily that found in numerous fractures throughout the core, also occasional vuggs which were spotty in there occurrence.

COL 38

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

EDMONTON, CALGARY, FORT ST. JOHN

FULL DIAMETER CORE STUDY

OPERATOR Golden Eagle Oil And Gas Limited FIELD ---- WELL NO. Shoal Point Number 2

LOCATION ---- FORMATION ---- DEPTHS 2278' - 2314' DATE Received: LAB NO. C7866
Core #3 and Core #4 September 23,1965

Footage of ---- formation cored	36.0'	No. of representative samples selected for analysis	28
FEET OF CORE:			
Received at laboratory for analysis	36.0'	Compared (to tested samples)	---
	---	Dense sections not represented	4.9'
Represented by samples	27.9'	Badly fractured sections not represented	3.2'
SUMMARY OF REPRESENTED SECTIONS:		(1) represented/received = 27.9'/36.0' (2) represented/cored = 27.9'/36.0'	

Weighted average porosity		1.5	%	Maximum porosity 4.6 %
Weighted average K_H permeability	on 25.2'	141.	md.	Minimum porosity < 0.5 %
Weighted average K' permeability	on 23.7'	15.	md.	Maximum K_H permeability 2410. md.
Weighted average vertical permeability	on 23.7'	11.	md.	Minimum K_H permeability 0.03 md.
Weighted average maximum permeability	on 25.2'	141.	md.	Maximum vertical permeability 104. md.
Porosity Feet		42.86		Minimum vertical permeability 0.05 md.

CORE WITH MAXIMUM PERMEABILITY:	10.0 md. or greater	between 1.0 and 9.9 md. inclusive	less than 1.0 md.	(a)
Footage	18.0'	4.7'	2.5'	2.7'
Weighted average porosity	1.7 %	0.9 %	1.5 %	1.4
Weighted average K_H permeability	196. md.	3.9 md.	0.37 md.	--- md.
Weighted average vertical permeability	14. md.	0.93 md.	0.05 md.	--- md.
Porosity feet	30.84	4.44	3.80	3.78

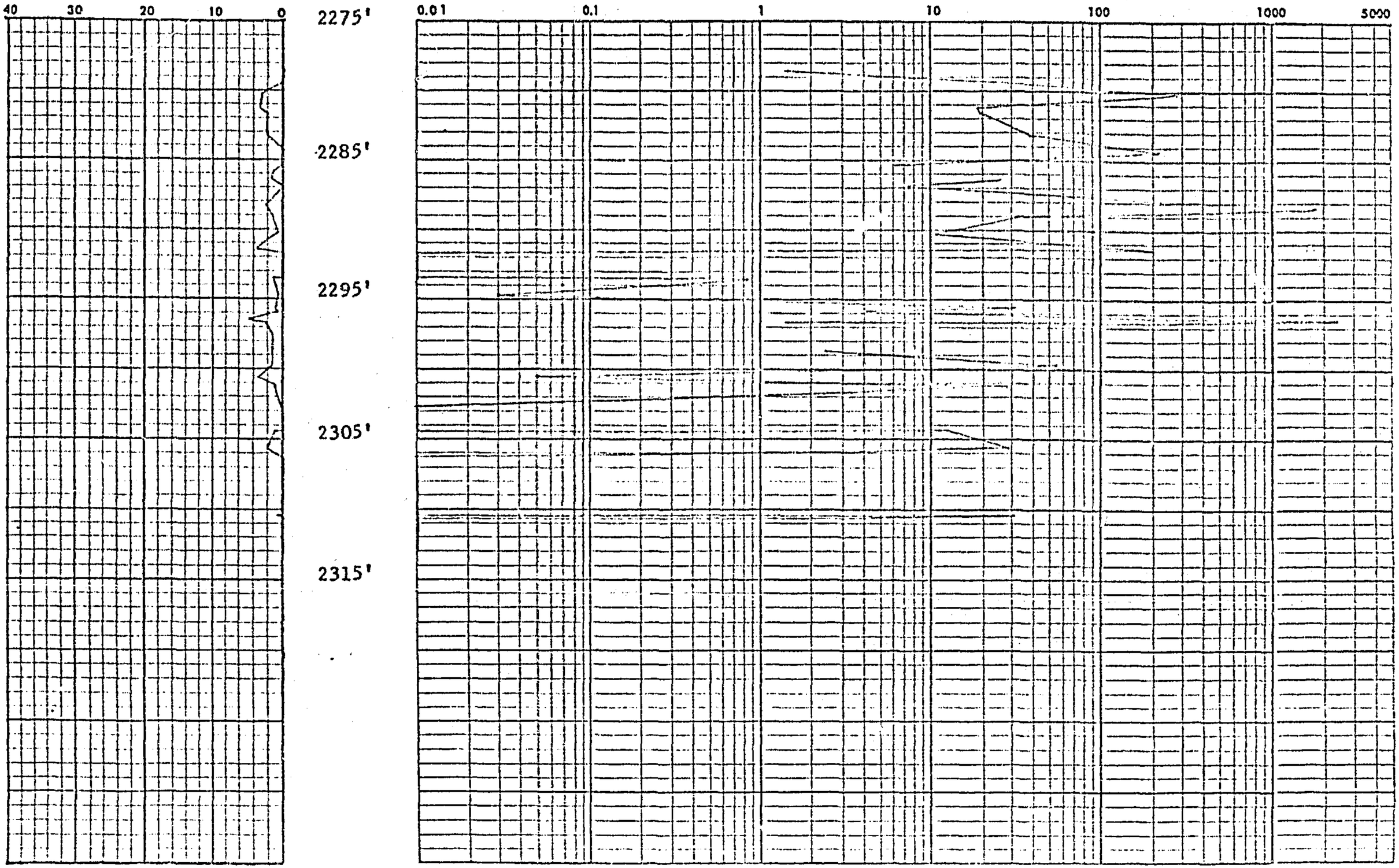
CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator Golden Eagle Oil And Gas Limited Interval Cored 2278' To 2314'

Well No. Shoal Point Number 2 Coring Fluid ---

Lab. No. C7866 Elevation --- Formation ---

Core #3 & 4



CGL 31

Chemical & Geological Laboratories Ltd.

Operator Golden Eagle Oil And Gas Limited Well No. Shoal Point Number 2 Lab. No. C7866 Date Received: September 23,1965

Sample Number	Midpoint of Sample in Ft.	Representative of Feet	Footage Rep.	Permeability md. Vertical	K_H	K'	% Porosity	Porosity Feet	Description	Oil and Water Saturation Residual Saturation % H_2O	% Oil
	Core #3	2278' - 2296'									
1	2278.5	2278.0-2278.9	0.9	0.29	1.4	1.1	<0.5	0.45	Ls Sh SI OccPPV R2	---	---
2	2279.3	2278.9-2279.8	0.9	10.	22.	15.	<0.5	0.45	Ls Sh SI R2	---	---
3	2280.1	2279.8-2280.6	0.8	35.	272.	116.	3.1	2.48	Ls Sh SI R2 RF	---	---
4	2281.1	2280.6-2281.4	0.8	23.	18.	1.5	3.2	2.56	Ls Sh SI OccPPV R2 RF	59.4	21.9
5	2281.7	2281.4-2282.5	1.1	13.	19.	4.3	2.1	2.31	Ls Sh SI OccPPV R2 RF	---	---
6	2283.1	2282.5-2283.8	1.3	4.2	38.	24.	2.1	2.73	Ls Sh SI R2 RF	---	---
7	2284.2	2283.8-2284.8	1.0	1.6	210.	64.	<0.5	0.50	Ls SI OccV R2 RF	64.7	30.2
8	2285.2	2284.8-2285.6	0.8	0.24	6.1	0.11	<0.5	0.40	Ls VSI R2 RC	---	---
9	2285.9	2285.6-2286.1	0.5	(a)	(a)	(a)	1.4	0.70	Ls SI R2 OHF	62.4	32.4
10	2286.3	2286.1-2286.6	0.5	1.3	25.	5.6	1.7	0.85	Ls SI OccV R2 RF	---	---
11	2286.9	2286.6-2287.6	1.0	2.6	7.3	4.4	<0.5	0.50	Ls Sh OccV R2 RF	---	---
12	2288.2	2287.6-2288.5	0.9	11.	1760.	14.	2.2	1.98	Ls Sh OccV R2 RF	59.5	35.6
13	2289.0	2288.5-2289.6	1.1	14.	33.	21.	1.7	1.87	Ls OccV R2 RF	63.1	31.8
14	2290.1	2289.6-2290.8	1.2	2.6	11.	9.3	0.6	0.72	Ls Sh OccV R2 RC	---	---
15	2291.3	2290.8-2291.7	0.9	104.	195.	51.	3.9	3.51	Ls Sh SI R2 RF	73.2	21.7
No Sample		2291.7-2293.2	1.5	---	---	---	---	---	Sh Ls NR-R2 RF	---	---
16	2293.5	2293.2-2294.2	1.0	0.05	0.86	0.12	1.4	1.40	Ls Sh SI OccV R2 RC	---	---
16A	2294.8	2294.2-2295.2	1.0	---	0.03	---	0.6	0.60	Ls VSI R2 RC Sp	---	---
17	2295.5	2295.2-2295.8	0.6	0.11	32.	0.95	1.1	0.66	Ls VSI R2 RC	---	---
18	2295.9	2295.8-2296.1	0.3	0.58	4.1	0.74	0.8	0.24	Ls Sh OccV R2 RC	87.5	7.3
19	2296.4	2296.1-2296.5	0.4	62.	2410.	30.	4.6	1.84	Ls I V R2 HF	56.9	15.7
20	2296.7	2296.5-2297.0	0.5	0.19	1.6	0.44	2.1	1.05	Ls SI R2 RC	---	---

CGL 31

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator Golden Eagle Oil And Gas Limited Well No. Shoal Point Number 2 Lab. No. C7866 Date Received: September 23,1965

Sample Number	Midpoint of Sample in Ft.	Representative of Feet	Footage Rep.	Permeability md. Vertical	Permeability md. K_H	Permeability md. K'	% Porosity	Porosity Feet	Description	Oil and Water Saturation Residual Saturation % H_2O	Oil and Water Saturation Residual Saturation % Oil
	Core #4	2296' - 2314'									
21	2297.5	2296.0-2298.2	2.2	(a)	(a)	(a)	1.4	3.08	Ls Sh SI ORF R2	---	---
22	2298.8	2298.2-2299.4	1.2	0.89	2.4	1.1	1.5	1.80	Ls Sh SI OccV R2 RC	68.4	26.3
23	2299.8	2299.4-2300.2	0.8	4.5	55.	0.99	1.7	1.36	Ls Sh SI OccV R2 RF	---	---
24	2300.5	2300.2-2300.7	0.5	---	0.05	---	3.6	1.80	Ls Sh SI OccV R2 Sp	58.3	16.7
25	2301.1	2300.7-2302.8	2.1	3.3	27.	9.1	1.0	2.10	Ls Sh SI R2 RF	---	---
No Sample		2302.8-2303.8	1.0	---	---	---	---	---	D Ls Sh R2 RF	---	---
26	2304.4	2303.8-2305.0	1.2	0.64	13.	2.8	1.3	1.56	Ls Sh SI OccV R2 RF	71.8	22.6
27	2305.7	2305.0-2306.2	1.2	8.0	29.	10.	2.0	2.40	Ls Sh SI OccV R2 RF	65.0	5.0
No Sample		2306.2-2309.4	3.2	---	---	---	---	---	Rubble Sh Ls NR-R2	---	---
28	2310.3	2309.4-2310.6	1.2	1.9	31.	3.1	0.8	0.96	Ls Sh SI OccV R2 RC	---	---
No Sample		2310.6-2313.0	2.4	---	---	---	---	---	D Sh Ls NR-R2 RF	---	---

CORE DESCRIPTION SYMBOLS

(a)	Unsuitable for test
A	Anhydrite
(b)	Fractured during test
BlSh	Black Shale
Bn	Bentonite
Br	Brecciated
Bt	Buttoned
Ca	Calcite
Cg	Conglomerate
Ch	Chert
Co	Coralline Fragments
CSS	Coarse Sandstone
ds	Donse Siderite
D	Dense
Dol	Dolomite
Fg	Fragmental
foss	Fossiliferous
fSL	Fine Sand Lenses
fSS	Fine Sandstone
FD	Full Diameter
Gl	Glauconitic
HC	Horizontal Crack
HF	Horizontal Fracture
I	Intergranular
InB	Interbedded

Ka	Kaolinite
K'	Taken at 90° to K_H
K_H	Maximum Horizontal Permeability Measured
Ls	Limestone
LV	Large Vugs
MSS	Medium Sandstone
mudst	Mudstone
NR	Not reactive to cold 15% HCl
O	Open
OccV	Occasional Vugs
ool	oolitic
PPV	Pin Point Vugs
PTSL	Paper-Thin Shale Laminations
Py	Pyrites
Pyb	Pyrobitumen
R1	Slightly reactive to cold 15% HCl
R2	Reactive to cold 15% HCl
RC	Random Cracks
RF	Random Fractures

S	Stained
Sd	Sand
Sdy	Sandy
Sh	Shale
ShL	Shale Lenses
Shy	Shaly
Sil	Siltstone
SI	Slightly Intergranular
SL	Sand Lenses
SP	Small Plug
St	Stylolite
SV	Slightly Vuggy
TR	Trace
U	Unconsolidated
V	Vuggy
VC	Vertical Crack
VF	Vertical Fracture
VSI	Very Slightly Intergranular
X	Crystals

NB. KH an K′ are transverse permeability measurements on full diameter samples.

CANPET EXPLORATION LTD.

CASING REPORT

Well Shoal Point #2 Date August 31, 1965

Type of Casing String: (surface) (intermediate) (production) (liner) (other)

Drilling Contractor Big Indian Drilling Co.

PIPE DATA

Make of Casing Mannesman

Type: (seamless) (welded) Size 7 inch No. of Joints 4

Weight 17 Grade H-40 Range 2 Threads 8rd

Couplings: (short) (long) Minimum I.D. 6.990 Maximum O.D.

Casing Shoe: make Davis Lynch type float depth 131.80' ft.

Cementing Collar: make type depth ft.

Centralizers: No. One Make and Type Larkin

Depths 100 ft

Scratchers: No. Make and Type

Depths

Welding: (electric) (acetylene) No. of Collars? One Casing Shoe? Yes

thread-lock

Total amount casing run	123.00 ft.	Kelly Bushing elevation	Above sea level 15 ft.
Amount pipe above K.B.	20.00 ft.	K.B. to Rotary Table	1.00 ft.
Depth Casing Shoe landed	131.80 ft.	R.T. to Derrick Floor	1.00 ft.
Top of casing below K.B.	8.80 ft.	D.F. to Ground Level	6 80 ft.
Amount of casing in hole	123.00 ft.	Ground Level elevation	5 ft.
Length of Landing Joint	28.80 ft.	G.L. to (casing bowl) to (casing collar)	Level ft.
Length of Cut off Joint	- ft.	Csg. Bowl Flange Elev.	Ground ft.
Length of Shoe Joint overall	31.50 ft.	K.B. to top of casing	8.80 ft.

CEMENTING DATA

Time Hole Open Before Casing Started in Hole	(logged before running casing)		2½ hrs.
Casing Started in Hole	2:30 A.M.	Casing in	3:30 A.M. (elapsed) 1 hrs.
Circulating: Started	3:30 A.M.	Finished	10:00 A.M. (elapsed) 7½ hrs.
Mixing Cement: Started	10:00 A.M.	Finished	10:30 A.M. (elapsed) 30 min.
Displacing: Started	10:50 A.M.	Plug Down	11:00 A.M. (elapsed) 10 min.

Maximum Displacement Pressure 200 psi. Final Pressure Bumped @ 800 psi.

Plug Displaced to 130 ft. Displacement Fluid: (mud) (water) (other)

Method of Displacement Rig pump

Method of Cementing Batch mix

Amount Cement Used 35 Sacks. Average Cement Slurry Weight 151 lbs./gal.

Kind of Cement: (Canadian) (American) (bulk) (sack): Weight per sack 87.5 lbs.

Estimated Amount Cement Returns No returns sacks. Time Cement to Set 24 hrs.

Was Pipe Worked During Circulating? Yes Cementing? No How Long

Additives to Cement 2% $CaCl_2$

Cementing Company With rig crew Operator W. Nerrie

Casing Landed in immediately hrs. Well Head Make Walker

Remarks Cement mixed in mud tank

Delay between 3:30 AM and 10:00 AM caused by vehicle hauling cement becoming stuck

Signed A. L. Russell

GOLDEN EAGLE OIL AND GAS LIMITED

CASING REPORT

Well Shoal Pt. No. 2 Date September 25, 1965

Type of Casing String: (surface) (intermediate) (production) (liner) (other)

Drilling Contractor Big Indian Drilling Company

PIPE DATA

Make of Casing Mannesmann

Type: (seamless) (welded) Size No. of Joints 74

Weight 9.5 Grade J-55 Range 2 Threads 8 rd.

Couplings: (short) (long) Minimum I.D. Maximum O.D.

Casing Shoe: make Baker type Float depth 2278 ft.

Cementing Collar: make type depth ft.

Centralizers: No 3 Make and Type

Depths 1st, 3rd, and 5th joints

Scratchers: No. 12 Make and Type

Depths On 1st five joints

Welding: (electric) (acetylene) No. of Collars? 1 Casing Shoe? Yes

Thread Lock

Total amount casing run	2263.96 ft.	Kelly Bushing elevation	ft.
Amount pipe above K.B.	5.96 ft.	K.B. to Rotary Table	1.00 ft.
Depth Casing Shoe landed	2278.00 ft.	R.T. to Derrick Floor	1.00 ft.
Top of casing below K.B.	8.60 ft.	D.F. to Ground Level	6.80 ft.
Amount of casing in hole	2269.20 ft.	Ground Level elevation	ft.
Length of Landing Joint	ft.	G.L. to (casing bowl) to (casing collar)	Level ft.
Length of Cut off Joint	14.76 ft.	Csg. Bowl Flange Elev.	ft.
Length of Shoe Joint overall	33.87 ft.	K.B. to top of casing	ft.

CEMENTING DATA

Time Hole Open Before Casing Started in Hole 4 hours hrs.

Casing Started in Hole	10:00 P.M.	Casing in	4:45 A.M. (elapsed) 6-3/4 hrs.
Circulating: Started	11:00 A.M.	Finished	12 Noon M. (elapsed) 1 hrs.
Mixing Cement: Started	12 Noon M.	Finished	1:30 P.M. (elapsed) 1½ min.
Displacing: Started	1:30 P.M.	Plug Down	2:00 P.M. (elapsed) ½ min.

Maximum Displacement Pressure 300 psi. Final Pressure 1100 psi.

Plug Displaced to 2278 ft. Displacement Fluid: (mud) (water) (other)

Method of Displacement Big Indian Mud Pump

Method of Cementing Batch mix slurry in mud tank

Amount Cement Used 150 Sacks. Average Cement Slurry Weight 15 lbs./gal.

Kind of Cement: (Canadian) (American) (bulk) (sack): Weight per sack 87.5 lbs.

Estimated Amount Cement Returns nnn sacks. Time Cement to Set 48 hrs. ± hrs.

Was Pipe Worked During Circulating? No Cementing? No How Long nnn

Additives to Cement Heat

Cementing Company Big Indian Drilling Company Operator Nerre

Casing Landed in 18 hrs. Well Head Make Walker

Remarks

Signed H. J. Laska

GOLDEN EAGLE OIL AND GAS LIMITED

TUBULAR TALLY REPORT

Well ..... Shoal Pt. #2 .....

Make Tubular Goods ..... Mannesman ..... Type ..... Seamless .....

Size ..... 7 inch ..... Weight ..... 17 ..... Lbs./ft. Threads ..... 8rd ..... Grade ..... H-40 ..... Range ..... 2 .....

Couplings: Type ..... ST & C ..... Minimum I.D. ..... 6.990 ..... Maximum O.D. .....

Note: The following tally is listed in the same order as the tubular goods were run in the hole. That is joint number one will be the first joint in the hole and continuing in that order until the last joint run.

Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s
1	31	50	1			1			1			1		
2	30	33	2			2			2			2		
3	30	87	3			3			3			3		
4	33	30	4			4			4			4		
5			5			5			5			5		
6			6			6			6			6		
7			7			7			7			7		
8			8			8			8			8		
9			9			9			9			9		
0			0			0			0			0		
a	123	00	d			g			j			m		
1			1			1			1			1		
2			2			2			2			2		
3			3			3			3			3		
4			4			4			4			4		
5			5			5			5			5		
6			6			6			6			6		
7			7			7			7			7		
8			8			8			8			8		
9			9			9			9			9		
0			0			0			0			0		
b			e			h			k			n		
1			1			1			1			1		
2			2			2			2			2		
3			3			3			3			3		
4			4			4			4			4		
5			5			5			5			5		
6			6			6			6			6		
7			7			7			7			7		
8			8			8			8			8		
9			9			9			9			9		
0			0			0			0			0		
c			f			i			l			o		

TOTALS		
a	123	00
b		
c		
d		
e		
f		
g		
h		
i		
j		
k		
l		
m		
n		
o		
	123	00

FINAL TOTAL

Remarks ..... Lower joint length includes float shoe .....

Tallied by ..... D. L. Russell .....

GOLDEN EAGLE OIL AND GAS LIMITED
[illegible]
TUBULAR TALLY REPORT

PRODUCTION CASING TALLY
NO. 1

Well .....Shoal Point No....2.....

Make Tubular Goods .....Mannesmann.....Type.....

Size.....9⅝".....Weight.....8.5.....Lbs./ft. Threads .....8.rd..... Grade.....J-55..... Range.....2.....

Couplings: Type..... ..... Minimum I.D. .... Maximum O.D.....

Note: The following tally is listed in the same order as the tubular goods were run in the hole. That is joint number one will be the first joint in the hole and continuing in that order until the last joint run.

Jt. No.	feet	⅛	Jt. No.	feet	⅛	Jt. No.	feet	⅛	Jt. No.	feet	⅛
1	30	[illegible]	1	29	80	1	31	38	1		
2	30	[illegible]	2	30	[illegible]	2	30	[illegible]	2		
3	31	[illegible]	3	30	59	3	30	37	3		
4	30	[illegible]	4	30	16	4	29	04	4		
5	31	[illegible]	5	[illegible]	[illegible]	5	29	[illegible]	5		
6	30	[illegible]	6	32	29	6	31	[illegible]	6		
7	30	[illegible]	7	31	97	7	30	05	7		
8	31	72	8	30	47	8	30	31	8		
9	30	[illegible]	9	31	[illegible]	9	30	55	9		
0	31	28	0	30	70	0	30	26	0		
a	310	08	d	317	30	g	308	15	j		
1	30	53	1	30	[illegible]	1	30	[illegible]	1		
2	30	[illegible]	2	29	[illegible]	2	31	[illegible]	2		
3	30	[illegible]	3	29	42	3	24	93	3		
4	31	[illegible]	4	30	06	4	10	71	4		
5	31	57	5	31	[illegible]	5			5		
6	30	57	6	32	78	6			6		
7	31	70	7	30	72				7		
8	30	[illegible]	8	30	50	8			8		
9	31	36	9	30	50	9			9		
0	30	[illegible]	0	31	44	0			0		
b	307	87	e	307	38	h	99	90	k		
1	30	08	1	30	92				1		
2	30	56	2	31	21	2			2		
3	[illegible]	[illegible]	3	32	15	3			3		
4	[illegible]	[illegible]	4	32	04	[illegible]			4		
5	31	55	5	31	49	5			5		
6	30	[illegible]	6	32	32	6			6		
7	32	[illegible]	7	31	38	7			7		
8	31	[illegible]	8	30	[illegible]	8			8		
9	30	[illegible]	9	31	[illegible]	9			9		
0	31	[illegible]	0	29	95	0			0		
c	310	49	f	314	05	i			l		
m									o		

TOTALS	
a	310 08
b	307 87
c	310 49
d	311 30
e	307 38
f	314 05
g	308 15
h	99 90
i	
j	
k	
l	
m	
n	
o	
	2269 20

FINAL TOTAL

Remarks Note: Joint No. 1 includes Float Shoe 1.35 feet.

Tallied by H. Laskn

GOLDEN EAGLE OIL AND GAS LIMITED

TUBULAR TALLY REPORT

FINAL PRODUCTION
CASING TALLY

Well ..... Shoal Point No. 2 .....

Make Tubular Goods ..... Mannesman ..... Type. .....

Size ..... 4½" ..... Weight ..... 9.5 ..... Lbs./ft. Threads ..... 8 rd ..... Grade ..... J-55 ..... Range ..... 2 .....

Couplings: Type ..... Minimum I.D. ..... Maximum O.D. .....

Note: The following tally is listed in the same order as the tubular goods were run in the hole. That is joint number one will be the first joint in the hole and continuing in that order until the last joint run.

Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s	Jt. No.	feet	10s
1	[illegible]	77	1	29	[illegible]	1	31	[illegible]	1			1		
2	30	35	2	30	89	2	32	09	2			2		
3	31	67	3	30	58	3	30	37	3			3		
4	30	20	4	30	16	4			4			4		
5	31	11	5	30	15	5			5			5		
6	30	08	6	30	29	6			6			6		
7	30	58	7	31	97	7			7			7		
8	31	72	8	30	47	8			8			8		
9	29	72	9	31	29	9			9			9		
0	31	25	0	30	70	0			0			0		
a	310	08	d	317	30	g	94	04	j			m		
1	29	53	1	30	[illegible]	1			1			1		
2	29	53	2	29	79	2			2			2		
3	32	44	3	29	[illegible]	3			3			3		
4	31	11	4	[illegible]	[illegible]	4			4			4		
5	31	57	5	31	39	5			5			5		
6	30	57	6	32	78	6			6			6		
7	31	70	7	30	72	7			7			7		
8	29	88	8	30	50	8			8			8		
9	31	36	9	30	50	9			9			9		
0	30	18	0	31	44	0			0			0		
b	307	87	e	307	38	h			k			n		
1	30	08	1	30	92	1			1			1		
2	30	55	2	31	21	2			2			2		
3	32	50	3	32	15	3			3			3		
4	29	80	4	[illegible]	[illegible]	4			4			4		
5	31	05	5	31	49	5			5			5		
6	30	11	6	32	32	6			6			6		
7	32	50	7	31	38	7			7			7		
8	31	88	8	30	60	8			8			8		
9	30	61	9	[illegible]	[illegible]	9			9			9		
0	31	36	0	29	05	0			0			0		
c	310	49	f	314	05	i			l			o		

TOTALS

a	310	08
b	307	87
c	310	49
d	311	30
e	307	38
f	314	05
g	94	04
h		
i		
j		
k		
l		
m		
n		
o		
	1955	21

FINAL TOTAL

Remarks The top 11 joints were backed off and pulled.

Tallied by H. J. Lash

SCANNED IMAGE

DRILLING RECORDS LTD.

2412 – 4TH ST. S.W. CALGARY AM 90826

MUD AND CHEMICALS USED

Gel	11,100	LBS
Caustic	750	LBS
CMC	1,200	LBS
Cromex	1,800	LBS

CASING

SIZE	FEET	SAX CEM	RUN CSG	W.O.C.
7"	132	35	8	25
?	2278	150	20	-

ABANDONMENT

PLUGS WITH SACKS

BIT TYPE CORRELATION CHART

TIME ANALYSIS

CONTRACT DAYS		DAYWORK	
ROTATING	11.24	TESTING	0.68
TRIPS	1.47	CORING	6.39
MECH. DOWN TIME	0.76	LOGGING	0.93
RUNNING CASING	1.19	LOST CIRCULATION	-
W.O.C.	1.04	COMPL. OR ABAND.	5.42
STUCK OR FISHING	0.35	MISC.	-
RIG SERVICE, ETC.	1.23	WOO	0.10
CONDITION HOLE MUD	-	High Wind	0.96
Ream & Clean	0.20		
TOTAL	17.58	TOTAL DAYS ON WELL	32.06

WELL NAME GOLDEN EAGLE SHOAL PT. NO. 2 NEWFOUNDLAND

CONTRACTOR BIG HORN RIG NO. 17 TOOL PUSH SHERRIE T.D. 2335 FT.

DATE SPUDDED Aug. 29 65 DATE RELEASED Sept. 30, 1965 ROTATING HOURS 193 CP 451 TD

EQUIPMENT

DWKS. MODEL Gard-Den 2000 H.P.

PUMP FXD 5½ x 10 H.P.

PUMP x H.P.

DRILL PIPE SIZE 3½ T.J.

MUD SERVICE COMPANY MAGCOBAR

TYPE OF DRILLING FLUID

Treated Gel 0 FT. TO 2335 FT.

FT. TO FT.

FT. TO FT.

ADDITIONAL INFORMATION

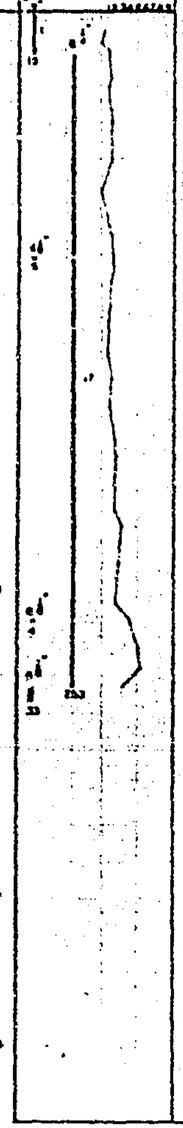
Pipe stuck while at 1135' (8½ hrs.)

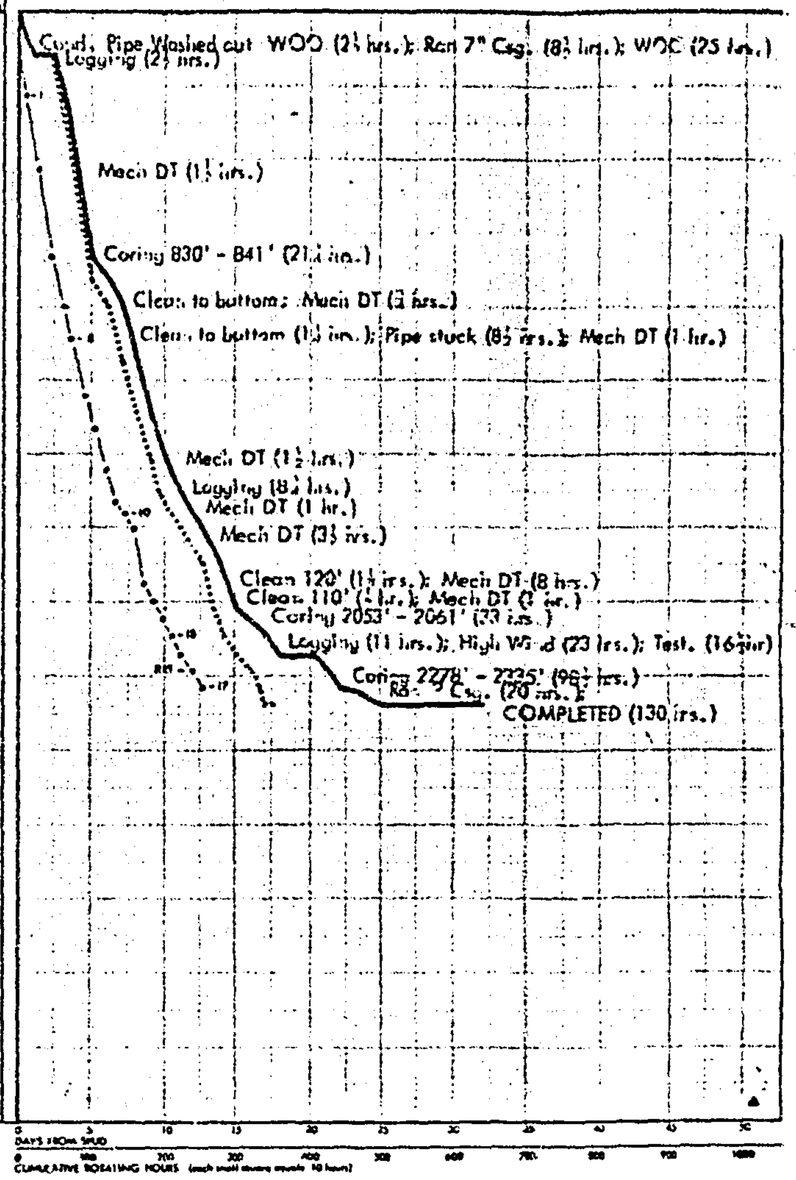
TOTAL TIME ——— CONTRACT TIME ·····

TAKEN FROM TOUR REPORTS

34	8.8			100			Core Size 6¼"		2	250	
				200	252	30	235	3	5	150	
33	8.5			200	243	27	225	3	5	90	
56	8.8	8.0	11.0	175	235	23	220	3	5	140	
50	9.2	5.0	11.0	400	252	58	235	3	5	140	
70	9.7	5.0	11.0	300	252	43	235	3	5	140	
57	9.5	6.0	10.5	300	252	43	235	3	5	200	
54	9.6	4.4	12.0	300	252	43	235	3	5	140	
55	9.7	5.6	11.5	300	252	43	235	3	7	200	
97	9.8	3.8	11.0	550	138	43	127	3	10	80	

DT AVAILABLE





No.	Size	Type	Depth	Footage	Hrs.	Cum. Hrs.
1A	9"	S3	132	132	19½	
1	6¼"	S3	278	146		
2	"	"	529	251	17½	26½
3	"	"	830	301	17½	44
	6¼"	CORE BIT	841	(11)	(5½)	
4	6¼"	S3	995	154	19½	63½
5	"	"	1105	110	10	73½
6	"	S3	1292	187	18½	92
7	"	"	1403	111	12½	104½
8	"	"	1547	144	14	118½
9	"	"	1652	106	15	133½
10	"	"	1695	43	11½	145
11	"	56	1745	50	10	155
12	"	S3	1836	91	14	169
13	"	"	1983	147	15½	184½
14	"	"	2053	70	13½	197½
	6⅛"	CORE BIT	2061	(8)	(4)	
15	6¼"	S3	2113	52	12½	210½
16	"	"	2170	57	11	221½
RR16	"	"	2222	52	17½	238½
17	"	"	2278	56	14½	253
	6¼"	CORE BIT	2296	(18)	(13½)	
	"	CORE BIT	2314	(18)	(6½)	
	"	CORE BIT	2335	(21)	(11)	

SHOAL POINT NO. 2

DRILL STEM AND SWAB TESTS

Drill Stem Test No. 1 - September 18, 1965

Interval: 2005 ft. to 2170 ft.

Misrun Packer Seats failed.
Recovery: 360 ft. drilling mud.

Swab Test No. 1 - September 28 - September 30, 1965

Interval: 2278 ft. to 2335 ft.
(barefoot below casing)

Results: Swabbed fluid level down to 1470 feet in 12 hours fluid rose 20 feet. Swabbed well dry no fluid entry in 12 hours.

Swab Test No. 2 - October 3 - October 5, 1965

Interval: 2278 ft. to 2335 ft.
(barefoot below casing after acidizing)

Results: Swabbed well dry, slight oil slick recovered with spent acid, no fluid entry into hole in 12 hours after swabbing.

Swab Test No. 3 - October 6, 1965

Intervals: 2280 ft. to 2285 ft.
2287 ft. to 2289 ft.
(barefoot below casing, shot with 3-1/8" torpedo jets at 3 per foot)

Results: Swabbed well dry, no fluid entry in subsequent 12 hours.

Swab Test No. 4 - October 7, 1965

Intervals: 2278 ft. to 2335 ft. (barefoot)
2151 ft. to 2163 ft. (48 shots)
2097 ft. to 2101 ft. (33 shots)
2103 ft. to 2110 ft. (21 shots)
2058 ft. to 2068 ft. (30 shots)
2040 ft. to 2048 ft. (32 shots)
2019 ft. to 2026 ft. (28 shots)

Results: Swabbed well dry, recovered only load water.

Swab Test No. 5 - October 8, 1965.

Interval: 2159 ft. to 2164 ft. (11 shots)
(all previous intervals also open)

Results: Swabbed well dry no fluid entry.

Swab Test No. 6 - October 9, 1965

Interval: 95 ft. to 105 ft.
(perforated surface casing after backing off long string at 323 ft.)

Results: Swabbed dry.

String Shot to Back-Off 4½" casing.

GOLDEN EAGLE OIL AND GAS LIMITED
CALGARY, ALBERTA, CANADA.

PERFORATING REPORT

Date .....October..8,..1965.....

Well .....Shoal Point No. 2.....

Perforating Company .....B.G.O.C..... Truck No. .....

Type Perforating: (bullet) (jet) (other) ..String..Shot Operator ....Baxter.....

Size and Type Charge or Bullet .....Primer..Cord.....

Zero Point: K.B. ..... feet above .....
which will be a permanent reference point on the well.

PERFORATED INTERVALS:

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	.....	.....	.....	.....
2nd collar:	.....	.....	.....	.....
3rd collar:	.....	.....	.....	.....
4th collar:	.....	.....	.....	.....
5th collar:	.....	.....	.....	.....
6th collar:	.....321.80.....	.....	.....323.8.....	.....2.0.....
TOTAL DEPTH	.....	.....	.....	.....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS FROM:

(Casing Tally) (Radioactivity Log)

Original Odometer Reading at ..... was reset to.....

Odometer Reading When Well Was Shot ...320...(Zeroed..on..collar..locator..2..ft....above.....

Explain Any Corrections Made:..... ....string..shot).....

.....

.....

Casing Size.....4½ .... Weight.....9.5..... Grade .....J-55..... From....Surface..... To...2278.....

Casing Size..... Weight..... ... . Grade..... From..... To.....

Casing Size..... Weight..... Grade..... From..... To.....

Liner Size..... .... Weight..... Grade..... From..... To.....

Type Fluid in Hole.....Water.... .....Fluid Level at.....Surface.....

Number Runs With Gun in Well.....1.. .....Time Shooting Completed.....2:05.....P...M

REMARKS: ...Ran 5 ft. string shot to back off casing at 322 ft. K.B.....

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Signed.....

Perforations No. 1

GOLDEN EAGLE OIL AND GAS LIMITED
CANTERBURY EXPLORATION LTD.

PERFORATING REPORT

Date .....October..6,...1965.....

Well .....Shoal Point No. 2.....

Perforating Company .....P.G.O.C..... Truck No. ....

Type Perforating: (Bullet) (Jet) (Other) ..... Operator .....Baxter.....

Size and Type Charge or Bullet .....3½" Torpedo.....

Zero Point: K.B. .....8.80..... feet above ....Ground.....
which will be a permanent reference point on the well.

PERFORATED INTERVALS:

Open hole (From .....2280..... To .....2285..... with .....3..... holes/foot Total Shots .....15.....
(From .....2287..... To .....2289..... with .....3..... holes/foot Total Shots .....6.....
From ..... To ..... with ..... holes/foot Total Shots .....
From ..... To ..... with ..... holes/foot Total Shots .....
From ..... To ..... with ..... holes/foot Total Shots .....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	2120.8			
2nd collar:	2151.9			
3rd collar:	2182.1	2183.5		1.4
4th collar:	2213.8	2215.8		2.0
5th collar:	2244.1	2246.0		2.0
6th collar:	2278.0	2279		1.0
TOTAL DEPTH				

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS FROM:

(Casing Tally) (Radioactive Log/Perforators)

Original Odometer Reading at ..... was reset to.....

Odometer Reading When Well Was Shot ... 2289 (Zeroed on bottom shot).....

Explain Any Corrections Made:.....

.....

.....

Casing Size.....4½ ..... Weight.....9.5..... Grade .....J-55..... From...Surface..... To....2278'.....
Casing Size..... Weight..... Grade..... From..... To.....
Casing Size..... Weight..... Grade..... From..... To.....
Liner Size..... Weight..... Grade..... From..... To.....
Type Fluid in Hole.....Water..... Fluid Level at.....1250'.....
Number Runs With Gun in Well.....1..... Time Shooting Completed.....11:15.....A.M
REMARKS: .....

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Signed.....

GOLDEN EAGLE OIL AND GAS LIMITED

PERFORATING REPORT

Perforations No. 2

Date ....October 7, 1965....

Well ....Shoal Point No. 2....

Perforating Company ....P.G.O.G.... Truck No. ....

Type Perforating: (Bullet) (Jet) (Other) .... Operator ....Baxter....

Size and Type Charge or Bullet ....2-1/8" S.N.M....

Zero Point: K.B. ....8.80.... feet above ....Ground level....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log depths)

From....2151....To....2163....with....4....holes/foot Total Shots....48....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	....	....	....	....
2nd collar:	....	....	....	....
3rd collar:	....	....	....	....
4th collar:	....	....	....	....
5th collar:	....	....	....	....
6th collar:	....	....	....	....
TOTAL DEPTH	....	....	....	....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH DEPTHS FROM:

(Casing Collar) (Electric Log) (Radioactivity Log)

Original Odometer Reading at .... was reset to....

Odometer Reading When Well Was Shot ....2163..(Zeroed..on..bottom..shot)....

Explain Any Corrections Made: ....

....

....

Casing Size....4½.... Weight....9.5.... Grade ....J-55.... From..Surface.... To....2278'....

Casing Size.... Weight.... Grade.... From.... To....

Casing Size.... Weight.... Grade.... From.... To....

Liner Size.... Weight.... Grade.... From.... To....

Type Fluid in Hole....Water.... Fluid Level at....1300'....

Number Runs With Gun in Well....1.... Time Shooting Completed....11:20....A.M

REMARKS: ....Gun was zeroed on bottom shot at K.B. and position by odometer....
reading to conform with Electric Log depths....

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Signed....

GOLDEN EAGLE OIL AND GAS LIMITED

CANCELLED PERFORATING REPORT

Perforations No. 3

Date ....October 7, 1965....

Well ....Shoal Point No. 2....

Perforating Company ....P.G.O.C.... Truck No. .....

Type Perforating: (CSG) (Jet) (BSG) .... Operator ....Baxter....

Size and Type Charge or Bullet ....2-1/8" S.M.M....

Zero Point: K.B. ....8.80.... feet above ....Ground Level....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log Depths)

From....2097....To....2101....with....3....holes/foot Total Shots....12....

From ....2103....To ....2110....with....3....holes/foot Total Shots....21....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	....	....	....	....
2nd collar:	....	....	....	....
3rd collar:	....	....	....	....
4th collar:	....	....	....	....
5th collar:	....	....	....	....
6th collar:	....	....	....	....
TOTAL DEPTH	....	....	....	....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS DEPTHS FROM:
(Casing Tally) (Radioactive Log) Electric Log)

Original Odometer Reading at.... ....was reset to....

Odometer Reading When Well Was Shot .... 2110 (Zeroed on bottom shot)....

Explain Any Corrections Made:.... ....

....

....

Casing Size....4½.... Weight....9.5.... Grade ....J-55.... From...Surface.... To....2278....

Casing Size.... Weight.... .... Grade.... From.... To....

Casing Size.... Weight.... .... Grade.... From.... To....

Liner Size.... .... Weight.... Grade.... From.... To....

Type Fluid in Hole....Water.... ....Fluid Level at....1300....

Number Runs With Gun in Well....1. ....Time Shooting Completed....12:25....P.M.

REMARKS: ....Same as Perforation No. 2....

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Signed....

GOLDEN EAGLE OIL AND GAS LIMITED

CONFIDENTIAL

Perforations No. 4

PERFORATING REPORT

Date .....October..7....1965.....

Well .....Shoal Point No. 2.....

Perforating Company .....P.G.O.C..... Truck No. ....

Type Perforating: (BULLET)(Jet) (Other) ..... Operator .....Baxter.....

Size and Type Charge or Bullet .....2-1/8" S.N.M.....

Zero Point: K.B. .....8.80..... feet above ..Ground..level.....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log Depths)

From.....2058.....To.....2068.....with.....3.....holes/foot Total Shots .....30.....

From.....To .....with.....holes/foot Total Shots .....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	.....	....	.....	.....
2nd collar:	.....	.....	.....	.....
3rd collar:	.....	.....	.....	.....
4th collar:	.....	.....	.....	.....
5th collar:	.....	.....	.....	.....
6th collar:	.....	....	.....	.....
TOTAL DEPTH	.....	.....	.....	.....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS FROM DEPTHS:
(~~Casing Tally~~ Electric Log) (~~Perforators~~)

Original Odometer Reading at..... .....was reset to.....

Odometer Reading When Well Was Shot ....2068. (Zeroed..on..bottom..shot).....

Explain Any Corrections Made:..... ....

.....

.....

Casing Size.....4½ .... Weight.....9.5..... Grade.....J-55..... From....Surface..... To.....2278'.....

Casing Size..... Weight..... ... . Grade..... From..... To.....

Casing Size..... Weight..... ..... Grade..... From..... To.....

Liner Size..... .... Weight..... Grade..... From..... To.....

Type Fluid in Hole.....Water..... .....Fluid Level at.....1300.....

Number Runs With Gun in Well.....1.. .....Time Shooting Completed.....1:30.....P.M

REMARKS: ....Same as Perforations No. 2.....

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Signed.....

GOLDEN EAGLE OIL AND GAS LIMITED
CONFIDENTIAL

Perforations No. 5

PERFORATING REPORT

Date ..October 7, 1965.....

Well .....Shoal Point No. 2.....

Perforating Company .....P.G.O.C..... Truck No. ....

Type Perforating: (bullet) (jet) (shock ..... Operator .....Baxter.....

Size and Type Charge or Bullet .....2-1/8" S.M.M.....

Zero Point: K.B. ....8.80..... feet above ....Ground Level..... .....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log Depths)

From.....2040.....To.....2048.....with.....4.....holes/foot Total Shots.....32.....

From.....To..... .....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	.....	.....	.....	.....
2nd collar:	.....	.....	.....	.....
3rd collar:	.....	.....	.....	.....
4th collar:	.....	.....	.....	.....
5th collar:	.....	.....	.....	.....
6th collar:	.....	....	.....	....
TOTAL DEPTH	.....	.....	.....	.....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS FROM DEPTHS:

(Casing Tally) (Electric Log) (Perforators)

Original Odometer Reading at..... .....was reset to.....

Odometer Reading When Well Was Shot .... 2048 (Zeroed on bottom shot).....

Explain Any Corrections Made:..... .....

.....

.....

Casing Size.....4½..... Weight.....9.5..... Grade.....J-55..... From....Surface..... To.....2278.....

Casing Size..... Weight..... Grade..... From..... To.....

Casing Size..... Weight..... Grade..... From..... To.....

Liner Size..... Weight..... Grade..... From..... To.....

Type Fluid in Hole.....Water..... .....Fluid Level at....1300'.....

Number Runs With Gun in Well.....1..... .....Time Shooting Completed.....2:30.....P.M

REMARKS: .....Same as Perforations No. 2.....

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Signed.....

GOLDEN EAGLE OIL AND GAS LIMITED
CANPET EXPLORATION LTD.

Perforations No. 6

PERFORATING REPORT

Date .....October 7, 1965.....

Well .....Shoal Point No. 2.....

Perforating Company .....P.G.O.C..... Truck No. .....

Type Perforating: (Bullet (jet) (Other)..... Operator .....Baxter.....

Size and Type Charge or Bullet .....2-1/8" S.M.M.....

Zero Point: K.B. .....8.80..... feet above .....Ground level.....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log Depths)

From.....2015.....To.....2026.....with.....4.....holes/foot Total Shots.....28.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

From.....To.....with.....: holes/foot Total Shots.....

From.....To.....with.....holes/foot Total Shots.....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	.....	.....	.....	.....
2nd collar:	.....	.....	.....	.....
3rd collar:	.....	.....	.....	.....
4th collar:	.....	.....	.....	.....
5th collar:	.....	.....	.....	.....
6th collar:	.....	.....	.....	.....
TOTAL DEPTH	.....	.....	.....	.....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH COLLARS / DEPTHS FROM:

(Casing Tally) (Radioactive Log) (Perforations) Electric

Original Odometer Reading at ..... was reset to .....

Odometer Reading When Well Was Shot .....2026.....(Zeroed on bottom shot).....

Explain Any Corrections Made:.....

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.....

.....

Casing Size.....4½..... Weight.....9.5..... Grade.....J-55..... From..Surface..... To.....2278.....

Casing Size..... Weight..... Grade..... From..... To.....

Casing Size..... Weight..... Grade..... From..... To.....

Liner Size..... Weight..... Grade..... From..... To.....

Type Fluid in Hole.....Water..... Fluid Level at.....1300.....

Number Runs With Gun in Well.....3..... Time Shooting Completed.....6:30.....P.M

REMARKS: .....Same as Perforations No. 2.....

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Signed.....

GOLDEN EAGLE OIL AND GAS LIMITED

Perforations No. 7

PERFORATING REPORT

Date ....October 8, 1965....

Well ....Shoal Point No. 2....

Perforating Company ....P.G.O.C.... Truck No. .....

Type Perforating: (Bullet)(Jet) (Other) ..... Operator ....Baxter....

Size and Type Charge or Bullet ....3-1/4" Torpedo....

Zero Point: K.B. ....8.80.... feet above ...Ground level....
which will be a permanent reference point on the well.

PERFORATED INTERVAL:

From....2159....To....2164....with....holes/foot Total Shots....11....

From ....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:	.....	.....	.....	.....
2nd collar:	.....	.....	.....	.....
3rd collar:	.....	.....	.....	.....
4th collar:	.....	.....	.....	.....
5th collar:	.....	.....	.....	.....
6th collar:	.....	.....	.....	.....
TOTAL DEPTH	.....	.....	.....	.....

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH DEPTHS FROM:

(Casing Collars)(Electric Log) (Other)

Original Odometer Reading at ....was reset to....

Odometer Reading When Well Was Shot ....2164....(Zeroed on bottom shot)....

Explain Any Corrections Made:.....

.....

.....

Casing Size....4½.... Weight....9.5.... Grade....J-55.... From...Surface.... To....2278....

Casing Size.... Weight.... Grade.... From.... To....

Casing Size.... Weight.... Grade.... From.... To....

Liner Size.... Weight.... Grade.... From.... To....

Type Fluid in Hole....Water ....Fluid Level at....1500'....

Number Runs With Gun in Well....1.... ....Time Shooting Completed....4:30....P.M.

REMARKS: ....Same as Perforations No. 2....

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Signed.....

COLDEN EAGLE OIL AND GAS LIMITED

Perforations No. 6 PERFORATING REPORT

Date ....October 8, 1965....

Well ....Shoal Point No. 2....

Perforating Company ....B.G.O.C.... Truck No. .....

Type Perforating: Bullet (Jet) Method .... Operator ....Baxter....

Size and Type Charge or Bullet ....2-1/8" S.M.K....

Zero Point: K.B. ....8.80.... feet above ....Ground level....
which will be a permanent reference point on the well.

PERFORATED INTERVAL: (Electric Log Depths)

From....95....To....105....with....3....holes/foot Total Shots....29....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

From....To....with....holes/foot Total Shots....

Casing Collar Depths Measured by:

	CASING TALLY	RADIOACTIVE LOG COLLAR LOCATOR	PERFORATORS	DIFFERENCE
1st collar:				
2nd collar:				
3rd collar:				
4th collar:				
5th collar:				
6th collar:				
TOTAL DEPTH				

ALL MEASUREMENTS WERE CORRECTED TO CONFORM WITH ELECTRIC LOG DEPTHS FROM:

(Casing Tally) (Radioactive Log) (Perforators)

Original Odometer Reading at .... was reset to....

Odometer Reading When Well Was Shot .... 105 ..(Zeroed on bottom shot)....

Explain Any Corrections Made:....

....

....

Casing Size....7"... Weight....20.... Grade....J-55.... From....Surface.... To....132....

Casing Size.... Weight.... Grade.... From.... To....

Casing Size.... Weight.... Grade.... From.... To....

Liner Size.... Weight.... Grade.... From.... To....

Type Fluid in Hole....Water.... Fluid Level at....Full....

Number Runs With Gun in Well....1.... Time Shooting Completed....2:05....P.M

REMARKS: ....Perforations made after recovery of upper joints of Long String....

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Signed....

WELL TREATMENT REPORT

Area: Port au Port Peninsula, Shoal Point, Newfoundland

Well Name: Shoal Point No. 2

Date: October 3, 1965

Treatment:

The open hole interval 2278 to 2335 was treated with 250 gallons (7 barrels) of Dowell 15% HCl acid using the following procedure:

1. Mixed 125 gallons of 32% HCl with Dowell A-9 inhibitor and F 40 Detergent and 145 gallons of water. Added 100 lbs. of Ammonium bifluoride (Total acid volume 290 gallons 15% strength).

2. Spotted acid on formation and pressured up to 600 psi increasing to 1100 psi for 1/2 hour. Unable to squeeze acid.

3. Washed acid past formation 1 barrel stages at 850 psi to 1150 psi at a rate of 1 barrel every 15 minutes.

4. Washed 7 barrels acid back past formation at 1 b.p.m. 300 psi in 7 minutes.

5. Washed 7 barrels back past formation at 1/2 b.p.m. at 1100 psi in 15 minutes.

6. Washed 7 barrels past formation (4th time) at 1/2 b.p.m. at 800 psi in 15 minutes.

7. Back-washed acid to surface, recovered semi-spent acid slightly oil stained.

Total time mixing and acidizing - 5 hours.

H. LASKA

OPERATIONS SYNOPSIS

DRILLING RIG SELECTION

Two methods of drilling were considered for the Shoal Point wells, one using a core hole rig conventional to mine exploration, the other using a small rotary drilling rig conventionally used for oil well drilling.

In favour of the core hole rig was:

(1) lower daily rental
(2) the lighter weight
(3) the shorter distance that would have been necessary to transport to the location.

Unfavourable points were:

(1) the small diameter hole
(2) the lack of surface control in case of a blow-out
(3) because of hole size the prohibition of carrying out a completion as a producer using conventional oilfield equipment
(4) the possibility of losing holes while drilling in shales that were dipping steeply and highly contorted
(5) drilling would progress at a slow rate.

In favour of the rotary rig was:

(1) the larger diameter hole
(2) the available equipment to control a possible blow-out
(3) the available equipment would readily accommodate the completion of a productive zone
(4) drilling would progress at a greater rate
(5) hole problems such as sloughing and deviation from vertical could best be handled with rotary drilling techniques.

Unfavourable points were:

(1) the high daily rental
(2) the high transportation cost to the site
(3) the greater weight of equipment to be moved over difficult terrain.

After weighing the alternatives it was decided that the rotary rig, which would give the greatest flexibility and safety would best serve the needs of an oil exploration programme.

DRILLING EQUIPMENT

The rotary rig chosen was a Gardner Denver "2000" based in Calgary, Alberta. The rig components were as follows:

Mud pump - FXD 5" x 10" rated at 210 gpm.
Draw works - rated at 15,000 lb. single line drum pull
Mast - 58' of tapered tubular design
Rotary table - three speed (50 to 325 rpm)
Drill pipe - 3½ inch internal flush
Drill collars - 300' flexweight (4")
120' (5")
Drill pipe racks (Trailer mounted)
Shale shaker
Lighting plant
Mud tank (100 bbl. capacity)
Winch truck
Tool house
Bunk house

TRANSPORT

The complete drilling rig was so designed that all equipment is on wheels for moving. In Calgary the equipment was loaded on two flat cars and the supplies in a gondola car. Total weight was about 200,000 lbs.

The Canadian National Railway carried the cars to North Sydney, Nova Scotia, from where the ferry "Carson" transported the rig components and supplies to Port aux Basque.

At Port aux Basque two tractors and one high bed were hired to pull a trailer (loaded with drill pipe) and hauled the supplies to Boswarlos. The one tractor was released at this point.

At Boswarlos a D-7 Caterpillar tractor was engaged to assist the equipment over the beach. Moving the rig to the location at the end of Shoal Point took about five days. Moving was done only at low daytime tide.

All equipment except casing and tubing came together from Calgary. The surface casing was ordered from Sault St. Marie in June but did not arrive in Newfoundland until August, the slow delivery holding up drilling by seven days. If future work is contemplated a constant tracer should be kept on the shipment of such items.

Crew transport to the end of Shoal Point presented constant worry. For the most part (excepting periods of very low tide) travel on the beach by Land Rover to the location could not be used for the

three crew changes per day or the supervisory visits. A small boat was used for most crew changes, however, if a boat large enough to withstand the often choppy sea was used, it could not land. As a standby a J-5 (Bombadier) was rented. This tracked vehicle was valuable in hauling men and supplies, the supplies being towed behind the J-5 on an Athey Wagon.

The move off the point took only three days, as the move was carried out during both low tides, and with better knowledge of the terrain.

WATER

Ample supplies of fresh water were found on the point for drilling mud make-up water, and was found to be suitable for mixing cement.

DRILLING

Details of the drilling operation are reported in the other sections of this report. The main conclusion that can be drawn from these details is that the main drilling problem on Shoal Point was that of maintaining a vertical hole. Under normal circumstances a weight of about 15,000 lbs. would have been applied to the bit while drilling, however, the hole was found to deviate quickly from its bearing when weight over 5,000 lbs. was applied. It is doubtful if one-half the normal rate of penetration in this rock type was maintained during the drilling operation. High bit rotational speed was used together with a minimum mud weight, however only by increasing the weight on the bit could a significant increase in penetration be achieved. A future programme in that area should include the investigation of heavy square drill collars and perhaps stabilizers.

LOCATION PREPARATION

Beach sand matted with 2" x 10" wooden planks provided an adequate base for the first well. During drilling the rig settled about three inches.

The second location was quite difficult to build as a depth of 10 feet of peet moss had to be stripped from a 5,000 sq. ft. area adjacent to the beach and then filled with shale from an outcrop nearby. As the outcrop was under water one-half of each day (as was the location in its early stages) the massive fill-up job was a very

slow operation with one crawler tractor. This location was matted with planks and sections of landing mats, and no settling was reported.

DRILLING MUD CONTROL

Drilling penetration rate is inversley related to drilling mud weight. The rate of solids build-up in the drilling mud and consequently the build up of mud weight was above what is usually encountered. This coupled with the small mud tank which had a minimum retention and settling time necessitated the frequent dumping of mud. A larger mud tank or a pit system would lower future mud costs. A pit system on Shoal Point was of course out of the question.

COMMUNICATIONS

A great improvement in the ease of operation could have been obtained with the use of a two-way radio between the drilling rig and some base point such as Boswarlos or perhaps even Stephenville. The ideal equipment would have been "Citizens Band" radio such as Golden Eagle have in use for pumping and switching operations in Saskatchewan.