

M. L. LARSON GEOLOGICAL CONSULTANTS LTD.

402 - 18 AVENUE N.W. CALGARY, ALBERTA T2M 0T3

TELEPHONE (403) 276-4662

(403) 263-2332

GEOLOGICAL WELLSITE REPORT

for

Paramount et al Liard

D-29

60° 28' 6.93" N. Lat.

123° 35' 33.07" W. Long.

By: R.A. Magea

M. LARSON GEOLOGICAL CONSULT, IS LTD.

407 - 18 AVENUE NW, CALGARY, ALBERTA T2M 0T3
TELEPHONE (403) 276 4662
(403) 263-4232

WELL SUMMARY

Well Name: Paramount et al Liard D-29

Location: 60° 28' 6.93" N. 123° 35' 33.07" W.

Elevation: Ground 459.7m KB 464.6m

Total Depth: Driller 2512m Logger Logs not run @ TD

Operator: Paramount Resources Ltd.

Contractor: Hi Tower Drilling Rig 7

Geologist: R. A. Magee

Spud Date: Jan. 28 1979

Rig Release: Mar. 23 1979

Logs Run: Intermediate Sfc. Csg. - 1290m

1979-02-25 INDUCTION ELECTRICAL LOG (IES) 387.5m - 1284m

1979-02-25 BOREHOLE COMPENSATED SONIC LOG (BHC Sonic/GR CAL) 387.5m - 1284m

Note: No logs run @ TD due to poor hole conditions.

Drill Stem Tests: Nil

FORMATIONS: *The well was spudded in the Besa River formation and that was the only formation encountered.*
HEB

Core: Nil

Status: Suspended

Surface Casing: 339.7mm casing landed @ 387.62m KB

Intermediate Casing: 244.5mm casing landed @ 1287.56m KB

Production Casing: Nil

Gas Show Summary

Paramount et al Liard D-29

Air Drilling

- 1106m - small momentary flare (trib gas?) when working to bottom
- 1210.5-1212.75m -drilling break - 1.5m lazy flare @ 1213.31m. Stopped drilling to record flare. Flare with air on 1.5m and weak to a maximum of 2.5m and strong for several seconds @ 3-8 min. intervals. Last flare 2.5m - long and strong then died. Total time of intermittent flare - 1 hour 38 min. Recorded 7 ppm H_2S on recorder near end of bleed line which increased to 20 ppm H_2S .
- 1222m - small flare on connection
- 1241-1248m - intermittent flare of varying intensity and duration - 3m max 30 seconds max.
- 1287-1290 - 10m flare - 5-10 second duration
- 1290-1830 - intermittent flare to mud up @ 1830m

Gas Detector

- 1873-2000m - intermittent peaks recorded generally 0 to a maximum of 10 units with the exception of 1940-1945m which recorded a kick of 15 units.
- 2000-2010m - 2 units
- 2010-2015m - 3 units
- 2015-2025m - 4 units
- 2025-2035m - 3 units
- 2035-2040m - 22 units max.
- 2040-2045m - 16 units max.
- 2045-2050m - 2 units
- 2050-2055m - 26 units max. - intermittent
- 2055-2060m - 20 units max. - intermittent
- 2060-2065m - 40 units max. - intermittent
- 2065-2070m - 50 units max. - intermittent
- 2070-2075m - 24 units max. - generally weak
- 2075-2080m - 20 units average

Gas Show Summary cont'd

2080-2085m	- 20 units max. dying to 2 units
2085-2090m	- 2 units average
2090-2095m	- one kick with a max. of 32 units
2095-2100m	- 8 units average with one kick to 20 units.

End of high gas readings

2100-2312m	- 0 - 3 units
2312-2377m	- Gas detector down for repairs
2377-2460m	- 0 - 4 units with occasional kicks to 28 units.
2460-2465m	- 35 units average base with one sharp kick to 100+ units
2465-2475m	- 15 units average
2475-2510m	- 4 units average base with approximately a dozen sharp kicks with four of these being 42,48,76 and 100+ units.

M. LARSON GEOLOGICAL CONSULTANTS LTD. .

WELL LOG

WELL NAME Paramount et al Liard D-29

K.B. 464.6M

DATE: Feb. 7/79

GEOLOGIST: R. A. Magee

(METERS)	(MINUTES/METRE)	CORING, DRILLING TIMES	JAN-KL	SIZE	PROBITY	LITHOLOGY	DESCRIPTION
DEPTH	B	10 15 20 25 30 40	F M C	8 10 15 20			
							No samples taken
250							SH, dkgy-blkish in pt, cal. LS (INTRASPARETE), wh to gish fr - cgs, sli agillia part. Note: ls only a
							SH and tr LS a/a trace suggesting very thin minor beds.
							a/a a/a
							a/a a/a
3°							a/a a/a
75							a/a a/a in ppt SH, a/a hut more cal. Tr LS a/a, tita
							a/a a/a
							SH, only a/a
300							a/a
							a/a
3½°							SH, a/a. Tr LS a/a re-suppwing.
							a/a a/a
25							a/a a/a
							a/a a/a
							a/a a/a
							a/a a/a
							a/a a/a
50							a/a a/a To increase
NB SA @ 351							SH, lt gy-gy-blk; LS, tr only.
NB LA @ 360							a/a a/a
							a/a a/a
							a/a a/a
75							a/a a/a
							a/a a/a
							a/a a/a
4°							SH, dkgy-blk a/a
NB 1 @ 388							a/a
TO AIR DRILLING @ 391 (DUSTING)							a/a
400							a/a
							a/a
							a/a
3½°							SH, gy-blk. Good to sparry calcite
3¼°							a/a a/a
25							SH, blkish, sli shon sidash, only sli a/a.
							SH, dkgy-blk
3½°							a/a Tr sparry calcite
NB 2 @ 435							SH, dkgy
LTWT DEV CONTROL							a/a
50							

FAULT
7/7

M' LARSON GEOLOGICAL CONSULTANTS LTD. .

WELL LOG

WELL NAME Paramount et al Liard D-29

X.B. 464.6M

DATE: Feb 17/79

GEOLOGIST: R. A. Magee

[illegible]

MI LARSON GEOLOGICAL CONSULTANTS LTD. .
WELL LOG

WELL NAME Paramount et al Liard D-29

K.S. 464.6 m

DATE: Feb 18/79

GEOLOGIST: R. A. Magee

METRE DEPTH	1 MINUTE (METRE) CORING, DRILLING TIME					COR-RT SIZE FMC	POROSITY S 10 15 20	LITHOLOGY	DESCRIPTION
	S	ID	IS	PO	25 30 40				
1°									SH, gy-blk
									a/a Sli tr brn micr. dol.
									a/a a/a
									a/a a/a
									a/a a/a
700									a/a a/a
710									a/a a/a
720									a/a Good tr dol a/a
730									a/a a/a
740									a/a Tr dol a/a
750									SH, gy a/a
760									a/a a/a
770									a/a a/a
780									a/a a/a
790									a/a a/a
800									a/a Sli tr dol a/b
810									a/a a/a
820									a/a a/a
830									SH, gy, cal. Tr dol a/a Tr cal
840									a/a a/a a/a
850									SH, gy
860									SH, gy, cal-dol.
870									a/a
880									a/a
890									a/a
900									a/a
910									SH, gy-blk, cal to sli dol in pt.
920									a/a
930									a/a
940									a/a
950									SH, gy
960									a/a
970									a/a
980									a/a
990									SH a/a, cal-sli dol. Tr brn dol a/b
1000									a/a
1010									a/a
1020									a/a
1030									a/a
1040									a/a
1050									a/a
1060									a/a
1070									a/a
1080									a/a
1090									a/a but more dol than cal.
1100									a/a
1110									a/a
1120									a/a Sli tr brn dol a/b.
1130									a/a
1140									a/a
1150									a/a
1160									a/a
1170									a/a
1180									a/a
1190									a/a
1200									a/a
1210									a/a
1220									a/a
1230									a/a
1240									a/a
1250									a/a

L. LARSON GEOLOGICAL CONSULTANTS LTD. .

WELL LOG

WELL NAME Paramount et al. Lard D-29K.B. 969.67DATE: Feb 20/79GEOLOGIST: R.A. Magee

DEPTH (METERS)	(MINUTES / METERS) CORING, DRILLING TIMES					GRN-KTL V SIZE F M C	POROSITY B 1015 70	LITHOLOGY	DESCRIPTION
	5	10	15	20	25				
25									SH, gy, dol, cal in pt.
									a/a
									a/a
									a/a
									a/a
35									a/a
									a/a
									a/a
									a/a
									a/a
45									Tr sparry cal.
									a/a
									a/a
									a/a
									a/a
55									Sample cuttings of: smaller.
									a/a
									a/a
									a/a
									a/a
65									a/a
									a/a
									a/a
									a/a
									a/a
75									Tr brn microcr. dol a/b
									a/a
									a/a
									a/a
									a/a
85									Tr brn microcr. dol a/b
									a/a
									a/a
									a/a
									a/a
95									a/a
									a/a
									a/a
									a/a
									a/a
105									a/a
									a/a
									a/a
									a/a
									a/a
115									Slite cal + gypsum
									a/a a/a
									a/a
									a/a
125									a/a a/a

CASE 1
SEE
NOTES

MI LARSON GEOLOGICAL CONSULTANTS LTD. .

WELL LOG

WELL NAME Paramount et al. 1.1.1. D-29

K.B. 464.6M

DATE: Feb 23/79

GEOLOGIST: R. A. Magee

METRES DEPTH	(MINUTES / METRE) CORING, DRILLING TIMES B 10 15 20 25 30 40	SRN-XTL SIZE F FMC	GROBITY B 10 15 20	LITHOLOGY	DESCRIPTION
61					SH, gy, dol, cal in pt. Sli tr cal + gypsum.
					a/a
					a/a
					a/a
					a/a
50					a/a
					a/a x minor SH, blk, cal
					a/a Tr a/a
					a/a
					a/a
75					a/a
					a/a
					a/a
					a/a
					a/a
1200					a/a
					a/a Sli tr cal.
					a/a
					a/a
					a/a Good tr cal a/a
					a/a
25					a/a
					a/a Tr cal a/b
					a/a
					a/a
					a/a
					a/a
50					a/a
					a/a
					a/a
					a/a x brash which is out of star for section. Suggest continuation from single Q 1290.
					a/a
75					a/a
					a/a
					a/a
					a/a
					a/a
1290					a/a
					a/a
					a/a
					a/a
1300					SH, gy to blkish in pt.
					a/a
					a/a
					a/a
25					SH, blkish, cal to dol, starting this sample very powdery & limited amount
					a/a
					a/a
					a/a
					a/a
					a/a
50					a/a

M.L. ARSON GEOLOGICAL CONSULTANTS LTD.

WELL LOG

WELL NAME Paramount et al Liard D-29K.B. 464.6MDATE: Mar. 2/79GEOLOGIST: R. A. Magee

METRE DEPTH	(MINUTES/METRE) CORING, DRILLING TIMES				GRAN-XTL SIZE F.M.S.	POROSITY S 10/5 20	LITHOLOGY	DESCRIPTION
	5	10	15	20 25 30 40				
75								SH, bluish, cal to dol a/b
								a/a
								a/a
								a/a
								SH, dk gy to blk
								a/a
								a/a. Sample junky, w/ mixed size cuttings.
								a/a a/a
								a/a a/a
								a/a a/a
6" 1400								a/a Better sorting on cuttings size.
								a/a
								a/a
								a/a
6" 25								a/a
								a/a
								a/a
								a/a
								a/a
50								a/a
								a/a
								a/a
								a/a
75								a/a
								a/a
7" 1500								a/a Samples contaminated w/ sig. growth and dol.
								a/a
								a/a Increase in blk SH non cal and nondol.
								a/a a/a
								SH a/a 50:50
								a/a
								a/a
								a/a
25								a/a
								SH, dk gy a/a, cal to dol, w/ minor blk sh
								a/a a/a
								a/a a/a
								SH, blk w/ minor dk gy a/a
50								SH, blk a/a
								a/a
								a/a
								a/a
75								a/a

NB 8
@ 14596" 25
7" 1500
DRILLING W/L.T. UT. SEE BIT RECORD

M.I. 'LARSON GEOLOGICAL CONSULTANTS LTD.

WELL LOG

WELL NAME Paramount at al Liard D-25K.B. 464.6MDATE: Mar 5/79GEOLOGIST: R. A. Magee

(METERS) DEPTH	(MINUTES) (METERS) CORING, DRILLING TIME					COROSITY SIZE PWC	LITHOLOGY	DESCRIPTION
	5	10	15	20	25	30		
5 1/2'								SH, blk alb
								a/a
								a/a
								a/a
								a/a
1600								a/a
								a/a
								a/a Tr pyrite
								a/a
								a/a
25'								a/a
								a/a
								a/a
								a/a
								a/a
50'								a/a
								a/a Good to pyrite
								a/a
								a/a
								a/a
75'								a/a
								a/a
								a/a
								a/a
								a/a
1700								a/a
								a/a
								a/a
								a/a
								a/a
25'								a/a
								a/a
								a/a
								a/a
								a/a
50'								a/a
								a/a
								a/a
								a/a
								a/a
75'								a/a
								a/a
								a/a
								a/a
								a/a
1800								a/a

NB 9
G 1738