



Laboratories



N.E.B. COPY

WATER ANALYSIS

Container Identification
PB 1A

Previous Number	Laboratory Number
WG63334B	WG63334A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-46	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point	Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)				
		Temperature (°C)				

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
FIRST FLUID TO SURFACE @ 600m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	4410.0	0.313	191.8
K	485.0	0.034	12.4
Ca	147.0	0.010	3.7
Mg	19.6	0.001	0.8
Fe	39.0	0.003	0.7

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	6652.0	0.471	187.6
HCO ₃	1733.6	0.123	28.4
SO ₄	622.0	0.044	6.5
CO ₃	Nil	Nil	Nil
OH	Nil	Nil	Nil

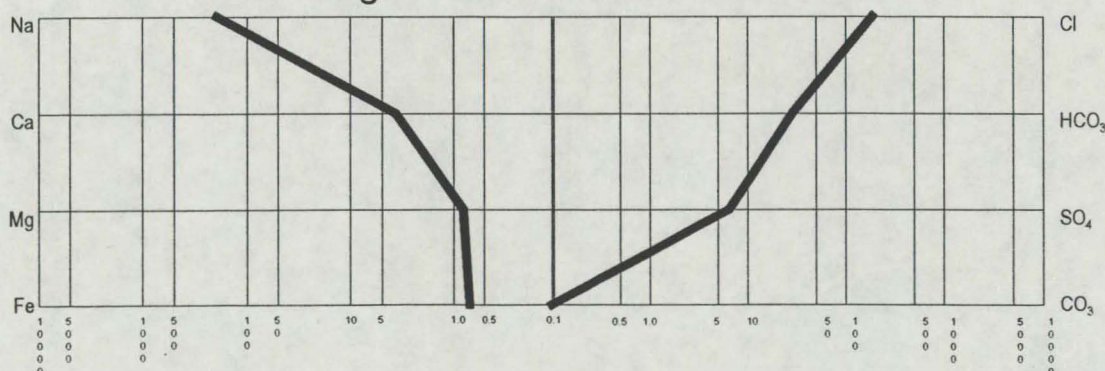
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	14108
Observed pH	7.65
H ₂ S (25°C) mg/L	N/D
Relative Density (25°C)	1.011
Resistivity / OHM·m (25°C)	0.518
Salinity %	1.19

Total Cations 214.6

Total Anions 229.0

Logarithmic Pattern mmol/L



NATIONAL ENERGY BOARD
ENCLOSURE
JAN 31 2001





Laboratories



WATER ANALYSIS

Container Identification
PB 2B

Previous Number	Laboratory Number
WG63334A	WG63334B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-46	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point	Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)				
		Temperature (°C)				

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
2ND FLUID; 1000m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	4910.0	0.322	213.6
K	463.0	0.030	11.8
Ca	160.0	0.011	4.0
Mg	20.7	0.001	0.9
Fe	40.5	0.003	0.7

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	7145.0	0.469	201.5
HCO ₃	1703.7	0.112	27.9
SO ₄	793.0	0.052	8.3
CO ₃	Nil	Nil	Nil
OH	Nil	Nil	Nil

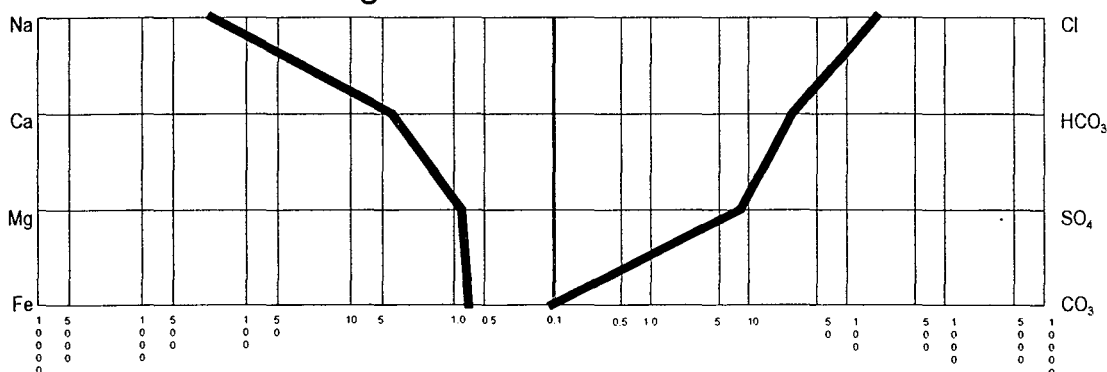
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	15235
Observed pH	7.69
H ₂ S (25°C) mg/L	N/D
Relative Density (25°C)	1.015
Resistivity / OHM·m (25°C)	0.500
Salinity %	1.27

Total Cations 236.6

Total Anions 246.0

Logarithmic Pattern mmol/L





Laboratories



WATER ANALYSIS

Container Identification
PB 3C

Previous Number	Laboratory Number
WG63334A	WG63334C

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-46	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point	Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)				
		Temperature (°C)				

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
3RD FLUID; 1500m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	5020.0	0.326	218.4
K	416.0	0.027	10.6
Ca	183.0	0.012	4.6
Mg	23.4	0.002	1.0
Fe	23.4	0.002	0.4

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	7784.0	0.506	219.6
HCO ₃	1658.9	0.108	27.2
SO ₄	288.0	0.019	3.0
CO ₃	Nil	Nil	Nil
OH	Nil	Nil	Nil

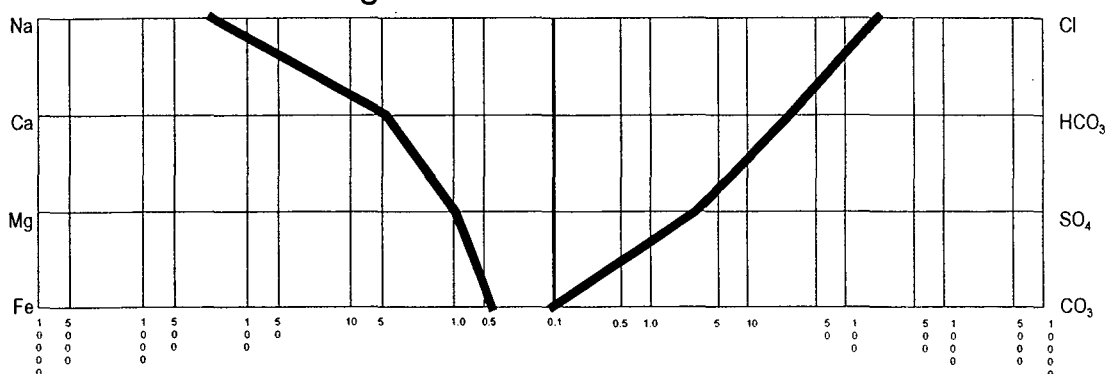
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	15396
Observed pH	7.88
H ₂ S (25°C) mg/L	N/D
Relative Density (25°C)	1.012
Resistivity / OHM·m (25°C)	0.463
Salinity %	1.39

Total Cations 240.9

Total Anions 252.7

Logarithmic Pattern mmol/L





Laboratories



WATER ANALYSIS

Container Identification
PB 4D

Previous Number	Laboratory Number
WG63334A	WG63334D

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-46	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point	Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)				
		Temperature (°C)				

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
4TH FLUID; 1635m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	5590.0	0.342	243.2
K	427.0	0.026	10.9
Ca	163.0	0.010	4.1
Mg	24.5	0.001	1.0
Fe	21.3	0.001	0.4

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	7784.0	0.476	219.6
HCO ₃	1718.7	0.105	28.2
SO ₄	622.0	0.038	6.5
CO ₃	Nil	Nil	Nil
OH	Nil	Nil	Nil

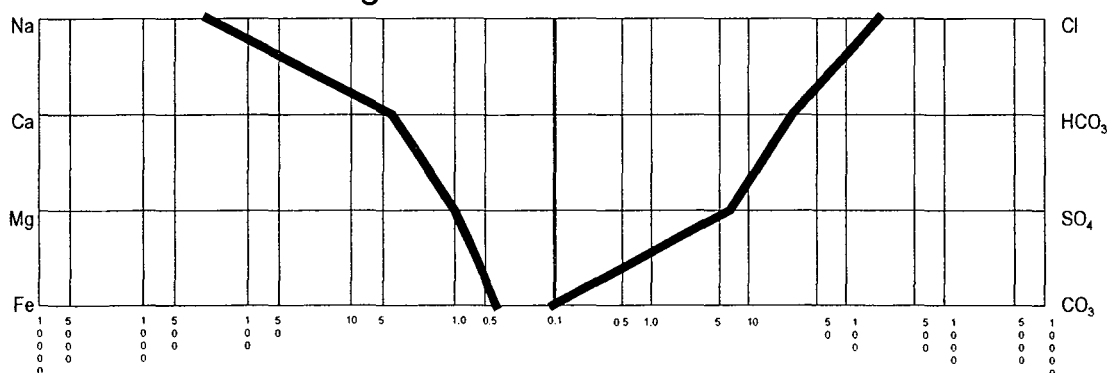
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	16350
Observed pH	7.96
H ₂ S (25°C) mg/L	N/D
Relative Density (25°C)	1.012
Resistivity / OHM·m (25°C)	0.448
Salinity %	1.39

Total Cations 265.0

Total Anions 260.7

Logarithmic Pattern mmol/L





Laboratories



WATER ANALYSIS

Container Identification
PB 5E

Previous Number	Laboratory Number
WG63334A	WG63334E

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-46	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point	Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)				
		Temperature (°C)				

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
LAST FLUID; 1900m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	2317.0	0.067	100.8
K	420.0	0.012	10.7
Ca	9650.0	0.281	240.8
Mg	17.1	Trace	0.7
Fe	25.8	0.001	0.5

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	21435.0	0.624	604.6
HCO ₃	209.2	0.006	3.4
SO ₄	287.0	0.008	3.0
CO ₃	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	34361
Observed pH	6.51
H ₂ S (25°C) mg/L	N/D
Relative Density (25°C)	1.026
Resistivity / OHM·m (25°C)	0.217
Salinity %	3.77

Total Cations 595.4

Total Anions 614.0

Logarithmic Pattern mmol/L

