



Container Identification					
PB1					
Operator Name				Laboratory Number	
MURPHY OIL COMPANY LTD.				12WG580508A	
Unique Well Identifier		Well Name			
100/03-06-077-16W6/00		MURPHY Hz SUNDOWN A6-5-77-16			
Field or Area		Pool or Zone		Sampler's Company	
LOWER MONTNEY		LOWER MONTNEY		GREYWOLF PRODUCTION TESTING	
Well License	Elevation		Test Type	Test No.	Name of Sampler
027974	KB m	741.50	GRD m	735.70	
Test Interval or Perfs mKB		Sampling Point		Separator	Reservoir
3003.48-4672.48		MANIFOLD			
mKB				Source	Sampled
					23
				Pressure (kPa)	
				Temperature	
Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title	
Feb 27, 2012	Mar 06, 2012	Mar 14, 2012	Mar 14, 2012	Calgary - Benita Cortez - Reporter	
Other Information					

* Results relate only to the items tested

Cations

ION	mg/L	mmol/L	meq/L
Na	21600.0	939.5	939.5
K	613.0	15.7	15.7
Ca	2890.0	72.1	144.2
Mg	497.0	20.4	40.9
Ba	333.0	2.4	4.8
Sr	485.0	5.5	11.1
Fe	26.0	0.5	0.9
Total Cations			1157.1

Anions

ION	mg/L	mmol/L	meq/L
Cl	44486.0	1254.8	1254.8
HCO3	1333.9	21.9	21.9
SO4	64.8	0.7	1.3
CO3	Nil	Nil	Nil
OH	Nil	Nil	Nil
Total Anions			1278.0

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	70806
Observed pH	6.79
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.055
Resistivity/OHM·m (25°C)	0.179
Salinity %	7.62
Total Alkalinity as CaCO3	1093.33

This analysis and calculations are based on:
 pH = SM 4500 H+
 Alkalinity = SM 2320
 Cations = EPA SW-846 7000B
 Anions = SM 4110B
 H2S = SM 4500 S-2

Stiff Diagram (meq/L)

