

Yates Petroleum

Bluebird Monitoring Results

Location T48N R75W	Taken: 3/3/8		Taken: 3/14/8		Taken: 3/28/8		Taken: 6/3/8		Taken: 6/10/8	
	SAR	Conductivity umhos/cm	SAR	Conductivity umhos/cm	SAR	Conductivity umhos/cm	SAR	Conductivity umhos/cm	SAR	Conductivity umhos/cm
Upstream	4	1565	8.9	5540	11	7590	8.5	5340	8.8	5270
1st Reservoir	2.7	572	4	421	11.2	1960	8.1	3410	8.6	3350
1st Reservoir overflow	3.8	823	5.2	832	11.3	1980	8.2	3280	8.6	3570
2nd Reservoir	5.8	1363	5.5	1388	7.9	2770	9	3390	9.3	3440
2nd Reservoir overflow	5.9	1427	5.6	1545	7.6	2780	8.9	3390	9.2	3520
Downstream	5.8	1482	7.1	3140	9.8	5280	9	3570	9.5	3870



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-001

Report Date: 04/11/08
 Collection Date: 03/28/08 11:00
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	378	mg/L	6.20	meq/L	A2320 B		03/31/08 13:40 / mli
Chloride	9	mg/L	0.25	meq/L	E300.0		04/01/08 02:01 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		04/01/08 02:01 / mli
Sulfate	1190	mg/L	24.7	meq/L	E300.0		04/02/08 14:30 / mli
Calcium	103	mg/L	5.14	meq/L	E200.7		04/02/08 13:41 / eli-b
Magnesium	88	mg/L	7.25	meq/L	E200.7		04/02/08 13:41 / eli-b
Potassium	8	mg/L	0.20	meq/L	E200.7		04/02/08 13:41 / eli-b
Sodium	449	mg/L	19.5	meq/L	E200.7		04/02/08 13:41 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	310	mg/L			A2320 B		03/31/08 13:40 / mli
Conductivity @ 25 C	2770	umhos/cm			A2510 B		03/28/08 16:20 / mtb
pH	8.17	s.u.			A4500-H B		03/28/08 16:25 / mtb
Sodium Adsorption Ratio (SAR)	7.9	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	2140	mg/L			A2540 C		04/01/08 11:07 / smr
DATA QUALITY							
A/C Balance	1.55	%			A1030 E		04/08/08 08:26 / tlc
Anions	31.2	meq/L			A1030 E		04/08/08 08:26 / tlc
Cations	32.1	meq/L			A1030 E		04/08/08 08:26 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-004

Report Date: 04/11/08
 Collection Date: 03/28/08 11:30
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	679	mg/L	11.1	meq/L	A2320 B		03/31/08 14:01 / mli
Chloride	7	mg/L	0.21	meq/L	E300.0		04/01/08 03:12 / mli
Fluoride	0.7	mg/L	0.04	meq/L	E300.0		04/01/08 03:12 / mli
Sulfate	406	mg/L	8.45	meq/L	E300.0		04/01/08 03:12 / mli
Calcium	32	mg/L	1.60	meq/L	E200.7		04/02/08 14:11 / eii-b
Magnesium	37	mg/L	3.01	meq/L	E200.7		04/02/08 14:11 / eii-b
Potassium	8	mg/L	0.19	meq/L	E200.7		04/02/08 14:11 / eii-b
Sodium	392	mg/L	17.0	meq/L	E200.7		04/02/08 14:11 / eii-b
NON-METALS							
Alkalinity, Total as CaCO ₃	647	mg/L			A2320 B		03/31/08 14:01 / mli
Conductivity @ 25 C	1960	umhos/cm			A2510 B		03/28/08 16:22 / mtb
pH	8.70	s.u.			A4500-H B		03/28/08 16:27 / mtb
Sodium Adsorption Ratio (SAR)	11.2	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	1340	mg/L			A2540 C		04/01/08 11:11 / smr
DATA QUALITY							
A/C Balance	0.48	%			A1030 E		04/08/08 08:26 / tlc
Anions	21.6	meq/L			A1030 E		04/08/08 08:26 / tlc
Cations	21.8	meq/L			A1030 E		04/08/08 08:26 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 OVERFLOW
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-002

Report Date: 04/11/08
 Collection Date: 03/28/08 11:15
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	376	mg/L	6.17	meq/L	A2320 B		03/31/08 13:47 / mli
Chloride	9	mg/L	0.25	meq/L	E300.0		04/01/08 02:16 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		04/01/08 02:16 / mli
Sulfate	1170	mg/L	24.4	meq/L	E300.0		04/02/08 15:13 / mli
Calcium	103	mg/L	5.13	meq/L	E200.7		04/02/08 13:44 / eli-b
Magnesium	89	mg/L	7.32	meq/L	E200.7		04/02/08 13:44 / eli-b
Potassium	7	mg/L	0.19	meq/L	E200.7		04/02/08 13:44 / eli-b
Sodium	436	mg/L	19.0	meq/L	E200.7		04/02/08 13:44 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	308	mg/L			A2320 B		03/31/08 13:47 / mli
Conductivity @ 25 C	2780	umhos/cm			A2510 B		03/28/08 16:21 / mtb
pH	8.21	s.u.			A4500-H B		03/28/08 16:26 / mtb
Sodium Adsorption Ratio (SAR)	7.6	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	2160	mg/L			A2540 C		04/01/08 11:08 / smr
DATA QUALITY							
A/C Balance	1.31	%			A1030 E		04/08/08 08:26 / tic
Anions	30.8	meq/L			A1030 E		04/08/08 08:26 / tic
Cations	31.6	meq/L			A1030 E		04/08/08 08:26 / tic



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 OVERFLOW
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-005

Report Date: 04/11/08
 Collection Date: 03/28/08 11:35
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	698	mg/L	11.4	meq/L	A2320 B		03/31/08 14:09 / mli
Chloride	7	mg/L	0.21	meq/L	E300.0		04/01/08 03:55 / mli
Fluoride	0.7	mg/L	0.04	meq/L	E300.0		04/01/08 03:55 / mli
Sulfate	407	mg/L	8.48	meq/L	E300.0		04/01/08 03:55 / mli
Calcium	32	mg/L	1.60	meq/L	E200.7		04/02/08 14:14 / eli-b
Magnesium	37	mg/L	3.02	meq/L	E200.7		04/02/08 14:14 / eli-b
Potassium	7	mg/L	0.19	meq/L	E200.7		04/02/08 14:14 / eli-b
Sodium	394	mg/L	17.1	meq/L	E200.7		04/02/08 14:14 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	653	mg/L			A2320 B		03/31/08 14:09 / mli
Conductivity @ 25 C	1980	umhos/cm			A2510 B		03/28/08 16:22 / mtb
pH	8.70	s.u.			A4500-H B		03/28/08 16:28 / mtb
Sodium Adsorption Ratio (SAR)	11.3	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	1350	mg/L			A2540 C		04/01/08 11:11 / smr
DATA QUALITY							
A/C Balance	0.34	%			A1030 E		04/08/08 08:26 / tlc
Anions	21.8	meq/L			A1030 E		04/08/08 08:26 / tlc
Cations	21.9	meq/L			A1030 E		04/08/08 08:26 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 UPST
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-006

Report Date: 04/11/08
 Collection Date: 03/28/08 11:40
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	639	mg/L	10.5	meq/L	A2320 B		03/31/08 14:16 / mli
Chloride	20	mg/L	0.55	meq/L	E300.0		04/02/08 15:41 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		04/02/08 15:41 / mli
Sulfate	4490	mg/L	93.4	meq/L	E300.0		04/01/08 04:09 / mli
Calcium	359	mg/L	17.9	meq/L	E200.7		04/02/08 14:18 / eli-b
Magnesium	408	mg/L	33.5	meq/L	E200.7		04/02/08 14:18 / eli-b
Potassium	9	mg/L	0.23	meq/L	E200.7		04/02/08 14:18 / eli-b
Sodium	1280	mg/L	55.7	meq/L	E200.7		04/02/08 14:18 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	524	mg/L			A2320 B		03/31/08 14:16 / mli
Conductivity @ 25 C	7590	umhos/cm			A2510 B		03/28/08 16:23 / mtb
pH	8.06	s.u.			A4500-H B		03/28/08 16:28 / mtb
Sodium Adsorption Ratio (SAR)	11.0	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	7340	mg/L			A2540 C		04/01/08 11:12 / smr
DATA QUALITY							
A/C Balance	1.34	%			A1030 E		04/08/08 08:26 / tlc
Anions	105	meq/L			A1030 E		04/08/08 08:26 / tlc
Cations	107	meq/L			A1030 E		04/08/08 08:26 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: DHC ICP
 Location:
 Samp FRQ/Type:
 Lab ID: G08030760-003

Report Date: 04/11/08
 Collection Date: 03/28/08 11:20
 Date Received: 03/28/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	614	mg/L	10.1	meq/L	A2320 B		03/31/08 13:54 / mli
Chloride	17	mg/L	0.47	meq/L	E300.0		04/02/08 15:27 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		04/02/08 15:27 / mli
Sulfate	2660	mg/L	55.5	meq/L	E300.0		04/01/08 02:58 / mli
Calcium	336	mg/L	16.8	meq/L	E200.7		04/02/08 14:03 / eli-b
Magnesium	172	mg/L	14.1	meq/L	E200.7		04/02/08 14:03 / eli-b
Potassium	8	mg/L	0.21	meq/L	E200.7		04/02/08 14:03 / eli-b
Sodium	886	mg/L	38.5	meq/L	E200.7		04/02/08 14:03 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	503	mg/L			A2320 B		03/31/08 13:54 / mli
Conductivity @ 25 C	5280	umhos/cm			A2510 B		03/28/08 16:21 / mtb
pH	7.74	s.u.			A4500-H B		03/28/08 16:26 / mtb
Sodium Adsorption Ratio (SAR)	9.8	unitless			Calculation		04/08/08 08:49 / tlc
Solids, Total Dissolved TDS @ 180 C	4550	mg/L			A2540 C		04/01/08 11:09 / smr
DATA QUALITY							
A/C Balance	2.69	%			A1030 E		04/08/08 08:26 / tlc
Anions	66.0	meq/L			A1030 E		04/08/08 08:26 / tlc
Cations	69.7	meq/L			A1030 E		04/08/08 08:26 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-002

Report Date: 03/31/08
 Collection Date: 03/14/08 11:50
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1388	umhos/cm				FIELD	03/14/08 11:50 / ***
pH, field	7.99	s.u.				FIELD	03/14/08 11:50 / ***
Temperature °C, field	3.7	°C				FIELD	03/14/08 11:50 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	241	mg/L	3.95	meq/L	A2320 B		03/17/08 15:44 / mli
Chloride	4	mg/L	0.13	meq/L	E300.0		03/18/08 00:11 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/18/08 00:11 / mli
Sulfate	457	mg/L	9.52	meq/L	E300.0		03/18/08 00:11 / mli
Calcium	48	mg/L	2.38	meq/L	E200.7		03/19/08 14:06 / eli-b
Magnesium	37	mg/L	3.06	meq/L	E200.7		03/19/08 14:06 / eli-b
Potassium	6	mg/L	0.14	meq/L	E200.7		03/19/08 14:06 / eli-b
Sodium	207	mg/L	9.00	meq/L	E200.7		03/19/08 14:06 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	198	mg/L			A2320 B		03/17/08 15:44 / mli
Sodium Adsorption Ratio (SAR)	5.5	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	919	mg/L			A2540 C		03/18/08 10:16 / smr
DATA QUALITY							
A/C Balance	3.46	%			A1030 E		03/31/08 08:35 / tlc
Anions	13.6	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	14.6	meq/L			A1030 E		03/31/08 08:35 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-005

Report Date: 03/31/08
 Collection Date: 03/14/08 12:15
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
pH, field	8.49	s.u.				FIELD	03/14/08 12:15 / ***
Temperature °C, field	3.6	°C				FIELD	03/14/08 12:15 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	127	mg/L	2.08	meq/L	A2320 B		03/17/08 16:05 / mli
Chloride	2	mg/L	0.05	meq/L	E300.0		03/18/08 00:52 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/18/08 00:52 / mli
Sulfate	95	mg/L	1.97	meq/L	E300.0		03/18/08 00:52 / mli
Calcium	11	mg/L	0.56	meq/L	E200.7		03/19/08 14:21 / eli-b
Magnesium	8	mg/L	0.68	meq/L	E200.7		03/19/08 14:21 / eli-b
Potassium	2	mg/L	0.06	meq/L	E200.7		03/19/08 14:21 / eli-b
Sodium	72	mg/L	3.13	meq/L	E200.7		03/19/08 14:21 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	104	mg/L			A2320 B		03/17/08 16:05 / mli
Conductivity @ 25 C	421	umhos/cm			A2510 B		03/20/08 10:23 / tlc
Sodium Adsorption Ratio (SAR)	4.0	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	279	mg/L			A2540 C		03/18/08 10:43 / smr
DATA QUALITY							
A/C Balance	3.89	%			A1030 E		03/31/08 08:35 / tlc
Anions	4.11	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	4.44	meq/L			A1030 E		03/31/08 08:35 / tlc

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MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-001

Report Date: 03/31/08
 Collection Date: 03/14/08 11:45
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1545	umhos/cm			FIELD		03/14/08 11:45 / ***
pH, field	7.82	s.u.			FIELD		03/14/08 11:45 / ***
Temperature °C, field	4.4	°C			FIELD		03/14/08 11:45 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	247	mg/L	4.04	meq/L	A2320 B		03/17/08 15:37 / mli
Chloride	5	mg/L	0.13	meq/L	E300.0		03/17/08 23:57 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/17/08 23:57 / mli
Sulfate	471	mg/L	9.81	meq/L	E300.0		03/17/08 23:57 / mli
Calcium	48	mg/L	2.41	meq/L	E200.7		03/19/08 13:47 / eli-b
Magnesium	37	mg/L	3.07	meq/L	E200.7		03/19/08 13:47 / eli-b
Potassium	6	mg/L	0.15	meq/L	E200.7		03/19/08 13:47 / eli-b
Sodium	213	mg/L	9.27	meq/L	E200.7		03/19/08 13:47 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	202	mg/L			A2320 B		03/17/08 15:37 / mli
Sodium Adsorption Ratio (SAR)	5.6	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	956	mg/L			A2540 C		03/18/08 10:09 / smr
DATA QUALITY							
A/C Balance	3.07	%			A1030 E		03/31/08 08:35 / tlc
Anions	14.0	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	14.9	meq/L			A1030 E		03/31/08 08:35 / tlc

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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-004

Report Date: 03/31/08
 Collection Date: 03/14/08 12:10
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	832	umhos/cm			FIELD		03/14/08 12:10 / ***
pH, field	8.35	s.u.			FIELD		03/14/08 12:10 / ***
Temperature °C, field	4.6	°C			FIELD		03/14/08 12:10 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	213	mg/L	3.50	meq/L	A2320 B		03/17/08 15:58 / mli
Chloride	3	mg/L	0.08	meq/L	E300.0		03/18/08 00:38 / mli
Fluoride	0.3	mg/L	0.01	meq/L	E300.0		03/18/08 00:38 / mli
Sulfate	189	mg/L	3.93	meq/L	E300.0		03/18/08 00:38 / mli
Calcium	22	mg/L	1.10	meq/L	E200.7		03/19/08 14:17 / eli-b
Magnesium	17	mg/L	1.42	meq/L	E200.7		03/19/08 14:17 / eli-b
Potassium	4	mg/L	0.11	meq/L	E200.7		03/19/08 14:17 / eli-b
Sodium	134	mg/L	5.83	meq/L	E200.7		03/19/08 14:17 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	193	mg/L			A2320 B		03/17/08 15:58 / mli
Sodium Adsorption Ratio (SAR)	5.2	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	514	mg/L			A2540 C		03/18/08 10:33 / smr
DATA QUALITY							
A/C Balance	3.44	%			A1030 E		03/31/08 08:35 / tlc
Anions	7.89	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	8.46	meq/L			A1030 E		03/31/08 08:35 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 UPST
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-006

Report Date: 03/31/08
 Collection Date: 03/14/08 12:25
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	5540	umhos/cm				FIELD	03/14/08 12:25 / ***
pH, field	8.20	s.u.				FIELD	03/14/08 12:25 / ***
Temperature °C, field	4.5	°C				FIELD	03/14/08 12:25 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	422	mg/L	6.92	meq/L	A2320 B		03/17/08 16:13 / mli
Chloride	14	mg/L	0.38	meq/L	E300.0		03/19/08 13:29 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/18/08 01:06 / mli
Sulfate	2650	mg/L	55.3	meq/L	E300.0		03/18/08 01:06 / mli
Calcium	239	mg/L	11.9	meq/L	E200.7		03/19/08 14:25 / eli-b
Magnesium	233	mg/L	19.2	meq/L	E200.7		03/19/08 14:25 / eli-b
Potassium	9	mg/L	0.22	meq/L	E200.7		03/19/08 14:25 / eli-b
Sodium	808	mg/L	35.2	meq/L	E200.7		03/19/08 14:25 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	346	mg/L			A2320 B		03/17/08 16:13 / mli
Sodium Adsorption Ratio (SAR)	8.9	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	4320	mg/L			A2540 C		03/18/08 10:45 / smr
DATA QUALITY							
A/C Balance	3.03	%			A1030 E		03/31/08 08:35 / tlc
Anions	62.6	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	66.5	meq/L			A1030 E		03/31/08 08:35 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: DHC ICP
 Location:
 Samp FRQ/Type:
 Lab ID: G08030393-003

Report Date: 03/31/08
 Collection Date: 03/14/08 12:00
 Date Received: 03/14/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3140	umhos/cm				FIELD	03/14/08 12:00 / ***
pH, field	7.98	s.u.				FIELD	03/14/08 12:00 / ***
Temperature °C, field	3.8	°C				FIELD	03/14/08 12:00 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	384	mg/L	6.29	meq/L	A2320 B		03/17/08 15:51 / mli
Chloride	9	mg/L	0.24	meq/L	E300.0		03/18/08 00:25 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/18/08 00:25 / mli
Sulfate	1200	mg/L	25.0	meq/L	E300.0		03/18/08 00:25 / mli
Calcium	144	mg/L	7.21	meq/L	E200.7		03/19/08 14:13 / eli-b
Magnesium	77	mg/L	6.37	meq/L	E200.7		03/19/08 14:13 / eli-b
Potassium	7	mg/L	0.18	meq/L	E200.7		03/19/08 14:13 / eli-b
Sodium	426	mg/L	18.5	meq/L	E200.7		03/19/08 14:13 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	315	mg/L			A2320 B		03/17/08 15:51 / mli
Sodium Adsorption Ratio (SAR)	7.1	unitless			Calculation		03/31/08 08:45 / tlc
Solids, Total Dissolved TDS @ 180 C	2110	mg/L			A2540 C		03/18/08 10:21 / smr
DATA QUALITY							
A/C Balance	1.10	%			A1030 E		03/31/08 08:35 / tlc
Anions	31.6	meq/L			A1030 E		03/31/08 08:35 / tlc
Cations	32.3	meq/L			A1030 E		03/31/08 08:35 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 Res
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-005

Report Date: 03/11/08
 Collection Date: 03/03/08 15:00
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1363	umhos/cm				FIELD	03/03/08 15:00 / ***
pH, field	8.08	s.u.				FIELD	03/03/08 15:00 / ***
Temperature °C, field	2.7	°C				FIELD	03/03/08 15:00 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	278	mg/L	4.56	meq/L		A2320 B	03/10/08 17:22 / mli
Chloride	4	mg/L	0.13	meq/L		E300.0	03/10/08 18:26 / mli
Fluoride	0.2	mg/L	0.01	meq/L		E300.0	03/10/08 18:26 / mli
Sulfate	405	mg/L	8.42	meq/L		E300.0	03/10/08 18:26 / mli
Calcium	45	mg/L	2.26	meq/L		E200.7	03/06/08 20:33 / eli-b
Magnesium	32	mg/L	2.67	meq/L		E200.7	03/06/08 20:33 / eli-b
Potassium	7	mg/L	0.18	meq/L		E200.7	03/06/08 20:33 / eli-b
Sodium	210	mg/L	9.14	meq/L		E200.7	03/06/08 20:33 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	228	mg/L				A2320 B	03/10/08 17:22 / mli
Sodium Adsorption Ratio (SAR)	5.8	unitless				Calculation	03/11/08 09:02 / tlc
Solids, Total Dissolved TDS @ 180 C	876	mg/L				A2540 C	03/06/08 08:39 / mli
DATA QUALITY							
A/C Balance	4.15	%				A1030 E	03/11/08 09:00 / tlc
Anions	13.1	meq/L				A1030 E	03/11/08 09:00 / tlc
Cations	14.3	meq/L				A1030 E	03/11/08 09:00 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 Res
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-002

Report Date: 03/11/08
 Collection Date: 03/03/08 14:30
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
pH, field	7.67	s.u.			FIELD		03/03/08 14:30 / ***
Temperature °C, field	4.5	°C			FIELD		03/03/08 14:30 / ***
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	98	mg/L	1.60	meq/L	A2320 B		03/05/08 11:06 / mli
Chloride	2	mg/L	0.05	meq/L	E300.0		03/05/08 13:26 / mrb
Fluoride	<0.1	mg/L	<0.005	meq/L	E300.0		03/05/08 13:26 / mrb
Sulfate	164	mg/L	3.41	meq/L	E300.0		03/05/08 13:26 / mrb
Calcium	23	mg/L	1.14	meq/L	E200.7		03/06/08 20:06 / eli-b
Magnesium	16	mg/L	1.29	meq/L	E200.7		03/06/08 20:06 / eli-b
Potassium	5	mg/L	0.12	meq/L	E200.7		03/07/08 15:14 / eli-b
Sodium	69	mg/L	3.00	meq/L	E200.7		03/07/08 15:14 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	80	mg/L			A2320 B		03/05/08 11:06 / mli
Conductivity @ 25 C	572	umhos/cm			A2510 B		03/07/08 15:57 / sib
Sodium Adsorption Ratio (SAR)	2.7	unitless			Calculation		03/10/08 15:21 / tlc
Solids, Total Dissolved TDS @ 180 C	366	mg/L			A2540 C		03/06/08 08:39 / mli
DATA QUALITY							
A/C Balance	4.37	%			A1030 E		03/10/08 15:02 / tlc
Anions	5.08	meq/L			A1030 E		03/10/08 15:02 / tlc
Cations	5.54	meq/L			A1030 E		03/10/08 15:02 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-006

Report Date: 03/11/08
 Collection Date: 03/03/08 15:05
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1427	umhos/cm				FIELD	03/03/08 15:05 / ***
pH, field	8.21	s.u.				FIELD	03/03/08 15:05 / ***
Temperature °C, field	2.0	°C				FIELD	03/03/08 15:05 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	294	mg/L	4.82	meq/L	A2320 B		03/10/08 17:29 / mli
Chloride	5	mg/L	0.14	meq/L	E300.0		03/10/08 18:39 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/10/08 18:39 / mli
Sulfate	429	mg/L	8.94	meq/L	E300.0		03/10/08 18:39 / mli
Calcium	47	mg/L	2.36	meq/L	E200.7		03/06/08 20:37 / eli-b
Magnesium	36	mg/L	2.97	meq/L	E200.7		03/06/08 20:37 / eli-b
Potassium	7	mg/L	0.18	meq/L	E200.7		03/06/08 20:37 / eli-b
Sodium	221	mg/L	9.61	meq/L	E200.7		03/06/08 20:37 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	241	mg/L			A2320 B		03/10/08 17:29 / mli
Sodium Adsorption Ratio (SAR)	5.9	unitless			Calculation		03/11/08 09:02 / tic
Solids, Total Dissolved TDS @ 180 C	934	mg/L			A2540 C		03/06/08 08:40 / mli
DATA QUALITY							
A/C Balance	4.19	%			A1030 E		03/11/08 09:00 / tic
Anions	13.9	meq/L			A1030 E		03/11/08 09:00 / tic
Cations	15.1	meq/L			A1030 E		03/11/08 09:00 / tic



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-003

Report Date: 03/11/08
 Collection Date: 03/03/08 14:35
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	823	umhos/cm				FIELD	03/03/08 14:35 / ***
pH, field	7.96	s.u.				FIELD	03/03/08 14:35 / ***
Temperature °C, field	2.7	°C				FIELD	03/03/08 14:35 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	174	mg/L	2.86	meq/L	A2320 B		03/05/08 11:13 / mli
Chloride	2	mg/L	0.07	meq/L	E300.0		03/05/08 13:39 / mrb
Fluoride	0.1	mg/L	0.007	meq/L	E300.0		03/05/08 13:39 / mrb
Sulfate	192	mg/L	4.01	meq/L	E300.0		03/05/08 13:39 / mrb
Calcium	26	mg/L	1.28	meq/L	E200.7		03/06/08 20:09 / eli-b
Magnesium	18	mg/L	1.52	meq/L	E200.7		03/06/08 20:09 / eli-b
Potassium	5	mg/L	0.13	meq/L	E200.7		03/07/08 15:17 / eli-b
Sodium	104	mg/L	4.54	meq/L	E200.7		03/07/08 15:17 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	143	mg/L			A2320 B		03/05/08 11:13 / mli
Sodium Adsorption Ratio (SAR)	3.8	unitless			Calculation		03/10/08 15:21 / tlc
Solids, Total Dissolved TDS @ 180 C	472	mg/L			A2540 C		03/06/08 08:39 / mli
DATA QUALITY							
A/C Balance	3.57	%			A1030 E		03/10/08 15:03 / tlc
Anions	6.95	meq/L			A1030 E		03/10/08 15:03 / tlc
Cations	7.47	meq/L			A1030 E		03/10/08 15:03 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 SWUS
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-004

Report Date: 03/11/08
 Collection Date: 03/03/08 14:40
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1565	umhos/cm			FIELD		03/03/08 14:40 / ***
pH, field	7.91	s.u.			FIELD		03/03/08 14:40 / ***
Temperature °C, field	2.8	°C			FIELD		03/03/08 14:40 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	127	mg/L	2.07	meq/L	A2320 B		03/05/08 11:20 / mli
Chloride	4	mg/L	0.12	meq/L	E300.0		03/05/08 13:53 / mrb
Fluoride	<0.1	mg/L	<0.005	meq/L	E300.0		03/05/08 13:53 / mrb
Sulfate	605	mg/L	12.6	meq/L	E300.0		03/05/08 13:53 / mrb
Calcium	71	mg/L	3.52	meq/L	E200.7		03/06/08 20:30 / eli-b
Magnesium	56	mg/L	4.58	meq/L	E200.7		03/06/08 20:30 / eli-b
Potassium	6	mg/L	0.16	meq/L	E200.7		03/06/08 20:30 / eli-b
Sodium	185	mg/L	8.05	meq/L	E200.7		03/06/08 20:30 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	104	mg/L			A2320 B		03/05/08 11:20 / mli
Sodium Adsorption Ratio (SAR)	4.0	unitless			Calculation		03/10/08 15:21 / tlc
Solids, Total Dissolved TDS @ 180 C	1060	mg/L			A2540 C		03/06/08 08:39 / mii
DATA QUALITY							
A/C Balance	4.87	%			A1030 E		03/10/08 14:56 / tlc
Anions	14.8	meq/L			A1030 E		03/10/08 14:56 / tlc
Cations	16.3	meq/L			A1030 E		03/10/08 14:56 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: YDHC ICP
 Location:
 Samp FRQ/Type:
 Lab ID: G08030040-007

Report Date: 03/11/08
 Collection Date: 03/03/08 15:20
 Date Received: 03/04/08
 Matrix: Aqueous
 Sampled By: Cassidy
 Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	1482	umhos/cm			FIELD		03/03/08 15:20 / ***
pH, field	8.24	s.u.			FIELD		03/03/08 15:20 / ***
Temperature °C, field	1.4	°C			FIELD		03/03/08 15:20 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	288	mg/L	4.73	meq/L	A2320 B		03/10/08 17:36 / mli
Chloride	5	mg/L	0.14	meq/L	E300.0		03/10/08 18:53 / mli
Fluoride	0.2	mg/L	0.01	meq/L	E300.0		03/10/08 18:53 / mli
Sulfate	464	mg/L	9.66	meq/L	E300.0		03/10/08 18:53 / mli
Calcium	53	mg/L	2.64	meq/L	E200.7		03/06/08 20:41 / eli-b
Magnesium	37	mg/L	3.03	meq/L	E200.7		03/06/08 20:41 / eli-b
Potassium	7	mg/L	0.19	meq/L	E200.7		03/06/08 20:41 / eli-b
Sodium	224	mg/L	9.76	meq/L	E200.7		03/06/08 20:41 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	236	mg/L			A2320 B		03/10/08 17:36 / mli
Sodium Adsorption Ratio (SAR)	5.8	unitless			Calculation		03/11/08 09:02 / tlc
Solids, Total Dissolved TDS @ 180 C	976	mg/L			A2540 C		03/06/08 08:40 / mli
DATA QUALITY							
A/C Balance	3.57	%			A1030 E		03/11/08 09:00 / tlc
Anions	14.5	meq/L			A1030 E		03/11/08 09:00 / tlc
Cations	15.6	meq/L			A1030 E		03/11/08 09:00 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2-UPST
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-006

Report Date: 06/19/08
 Collection Date: 06/10/08 15:00
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
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FIELD PARAMETERS

Conductivity, field	5270	umhos/cm				FIELD	06/10/08 15:00 / ***
pH, field	8.06	s.u.				FIELD	06/10/08 15:00 / ***
Temperature °C, field	22.7	°C				FIELD	06/10/08 15:00 / ***

*** Performed by Sampler

MAJOR IONS, DISSOLVED

Bicarbonate as HCO3	498	mg/L	8.16	meq/L	A2320 B		06/13/08 02:31 / smr
Chloride	15	mg/L	0.42	meq/L	E300.0		06/15/08 05:48 / mli
Fluoride	0.3	mg/L	0.01	meq/L	E300.0		06/15/08 05:48 / mli
Sulfate	2910	mg/L	60.6	meq/L	E300.0		06/13/08 14:09 / mli
Calcium	286	mg/L	14.3	meq/L	E200.7		06/13/08 16:53 / eli-b
Magnesium	251	mg/L	20.7	meq/L	E200.7		06/13/08 16:53 / eli-b
Potassium	8	mg/L	0.20	meq/L	E200.7		06/13/08 16:53 / eli-b
Sodium	842	mg/L	36.6	meq/L	E200.7		06/13/08 16:53 / eli-b

NON-METALS

Alkalinity, Total as CaCO3	408	mg/L			A2320 B		06/13/08 02:31 / smr
Sodium Adsorption Ratio (SAR)	8.8	unitless			Calculation		06/18/08 13:53 / tlc
Solids, Total Dissolved TDS @ 180 C	4840	mg/L			A2540 C		06/13/08 16:32 / smr

DATA QUALITY

A/C Balance	1.81	%			A1030 E		06/18/08 13:53 / tlc
Anions	69.2	meq/L			A1030 E		06/18/08 13:53 / tlc
Cations	71.7	meq/L			A1030 E		06/18/08 13:53 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2-RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-005

Report Date: 06/19/08
 Collection Date: 06/10/08 14:45
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
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FIELD PARAMETERS

Conductivity, field	3350	umhos/cm			FIELD		06/10/08 14:45 / ***
pH, field	8.57	s.u.			FIELD		06/10/08 14:45 / ***
Temperature °C, field	18.7	°C			FIELD		06/10/08 14:45 / ***

*** Performed by Sampler

MAJOR IONS, DISSOLVED

Bicarbonate as HCO3	459	mg/L	7.52	meq/L	A2320 B		06/13/08 02:24 / smr
Chloride	11	mg/L	0.30	meq/L	E300.0		06/13/08 13:31 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/13/08 13:31 / mli
Sulfate	1580	mg/L	32.9	meq/L	E300.0		06/13/08 13:31 / mli
Calcium	118	mg/L	5.87	meq/L	E200.7		06/13/08 16:38 / eli-b
Magnesium	126	mg/L	10.4	meq/L	E200.7		06/13/08 16:38 / eli-b
Potassium	9	mg/L	0.24	meq/L	E200.7		06/13/08 16:38 / eli-b
Sodium	567	mg/L	24.6	meq/L	E200.7		06/13/08 16:38 / eli-b

NON-METALS

Alkalinity, Total as CaCO3	419	mg/L			A2320 B		06/13/08 02:24 / smr
Sodium Adsorption Ratio (SAR)	8.6	unitless			Calculation		06/18/08 13:53 / tlc
Solids, Total Dissolved TDS @ 180 C	2760	mg/L			A2540 C		06/13/08 16:31 / smr

DATA QUALITY

A/C Balance	-0.59	%			A1030 E		06/18/08 13:53 / tlc
Anions	41.6	meq/L			A1030 E		06/18/08 13:53 / tlc
Cations	41.2	meq/L			A1030 E		06/18/08 13:53 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2-Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-004

Report Date: 06/19/08
 Collection Date: 06/10/08 14:40
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3570	umhos/cm			FIELD		06/10/08 14:40 / ***
pH, field	8.51	s.u.			FIELD		06/10/08 14:40 / ***
Temperature °C, field	18.2	°C			FIELD		06/10/08 14:40 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	467	mg/L	7.66	meq/L	A2320 B		06/13/08 02:17 / smr
Chloride	10	mg/L	0.29	meq/L	E300.0		06/13/08 13:19 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/13/08 13:19 / mli
Sulfate	1550	mg/L	32.3	meq/L	E300.0		06/13/08 13:19 / mli
Calcium	120	mg/L	6.00	meq/L	E200.7		06/13/08 16:27 / eli-b
Magnesium	130	mg/L	10.7	meq/L	E200.7		06/13/08 16:27 / eli-b
Potassium	9	mg/L	0.22	meq/L	E200.7		06/13/08 16:27 / eli-b
Sodium	573	mg/L	24.9	meq/L	E200.7		06/13/08 16:27 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	421	mg/L			A2320 B		06/13/08 02:17 / smr
Sodium Adsorption Ratio (SAR)	8.6	unitless			Calculation		06/18/08 13:53 / tlc
Solids, Total Dissolved TDS @ 180 C	2710	mg/L			A2540 C		06/13/08 16:31 / smr
DATA QUALITY							
A/C Balance	1.02	%			A1030 E		06/18/08 13:53 / tlc
Anions	41.0	meq/L			A1030 E		06/18/08 13:53 / tlc
Cations	41.8	meq/L			A1030 E		06/18/08 13:53 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1-Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-001

Report Date: 06/19/08
 Collection Date: 06/10/08 14:00
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3520	umhos/cm			FIELD		06/10/08 14:00 / ***
pH, field	8.52	s.u.			FIELD		06/10/08 14:00 / ***
Temperature °C, field	18.8	°C			FIELD		06/10/08 14:00 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	503	mg/L	8.25	meq/L	A2320 B		06/13/08 01:55 / smr
Chloride	10	mg/L	0.28	meq/L	E300.0		06/13/08 12:41 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/13/08 12:41 / mli
Sulfate	1490	mg/L	31.0	meq/L	E300.0		06/13/08 12:41 / mli
Calcium	117	mg/L	5.82	meq/L	E200.7		06/16/08 19:27 / eli-b
Magnesium	113	mg/L	9.31	meq/L	E200.7		06/16/08 19:27 / eli-b
Potassium	9	mg/L	0.23	meq/L	E200.7		06/16/08 19:27 / eli-b
Sodium	583	mg/L	25.4	meq/L	E200.7		06/16/08 19:27 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	441	mg/L			A2320 B		06/13/08 01:55 / smr
Sodium Adsorption Ratio (SAR)	9.2	unitless			Calculation		06/18/08 13:53 / tlc
Solids, Total Dissolved TDS @ 180 C	2620	mg/L			A2540 C		06/13/08 16:15 / smr
DATA QUALITY							
A/C Balance	0.78	%			A1030 E		06/18/08 13:52 / tlc
Anions	40.1	meq/L			A1030 E		06/18/08 13:52 / tlc
Cations	40.7	meq/L			A1030 E		06/18/08 13:52 / tlc

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1-RES
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-002

Report Date: 06/19/08
 Collection Date: 06/10/08 14:10
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
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FIELD PARAMETERS

Conductivity, field	3440	umhos/cm				FIELD	06/10/08 14:10 / ***
pH, field	8.53	s.u.				FIELD	06/10/08 14:10 / ***
Temperature °C, field	18.1	°C				FIELD	06/10/08 14:10 / ***

*** Performed by Sampler

MAJOR IONS, DISSOLVED

Bicarbonate as HCO ₃	500	mg/L	8.20	meq/L	A2320 B		06/13/08 02:03 / smr
Chloride	10	mg/L	0.29	meq/L	E300.0		06/13/08 12:53 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/13/08 12:53 / mli
Sulfate	1490	mg/L	31.1	meq/L	E300.0		06/13/08 12:53 / mli
Calcium	114	mg/L	5.71	meq/L	E200.7		06/16/08 19:31 / eli-b
Magnesium	111	mg/L	9.15	meq/L	E200.7		06/16/08 19:31 / eli-b
Potassium	9	mg/L	0.23	meq/L	E200.7		06/16/08 19:31 / eli-b
Sodium	583	mg/L	25.4	meq/L	E200.7		06/16/08 19:31 / eli-b

NON-METALS

Alkalinity, Total as CaCO ₃	439	mg/L			A2320 B		06/13/08 02:03 / smr
Sodium Adsorption Ratio (SAR)	9.3	unitless			Calculation		06/18/08 13:53 / tic
Solids, Total Dissolved TDS @ 180 C	2680	mg/L			A2540 C		06/13/08 16:29 / smr

DATA QUALITY

A/C Balance	0.33	%			A1030 E		06/18/08 13:52 / tic
Anions	40.2	meq/L			A1030 E		06/18/08 13:52 / tic
Cations	40.4	meq/L			A1030 E		06/18/08 13:52 / tic



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: DHC-ICP
 Location:
 Samp FRQ/Type:
 Lab ID: G08060347-003

Report Date: 06/19/08
 Collection Date: 06/10/08 14:25
 Date Received: 06/10/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
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FIELD PARAMETERS

Conductivity, field	3870	umhos/cm				FIELD	06/10/08 14:25 / ***
pH, field	8.27	s.u.				FIELD	06/10/08 14:25 / ***
Temperature °C, field	22.2	°C				FIELD	06/10/08 14:25 / ***

*** Performed by Sampler

MAJOR IONS, DISSOLVED

Bicarbonate as HCO3	539	mg/L	8.83	meq/L	A2320 B		06/13/08 02:10 / smr
Chloride	11	mg/L	0.31	meq/L	E300.0		06/13/08 13:06 / mli
Fluoride	0.3	mg/L	0.02	meq/L	E300.0		06/13/08 13:06 / mli
Sulfate	1760	mg/L	36.5	meq/L	E300.0		06/13/08 13:06 / mli
Calcium	159	mg/L	7.91	meq/L	E200.7		06/16/08 19:35 / eli-b
Magnesium	127	mg/L	10.5	meq/L	E200.7		06/16/08 19:35 / eli-b
Potassium	9	mg/L	0.22	meq/L	E200.7		06/16/08 19:35 / eli-b
Sodium	662	mg/L	28.8	meq/L	E200.7		06/16/08 19:35 / eli-b

NON-METALS

Alkalinity, Total as CaCO3	456	mg/L			A2320 B		06/13/08 02:10 / smr
Sodium Adsorption Ratio (SAR)	9.5	unitless			Calculation		06/18/08 13:53 / tlc
Solids, Total Dissolved TDS @ 180 C	2980	mg/L			A2540 C		06/13/08 16:30 / smr

DATA QUALITY

A/C Balance	1.52	%			A1030 E		06/18/08 13:52 / tlc
Anions	46.0	meq/L			A1030 E		06/18/08 13:52 / tlc
Cations	47.4	meq/L			A1030 E		06/18/08 13:52 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 UPST
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-001

Report Date: 06/11/08
 Collection Date: 06/03/08 14:15
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	5340	umhos/cm				FIELD	06/03/08 14:15 / ***
pH, field	8.09	s.u.				FIELD	06/03/08 14:15 / ***
Temperature °C, field	22.9	°C				FIELD	06/03/08 14:15 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	486	mg/L	7.96	meq/L	A2320 B		06/05/08 22:19 / smr
Chloride	14	mg/L	0.39	meq/L	E300.0		06/06/08 12:38 / mli
Fluoride	0.3	mg/L	0.02	meq/L	E300.0		06/06/08 12:38 / mli
Sulfate	2940	mg/L	61.1	meq/L	E300.0		06/06/08 12:38 / mli
Calcium	279	mg/L	13.9	meq/L	E200.7		06/06/08 18:53 / eli-b
Magnesium	253	mg/L	20.8	meq/L	E200.7		06/06/08 18:53 / eli-b
Potassium	7	mg/L	0.19	meq/L	E200.7		06/06/08 18:53 / eli-b
Sodium	818	mg/L	35.6	meq/L	E200.7		06/06/08 18:53 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	398	mg/L			A2320 B		06/05/08 22:19 / smr
Sodium Adsorption Ratio (SAR)	8.5	unitless			Calculation		06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	4680	mg/L			A2540 C		06/06/08 09:11 / smr
DATA QUALITY							
A/C Balance	0.65	%			A1030 E		06/10/08 08:06 / tlc
Anions	69.6	meq/L			A1030 E		06/10/08 08:06 / tlc
Cations	70.5	meq/L			A1030 E		06/10/08 08:06 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 Res
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-002

Report Date: 06/11/08
 Collection Date: 06/03/08 14:30
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3410	umhos/cm				FIELD	06/03/08 14:30 / ***
pH, field	8.54	s.u.				FIELD	06/03/08 14:30 / ***
Temperature °C, field	20.6	°C				FIELD	06/03/08 14:30 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	481	mg/L	7.88	meq/L		A2320 B	06/05/08 22:27 / smr
Chloride	10	mg/L	0.28	meq/L		E300.0	06/06/08 12:51 / mli
Fluoride	0.4	mg/L	0.02	meq/L		E300.0	06/06/08 12:51 / mli
Sulfate	1400	mg/L	29.2	meq/L		E300.0	06/06/08 12:51 / mli
Calcium	116	mg/L	5.77	meq/L		E200.7	06/06/08 19:05 / eli-b
Magnesium	117	mg/L	9.63	meq/L		E200.7	06/06/08 19:05 / eli-b
Potassium	8	mg/L	0.22	meq/L		E200.7	06/06/08 19:05 / eli-b
Sodium	517	mg/L	22.5	meq/L		E200.7	06/06/08 19:05 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	429	mg/L				A2320 B	06/05/08 22:27 / smr
Sodium Adsorption Ratio (SAR)	8.1	unitless				Calculation	06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	2450	mg/L				A2540 C	06/06/08 09:12 / smr
DATA QUALITY							
A/C Balance	0.02	%				A1030 E	06/10/08 08:06 / tlc
Anions	38.1	meq/L				A1030 E	06/10/08 08:06 / tlc
Cations	38.1	meq/L				A1030 E	06/10/08 08:06 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR2 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-003

Report Date: 06/11/08
 Collection Date: 06/03/08 14:35
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3280	umhos/cm				FIELD	06/03/08 14:35 / ***
pH, field	8.53	s.u.				FIELD	06/03/08 14:35 / ***
Temperature °C, field	20.5	°C				FIELD	06/03/08 14:35 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	478	mg/L	7.84	meq/L	A2320 B		06/05/08 18:12 / smr
Chloride	10	mg/L	0.28	meq/L	E300.0		06/06/08 13:04 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/06/08 13:04 / mli
Sulfate	1420	mg/L	29.5	meq/L	E300.0		06/06/08 13:04 / mli
Calcium	119	mg/L	5.93	meq/L	E200.7		06/06/08 19:09 / efi-b
Magnesium	121	mg/L	9.95	meq/L	E200.7		06/06/08 19:09 / efi-b
Potassium	9	mg/L	0.23	meq/L	E200.7		06/06/08 19:09 / efi-b
Sodium	530	mg/L	23.1	meq/L	E200.7		06/06/08 19:09 / efi-b
NON-METALS							
Alkalinity, Total as CaCO ₃	424	mg/L			A2320 B		06/05/08 18:12 / smr
Sodium Adsorption Ratio (SAR)	8.2	unitless			Calculation		06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	2400	mg/L			A2540 C		06/06/08 09:12 / smr
DATA QUALITY							
A/C Balance	1.10	%			A1030 E		06/10/08 08:06 / tlc
Anions	38.3	meq/L			A1030 E		06/10/08 08:06 / tlc
Cations	39.2	meq/L			A1030 E		06/10/08 08:06 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 Res
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-004

Report Date: 06/11/08
 Collection Date: 06/03/08 14:45
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3390	umhos/cm				FIELD	06/03/08 14:45 / ***
pH, field	8.45	s.u.				FIELD	06/03/08 14:45 / ***
Temperature °C, field	20.9	°C				FIELD	06/03/08 14:45 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	517	mg/L	8.47	meq/L	A2320 B		06/05/08 21:42 / smr
Chloride	10	mg/L	0.29	meq/L	E300.0		06/06/08 13:16 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/06/08 13:16 / mli
Sulfate	1440	mg/L	29.9	meq/L	E300.0		06/06/08 13:16 / mli
Calcium	116	mg/L	5.76	meq/L	E200.7		06/06/08 19:12 / eli-b
Magnesium	110	mg/L	9.02	meq/L	E200.7		06/06/08 19:12 / eli-b
Potassium	9	mg/L	0.23	meq/L	E200.7		06/06/08 19:12 / eli-b
Sodium	564	mg/L	24.5	meq/L	E200.7		06/06/08 19:12 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	452	mg/L			A2320 B		06/05/08 21:42 / smr
Sodium Adsorption Ratio (SAR)	9.0	unitless			Calculation		06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	2500	mg/L			A2540 C		06/06/08 09:13 / smr
DATA QUALITY							
A/C Balance	0.43	%			A1030 E		06/10/08 08:06 / tlc
Anions	39.2	meq/L			A1030 E		06/10/08 08:06 / tlc
Cations	39.6	meq/L			A1030 E		06/10/08 08:06 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: PR1 Overflow
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-005

Report Date: 06/11/08
 Collection Date: 06/03/08 14:50
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3390	umhos/cm				FIELD	06/03/08 14:50 / ***
pH, field	8.47	s.u.				FIELD	06/03/08 14:50 / ***
Temperature °C, field	20.8	°C				FIELD	06/03/08 14:50 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	511	mg/L	8.37	meq/L	A2320 B		06/05/08 22:47 / smr
Chloride	10	mg/L	0.29	meq/L	E300.0		06/06/08 13:29 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/06/08 13:29 / mli
Sulfate	1430	mg/L	29.7	meq/L	E300.0		06/06/08 13:29 / mli
Calcium	116	mg/L	5.79	meq/L	E200.7		06/06/08 19:16 / eli-b
Magnesium	110	mg/L	9.03	meq/L	E200.7		06/06/08 19:16 / eli-b
Potassium	9	mg/L	0.23	meq/L	E200.7		06/06/08 19:16 / eli-b
Sodium	559	mg/L	24.3	meq/L	E200.7		06/06/08 19:16 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	453	mg/L			A2320 B		06/05/08 22:47 / smr
Sodium Adsorption Ratio (SAR)	8.9	unitless			Calculation		06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	2500	mg/L			A2540 C		06/06/08 09:13 / smr
DATA QUALITY							
A/C Balance	0.33	%			A1030 E		06/10/08 08:06 / tlc
Anions	39.1	meq/L			A1030 E		06/10/08 08:06 / tlc
Cations	39.4	meq/L			A1030 E		06/10/08 08:06 / tlc



LABORATORY ANALYTICAL REPORT

Client: Yates Petroleum Corp
 Project: Bluebird
 Client Sample ID: DHC ICP
 Location:
 Samp FRQ/Type:
 Lab ID: G08060168-006

Report Date: 06/11/08
 Collection Date: 06/03/08 15:15
 Date Received: 06/04/08
 Matrix: Aqueous
 Sampled By: Cassidy
 Westbrook

Analyses	Result	Units	Result	Units	Qualifier	Method	Analysis Date / By
FIELD PARAMETERS							
Conductivity, field	3570	umhos/cm				FIELD	06/03/08 15:15 / ***
pH, field	8.37	s.u.				FIELD	06/03/08 15:15 / ***
Temperature °C, field	22.8	°C				FIELD	06/03/08 15:15 / ***
*** Performed by Sampler							
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO ₃	514	mg/L	8.43	meq/L	A2320 B		06/05/08 22:56 / smr
Chloride	11	mg/L	0.31	meq/L	E300.0		06/06/08 13:42 / mli
Fluoride	0.4	mg/L	0.02	meq/L	E300.0		06/06/08 13:42 / mli
Sulfate	1590	mg/L	33.0	meq/L	E300.0		06/06/08 13:42 / mli
Calcium	133	mg/L	6.64	meq/L	E200.7		06/06/08 19:20 / eli-b
Magnesium	115	mg/L	9.44	meq/L	E200.7		06/06/08 19:20 / eli-b
Potassium	9	mg/L	0.22	meq/L	E200.7		06/06/08 19:20 / eli-b
Sodium	586	mg/L	25.5	meq/L	E200.7		06/06/08 19:20 / eli-b
NON-METALS							
Alkalinity, Total as CaCO ₃	448	mg/L			A2320 B		06/05/08 22:56 / smr
Sodium Adsorption Ratio (SAR)	9.0	unitless			Calculation		06/10/08 08:14 / tlc
Solids, Total Dissolved TDS @ 180 C	2750	mg/L			A2540 C		06/06/08 09:14 / smr
DATA QUALITY							
A/C Balance	-0.63	%			A1030 E		06/10/08 08:06 / tlc
Anions	42.3	meq/L			A1030 E		06/10/08 08:06 / tlc
Cations	41.8	meq/L			A1030 E		06/10/08 08:06 / tlc