

Executive Summary

Ness Lake

2004

A stocking assessment was conducted on Ness Lake during the fall of 2004. The objectives of this assessment were to document the status of the fishery and attempt to determine the level of natural recruitment resulting from brook trout stocked prior to 1997. The management objective for Ness Lake is to maintain a high-use fishery for brook trout and rainbow trout during both the summer and winter angling periods. Ness Lake is 203 ha and has a considerable amount of residential development, a large Bible camp, and a Regional Park. Overall, Ness Lake receives a large amount of recreational use from both lake residents and visitors.

Both a standard sinking and a floating gillnet 90 m in length were set on September 8, 2004. The total sampling effort was 48 hours resulting in a gillnet catch per unit effort (CPUE) of 0.42 fish per hour for rainbow trout, and 0.33 fish per hour for eastern brook trout. The results of the assessment indicated that both brook trout and rainbow trout were growing well and reaching a suitable size to provide an average angling experience for the Omineca Region. The mean length of rainbow trout was 300 mm with a maximum length of 387 mm; while, the mean length of eastern brook trout was 269 mm with a maximum length of 432 mm. The overall gillnet CPUE was low for both eastern brook and rainbow trout, however this may be a result of the high CPUE of cyprinids species. There was no evidence of significant natural recruitment of eastern brook trout, only one mature and one maturing female brook trout were captured (six percent of sample). Starting in 2006, Blackwater strain rainbow trout will be introduced to replace the naturalized rainbow trout (NRT) strain currently utilized. Ness Lake requires both summer and winter creel census/angler satisfaction surveys. These surveys will complement the proposed aerial census flights scheduled for the spring and summer of 2005. Ness Lake is a heavily utilized lake for angling in the Omineca Region and has the potential to provide an above average angling experience; therefore, we need the additional census information to ensure that this lake is being managed effectively.



Figure 1. Photo of Ness Lake taken during the 2004 stock assessment.

**OMINECA REGION
LAKE STOCK ASSESSMENT REPORT**

LAKE NAME: Ness Lake **BC WBID:** 01418STUR

LAKE LOCATION: *Nearest center:* Direction & km from near *Drainage:* FRASER
UTM: 10.490968.5986196

LAKE ATTRIBUTES: *Surface Area:* 203 Ha *Elevation:* 778 m
Littoral Area: na Ha *T.D.S.:* 88 ppm
Max Depth: 18 m *Mean depth:* 6.7 m

MANAGEMENT OBJECTIVE:		RB	EB
Objective 1	Family Fishery (High CPUE <30 cm)	<input type="checkbox"/>	<input type="checkbox"/>
Objective 2	Average Quality (30-40 cm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Objective 3	Above Average (40-50 cm)	<input type="checkbox"/>	<input type="checkbox"/>
Objective 4	Trophy (20% > 50 cm for RB, 20% > 40 cm for EB)	<input type="checkbox"/>	<input type="checkbox"/>

MANAGEMENT/SURVEY HISTORY:
Previous gill net assessment(s): no yes
Year(s) Surveyed: 1983

STOCKING DATA:

	Rainbow Trout	Eastern Brook Trout
<i>Current Stocking Rate</i>	49 Fish/Ha Annually	74 Fish/Ha Annually
<i>Stock Type</i>	TUNKWA	AYLMER AF3N
<i>Species</i>	RB, mixed cyprinids	
<i>Previous Stocking Rate</i>	49	49

SURVEY METHODS:

Method	Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN 2004-09-07	BCCF	Chad Robertson, Kevin Mernickle
Chem.	na		
Physical	bathymetric 1952-08-18	Fish & Game	T.G.N.
Temp.	na		

Netting Specs: *Net type:* Standard Experimental *Net length:* 90m (3x30m)
Setting: Sinking and Floating *Panel Mesh:* Standard

SURVEY RESULTS:

Catch

	RB	EB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
2004	20	16	30	0	167	0	0	0	0	0
1983	8	4	24	0	219	0	0	0	0	0

Survey Year	2004	1983
Effort Hours	48	18
RB CPUE:	0.42	0.44
EB CPUE:	0.33	0.22
# of Sets:	1	1

Next Assessment **2009**

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SURVEY CONCLUSIONS:

Objective	Rainbow Objectives Achieved			Brook Trout Objectiv		
	Yes	No	Reason	Yes	No	Reason
1. Family	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
2. Average	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Above Average	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
4. Trophy	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	

RECOMMENDATIONS:

Assessment: The next stocking assessment is scheduled for 2009.

Management: Ness lake is managed as a high-use average quality fishery. Naturalized rainbow trout (NRT) strain will be replaced by Blackwater strain. Fish have shown good growth but abundance may be low.

Comments: Two anglers commented during the 2004 stock assessment that they regularly catch eastern brook trout up to one pound.

Uncertainties:

Recent Brood Request Comments:

2005 EB Annual. Assessed '04. Preliminary results indicate good growth.

2005 RB Annual. Assessed '04. Was NRT Change Stock to BW- Mixed cyprinids present (no NPM)

History of Angling Regulations

There are no special angling regulations for Ness Lake.

Reported by: Adrian Clarke

Date: Mar-05

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Table 1. RB and EB physical attributes for sample years:

Sample Year	Sample Age	Sample Size	Length (mm)				Weight (g)				Condition (k)				
			Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
Rainbow Trout															
2004	1	4	209	164	226	30.1	104	52	130	35.3	1.10	0.97	1.20	0.1	0.01
2004	2	7	275	256	313	19.4	242	162	340	54.4	1.15	0.97	1.34	0.1	0.02
2004	3	8	356.25	314	386	29.3	505	340	660	123.3	1.10	1.00	1.21	0.1	0.00
2004	4	1	387				600				1.04				
Eastern Brook Trout															
2004	1	7	151.857	124	193	24.2	41	17	82	22.7	1.06	0.89	1.18	0.1	0.01
2004	2	1	257				220				1.30				
2004	3	6	358.167	304	414	37.4	528	290	800	170.8	1.12	1.03	1.26	0.1	0.01
2004	4	2	416	400	432	22.6	755	660	849	133.6	1.04	1.03	1.05	0.0	0.00

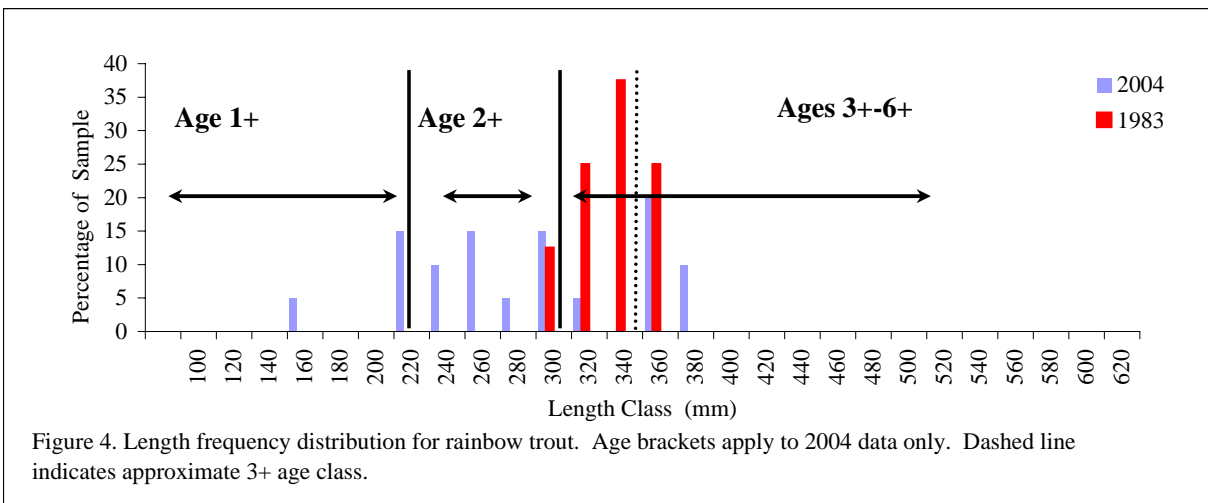
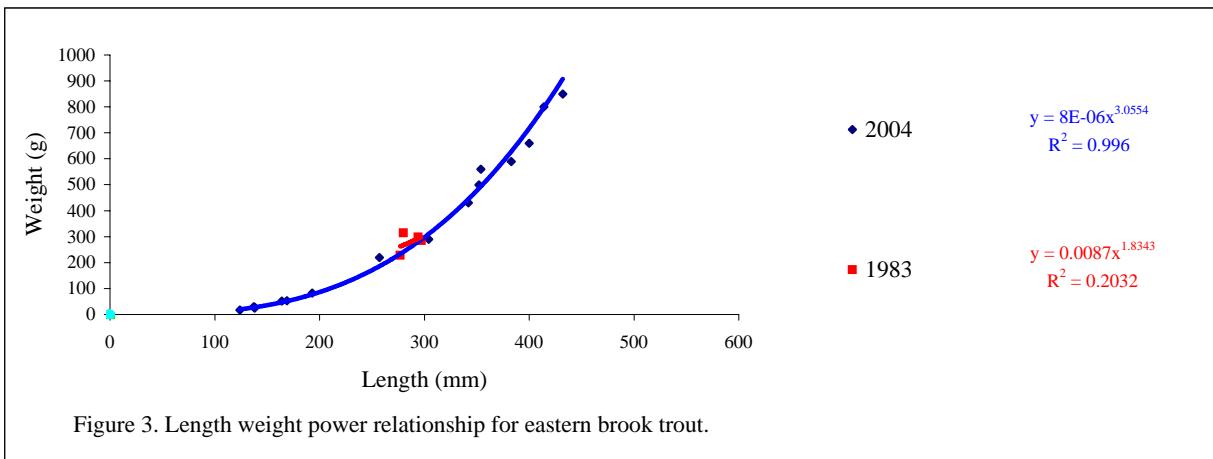
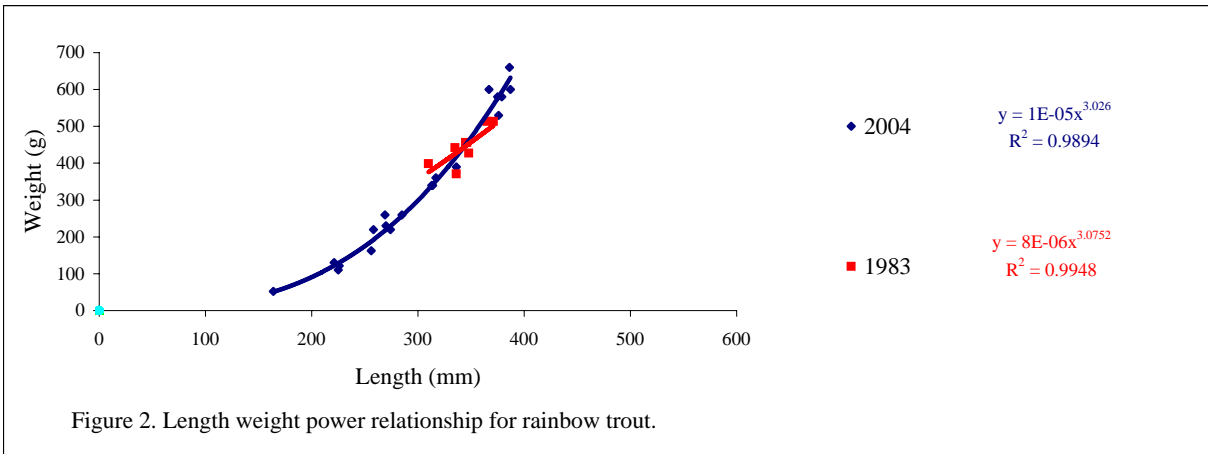
Table 2. Catch summary for all sample years.

Sample Year	Sample Size	Length (mm)				Weight (g)				Condition (k)					
		Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var	
Rainbow Trout															
2004	20	300	164	387	65.4	337	52	660	192.6	1.11	0.97	1.34	0.10	0.01	
1983	8	345	310	371	65.4	447	371	513	49.8	1.10	0.98	1.34	0.12	0.01	
Brook Trout															
2004	16	269	124	432	114.9	324	17	849	301.1	1.10	0.89	1.30	0.10	0.01	
1983	4	287	277	297	114.9	282	228	314	37.6	1.19	1.07	1.43	0.17	0.03	

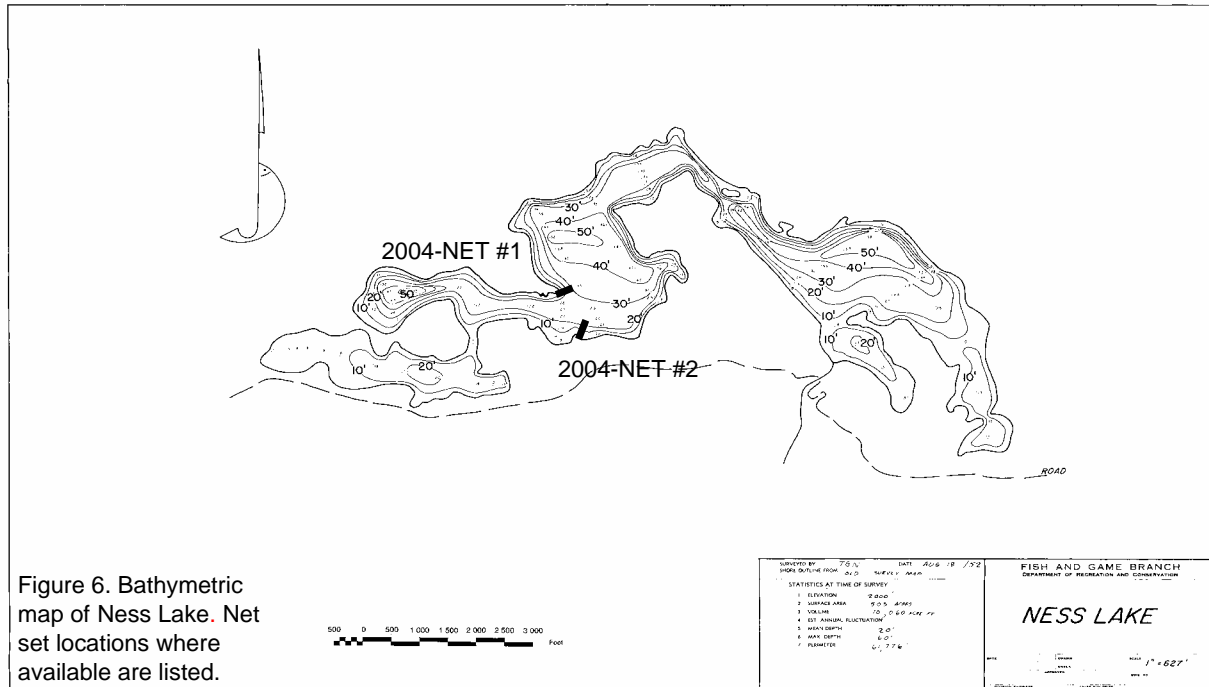
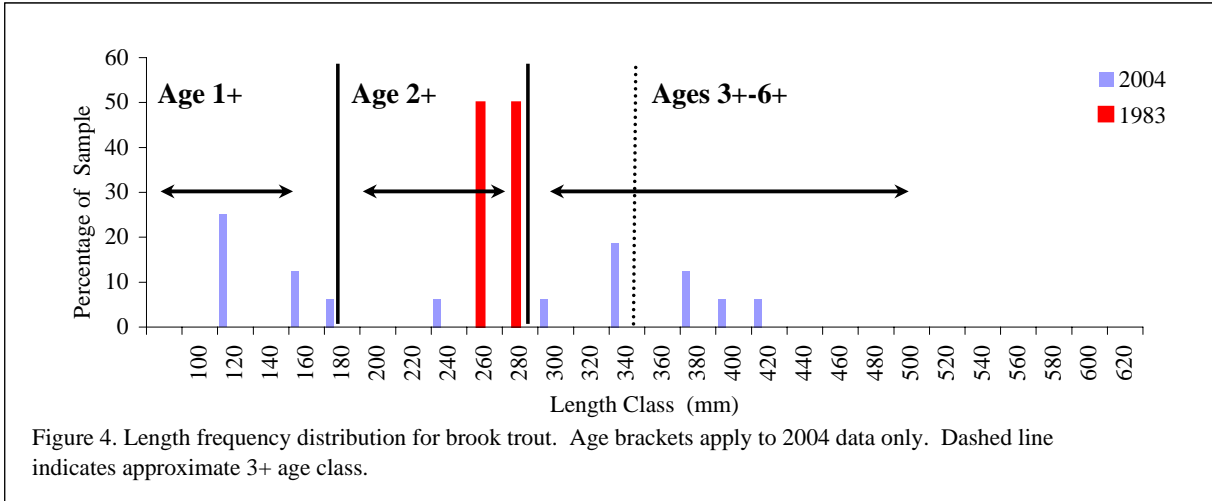
Table 3. Proportion of Catch (by survey year)

Survey Year	2004	1983
Rainbow Trout		
Less than 250 mm	20.0 %	0.0 %
Between 250-350 mm	50.0 %	75.0 %
Between 250-400 mm	80.0 %	100.0 %
Greater than 400 mm	0.0 %	0.0 %
Greater than 500 mm	0.0 %	0.0 %
Eastern Brook Trout		
Less than 250 mm	43.8 %	0.0 %
Between 250-350 mm	18.8 %	100.0 %
Between 250-400 mm	43.8 %	100.0 %
Greater than 400 mm	18.8 %	0.0 %
Greater than 500 mm	0.0 %	0.0 %

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Table 4. Stocking History for Ness Lake to 2004.

Rainbow Trout Release Date	Species	Fish Count	Stock	Mark	Average	Life Cycle
4-Jun-04	RB	10000	TUNKWA		9.73	YEARLING
4-Jun-03	RB	10000	BADGER TUNKWA		8.4	YEARLING
18-Jun-02	RB	5905	TZENZAICUT DR		25.32	YEARLING
3-Jun-02	RB	4095	TUNKWA		10.26	YEARLING
29-May-01	RB	10000	PREMIER		8.13	YEARLING
31-May-00	RB	10000	NRT PREMIER		9.81	YEARLING
1-Jun-99	RB	10000	PENNASK		6.52	YEARLING
28-May-98	RB	10000	BADGER TUNKWA		7.75	YEARLING
12-Jun-97	RB	10000	BADGER TUNKWA		7.35	YEARLING
2-Jun-96	RB	10000	BADGER TUNKWA		5.32	YEARLING
10-Jun-95	RB	1477	NRT GENIER		12.58	YEARLING
29-May-95	RB	8523	NRT GENIER		10.99	YEARLING
30-May-94	RB	10000	PREMIER DR		7.35	YEARLING
31-May-93	RB	10000	TUNKWA		2.94	YEARLING
16-Jun-92	RB	10000	NRT PREMIER		9.01	YEARLING
28-May-91	RB	10000	BADGER		9.62	YEARLING
25-Jun-90	RB	10000	NRT PREMIER		7.1	YEARLING
2-Jun-89	RB	10000	PENNASK HATH AF		11.4	YEARLING
1-May-88	RB	10000	TUNKWA		11	UNKNOWN
1-Jun-87	RB	10000	NRT PREMIER		2.4	UNKNOWN
1-May-86	RB	10000	NRT PREMIER		4.5	UNKNOWN
1-Jun-85	RB	10000	NRT PREMIER		3.5	UNKNOWN
1-May-84	RB	10000	NRT PREMIER		5.2	UNKNOWN
1-Jun-80	RB	25000	BADGER		6.3	UNKNOWN
1-Jan-79	RB	30000	TUNKWA & PREMIER		3.5	UNKNOWN
1-Jan-78	RB	30000	NRT PREMIER		7	UNKNOWN
1-Jan-75	RB	30000	NRT PREMIER		15	FINGERLING
1-Jan-75	RB	30000	SWALWELL		1.5	FRY
1-Jan-73	RB	50000	MIXED-NATIVE		2.5	FRY
1-Jan-70	RB	85000	TUNKWA		2.5	FRY
1-Jan-68	RB	30000	SWALWELL		2.5	FRY
1-Jan-67	RB	40000	SWALWELL		2.5	FRY
1-Jan-66	RB	70000	SWALWELL		1.5	FRY
1-Jan-65	RB	40000	SWALWELL		1.5	FRY
1-Jan-64	RB	5000	MCLEARY		15	FINGERLING
1-Jan-64	RB	50000	MCLEARY		1.5	FRY
1-Jan-63	RB	50000	WASHINGTON		2.5	FRY
1-Jan-62	RB	50000	OREGON		2.5	FRY
1-Jan-61	RB	54000	DREW-WASH.		2.5	FRY
1-Jan-60	RB	23000	DREW-WASH.		5	FINGERLING
1-Jan-37	RB	10000	PINANTAN		0	EYED EGG
1-Jan-36	RB	10000	PINANTAN		0	EYED EGG

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Table 4. Stocking History for Ness Lake to 2004 (continued).

Eastern Brook Trout						
Release Date	Species	Fish Count	Stock	Mark	Average	Life Cycle
4-Jun-04	Brook Trout	15000	AYLMER AF3N		6.9	FINGERLING
11-Jun-03	Brook Trout	15000	AYLMER AF3N		6.59	FINGERLING
14-Jun-02	Brook Trout	15000	AYLMER AF3N		10.04	FINGERLING
28-May-01	Brook Trout	15000	AYLMER AF3N		6.6	FINGERLING
30-May-00	Brook Trout	15000	AYLMER AF3N		4.78	FINGERLING
2-Jun-99	Brook Trout	15000	AYLMER AF3N		5.9	FINGERLING
28-May-98	Brook Trout	15000	AYLMER 3N		4.26	FINGERLING
16-Jun-97	Brook Trout	8000	AYLMER		3.01	FINGERLING
2-Jun-96	Brook Trout	15000	AYLMER 3N		3.85	FINGERLING
29-May-95	Brook Trout	15000	AYLMER		3.79	FINGERLING
30-May-94	Brook Trout	15000	AYLMER		3.64	FINGERLING
12-Jun-93	Brook Trout	15473	AYLMER		4.2	FINGERLING
16-Jun-92	Brook Trout	15000	AYLMER		3.25	FINGERLING
23-May-91	Brook Trout	15000	AYLMER		2.26	FINGERLING
10-Jun-90	Brook Trout	15000	AYLMER		4.2	FINGERLING
2-Jun-89	Brook Trout	15000	AYLMER		2.5	FRY
1-May-88	Brook Trout	15000	AYLMER		2.2	UNKNOWN
1-Jul-87	Brook Trout	10000	AYLMER		2.1	UNKNOWN
1-May-86	Brook Trout	15000	AYLMER		1.4	UNKNOWN
1-May-85	Brook Trout	15000	AYLMER		2.5	UNKNOWN
1-May-84	Brook Trout	15000	AYLMER		3.7	UNKNOWN
1-May-83	Brook Trout	15000	AYLMER		2.4	UNKNOWN
1-Jun-82	Brook Trout	15000	AYLMER		3.5	UNKNOWN

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Table 5. Stock assessment data for 2004 (see lakes files for additional survey data)

Lake	Sample#	Site	Species Caught	Age	Length (mm)	Weight (grams)	Condition (k)	Scale Age	Structure	Sex	Maturity	Ageing Comments
Ness	1	1	RB	3	336	390	1.0	3+	OT	f	mt	translucent
Ness	2	1	RB	3	317	360	1.1	3+	OT	f	mt	
Ness	3	1	RB	3	375	580	1.1	3+	OT	f	st	
Ness	4	1	RB	3	386	660	1.1	3+	OT	f	mt	translucent
Ness	5	1	RB	3	376	530	1.0	3+	OT	m	m	
Ness	6	1	RB	3	379	580	1.1	3+	OT	f	mt	translucent
Ness	7	1	RB	3	314	340	1.1	3+	OT	f	mt	
Ness	8	1	RB	2	270	230	1.2	2++	OT	m	im	
Ness	9	1	RB	2	274	220	1.1	2++	OT	m	m	translucent
Ness	10	1	RB	1	221	130	1.2	1++	OT	m	im	
Ness	11	1	RB	2	285	260	1.1	2+	OT	m	mt	
Ness	12	1	EB	3	383	590	1.1	3+	OT	af3n	im	broken
Ness	13	1	EB	3	304	290	1.0	3+	OT	af3n	im	
Ness	14	1	EB	2	257	220	1.3	2+	OT	af3n	im	
Ness	15	1	EB	1	169	53	1.1	1++	OT	af3n	im	
Ness	16	1	EB	1	164	52	1.2	1++	OT	af3n	im	
Ness	17	1	EB	1	137	29	1.1	1+	OT	af3n	im	broken
Ness	18	1	EB	1	138	25	1.0	1++	OT	af3n	im	
Ness	19	1	EB	1	138	28	1.1	1++	OT	af3n	im	
Ness	20	1	EB	1	124	17	0.9	1+	OT	af3n	im	
Ness	21	2	RB	2	313	340	1.1	2+	OT	f	im	
Ness	22	2	RB	1	225	110	1.0	1++	OT	un	im	
Ness	23	2	RB	3	367	600	1.2	3+	OT	f	im	tip broken
Ness	24	2	RB	2	256	162	1.0	2++	OT	m	m	translucent
Ness	25	2	RB	2	269	260	1.3	2++	OT	m	m	translucent
Ness	26	2	RB	4	387	600	1.0	4+	OT	m	m	translucent
Ness	27	2	RB	1	226	122	1.1	1++	OT	m	m	
Ness	28	2	RB	2	258	220	1.3	2++	OT	m	m	
Ness	29	2	RB	1	164	52	1.2	1++	OT	un	im	
Ness	30	2	EB	1	193	82	1.1	1++	OT	f	im	translucent
Ness	31	2	EB	4	400	660	1.0	4+	OT	af3n		
Ness	32	2	EB	4	432	849	1.1	4+	OT	af3n		
Ness	33	2	EB	3	414	800	1.1	3+	OT	af3n		
Ness	34	2	EB	3	354	560	1.3	3+	OT	af3n		
Ness	35	2	EB	3	342	430	1.1	3+	OT	af3n		
Ness	36	2	EB	3	352	500	1.1	3+	OT	af3n		