

HOLE NUMBER: AJ91-4

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS:

METRIC UNITS: X

PROJECT NAME: ATHELSTAN-JACKPOT
PROJECT NUMBER: 666
CLAIM NUMBER:
LOCATION:

PLOTTING COORDS GRID: DRILL GRID
NORTH: 224.00N
EAST: 300.00W
ELEV: 1254.00

ALTERNATE COORDS GRID:
NORTH: 3+52N
EAST: 1+40W
ELEV: 1254.00

COLLAR DIP: -88° 0' 0"
LENGTH OF THE HOLE: 168.25m
START DEPTH: 0.00m
FINAL DEPTH: 168.25m

COLLAR GRID AZIMUTH: ° ' "

COLLAR ASTRONOMIC AZIMUTH: 230° 0' 0"

DATE STARTED: June 2, 1991
DATE COMPLETED: June 4, 1991
DATE LOGGED: June 6, 1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: LECLERC
CASING: Left in hole, 4.57m
CORE STORAGE: Greenwood

PURPOSE: To test Deformation/Listwanite Zone (thrust) extension from AJ 91-1.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
34.14	-	-89° 0'	ACID	OK		-	-	-	-	-	
78.33	-	-88° 0'	ACID	OK		-	-	-	-	-	
116.13	-	-88° 0'	ACID	OK		-	-	-	-	-	
157.58	-	-88° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.57	«CASING»					
4.57 TO 15.55	«DIOR»	Colour: Medium-Light green grey Grain Size: Fine grained Weakly stippled		Weak epidote (propylitic) alt Weak carbonate alt (vns and vnlt)	1% py	4.57-7.43m Fault
15.55 TO 59.01	«SERP»	Colour: Black/green Grain Size: Very fine grained 15.55-35.44m SERP Massive Weakly veined Moderate-strong magnetism 24.04m, 24.10m: Two clasts each ~2cm x 3cm; fg light pinkish brown with light green rims (alt?) 35.20-35.44m 2% mt 35.44-38.24 «DIOR» colour: Green and grey Fine grained Massive 38.24-41.1m SERP 40.23-41.1m Alt serp (transition?) 41.1-42.85 «DIOR» Colour: Green grey Massive 42.85-47.42m Serp 44.2-45.3m Soft, translucent colouring (greenish white) 46.96-47.42m Soft, translucent colouring 47.42-50.90 «DIOR»	15	15.55-35.44m Low density carb vns 24.96-25.30m Carb & serp vn (small faults offset vein by 1cm) 25.30m Vein 33.31-33.44m Talc serp py vn 35.20-35.44m Weak talc alt 35.44-38.24m Mod epidote alt (propylitic) 40.23-40.72m Talc alt 41.1-42.85m Mod epidote alt Weak carbonate alt 44.2-45.3m Talc 46.96-47.42m Talc	1-2% py 15.55-35.44m 1% py 24.96-25.30m 3-5% py (po?) in vn 34.40-35.44m Py 3% 38.24-41.1m 3-5% py 41.1-42.85m 5% py, 0.5-10mm blebs, diss	42.40-43.16m Fault 42.85-43.16m Fault gouge, brecciated clasts 42.85m 45 deg CA

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Same as 41.1-42.85m		50.90-51.33m Talc 57.80-59.01m Talc		
59.01 TO 79.66	«LIST»	<p>59.01-59.59m Colour: Grey to white</p> <p>59.29-59.36m Fault gouge (green grey colour)</p> <p>59.36-59.59m Breccia Quartz clasts: 1-15mm; subangular Matrix: vfg-fg; dark-med grey</p> <p>59.59-61.38m «DYKE» Colour: Dark grey Phenocrystic Phenos: a) Feldspars: white-translucent; euhedral-subhedral; 0.5-2mm; 2% b) Mafic: dark green grey; subhedral to euhedral; 0.5-2mm; 10-15%; pyroxene? Groundmass, vfg</p> <p>59.59m 10cm chill margin 61.38m 2.5cm chill margin</p> <p>61.38-62.70m DYKE? Alt QFP? Colour: medium grey green with dark green and white phenos Quartz eyes: 3-5% Unknown phenos: tr-1%, rectangular in shape with undulating bands of creme and green colour within; up to about 2mm in size Chloritized pyroxenes or hornblende: soft, green; 5-10%</p> <p>62.70-64.56m Colour: Creme white with rare zones of light grey and light pink, mottled; 2-3% black specks (mt) Zones of brecciation</p> <p>64.56-68.84m Colour: Light green and black mottled</p>		<p>.... 59.07m 0.7cm chalcedonic weakly banded vn</p> <p>59.36-59.59m Strong silic.</p> <p>62.70-64.56m Moderate-strong silicification</p> <p>64.56-68.84m Moderate talc Weak carbonate (vnltts) 68.28-68.35m Quartz vein (bull qz)</p>	<p>59.36-59.59m tr-1% py, tr-1% vfg magnetic mineral (mt or po?)</p> <p>61.38-62.70m 1-2% py, tr po</p> <p>62.70-64.56m 1-2% py, 2-3% mt, tr aspy?</p> <p>64.56-68.84m 1% py 64.56m 20% mt conc in bands 64.72m 10% mt conc in bands</p>	59.01-59.59m Fault zone?

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<p>68.84-71.45m Colour: Light grey to green with white Moderately foliated</p> <p>70.84-71.45m Increase veinlets (higher density) Darker green with white veinlets and lighter grey/white patches (ALT SERP)</p> <p>71.45-72.16m "BIZARRE TEXTURE" Vermicular like, brecciated Clasts: light grey with 1-3mm wide carbonate filling matrix (matrix worm like); clasts are 2-40mm, angular</p> <p>72.16-75.76m «DYKE» Colour: Light brown with green, yellow creme and white specks Grain Size: Fine grained (phenos to 2mm) Same dyke as AJ 91-1, 5.25-9.75m Phenos: -white; anhedral blebs; avg 2mm; 1%; QZ? -Yellow-creme; acicular to rounded with dark green centres (2-3%); Carb? -Medium green, softer; 5%; chl?</p> <p>75.76-76.37m Colour: Medium-light brown Weakly brecciated</p> <p>76.37-78.20m Colour: Creme-white to dark grey to pinkish red mottled Breccia, deformed</p> <p>78.20-79.66m Colour: Creme-white to grey to minor light green mottled Breccia/deformed 1% black specks (mt?)</p>	60	<p>.... 68.35m Vn</p> <p>68.84-71.45m Quartz carb veins, moderate Weak - moderate talc (lower half of interval)</p> <p>71.45-72.16m 1% maraposite</p>	<p>65.29-68.25m 10-20% mt</p> <p>68.84-71.45m 1-2% py, diss, fg</p>	<p>69.75-70.00m Fault gouge</p> <p>72.06-72.16m Fault gouge</p>
			25	<p>75.76-76.37m Weak silicification ... 76.35-76.37m Quartz with sx</p> <p>76.37-78.20m Strong silicification Cross cutting weakly banded qz vns avg 3-4 mm width Hem?</p> <p>78.20-79.66m Strong silicification Trace maraposite</p>	<p>75.76-76.37m 1-2% py 76.35-76.37m 2-3% py, 1-2% ga, 1% tt, tr aspy, sp?</p> <p>76.37-78.20m 3-5% mt tr py</p> <p>78.20-76.37m 1-2% mt, tr py</p>	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
79.66 TO 87.64	«SERP»	Colour: Dark green-black with minor light green Grain Size: Very fine grained Massive Moderate magnetism 80.30-82.34m Dyke (DIOR?) Colour: Light green brown Fine grained Weakly stippled		Weak talc Very wk qz (very low density vnltts) Very wk carb 80.30-82.34m Bleached? Weakly silicified 1% qz veins	tr-1% py	
87.64 TO 96.47	«DIOR»	Colour: Grey to light grey stippled Grain Size: fine grained Massive		Moderate carbonate 87.82-89.56m Bleached, weakly silicified?	tr py	
96.47 TO 121.30	«SERP»	Colour: Dark green-black with zones of grey and white Grain Size: fine grained 98.27-99.77m Serp, massive, moderate magnetism 99.88-103.64m Colour: Greenish to green black with white patches Undulating quartz veins and blebs (5%) 103.64-104.50m colour: Mottled light green and dark grey with black specks Moderate magnetism ¶104.64-107.42¶«DEF'N» Undulating contorted beds Colour: Grey with white clasts (qz) 106.17-107.37m Colour: Light brown to green Weakly brecciated Weakly - moderately foliated ¶112.24-113.25¶«LIST» 112.83m foliation 114.64-115.63m Colour: Brown green Bleached or sil serp? 116.55-118.29m Alt intrusive Colour: Green grey	35	97.40-98.27m Moderate talc alt 99.88-103/64m Weak silicification 103.64-104.50m Weak-mod talc 104.64-107.42m Weak talc alt Weak silicification at top of interval 106.17-107.37m 1-2% maraposite Mod-st silicification 112.24-113.25m foliated quartz, carb alt 115.63-115.88m Quartz	99.88-103.4m Tr py 103.64-104.50m tr-1% py 104.64-107.42m 1% py 106.17-107.37m 2% py 112.24-113.25m 1-2% mt	98.05-98.17m Fault: 98.05m 65 deg CA 99.77-99.88m Fault gouge 104.50-104.64m Fault

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Weakly stippled Silicified (v hard) ¶118.59-119.48¶«LIST» Colour: Grey green Moderately-strongly foliated Few clasts, angular 119.48-120.27m Medium to dark green ¶120.27-121.30¶«LIST» Colour: Grey to green to white (mottled to banded)		118.59-119.48m Tr maraposite Weak silicification zones Weak talc zones 120.27-121.30m Weak - mod talc Qz carb vnltz	118.59-119.48m Tr-1% py	118.29-118.41m Fault gouge 45 deg CA
121.30 TO 127.50	«M DYKE»	Same as AJ91-1, 152.71-157.64m Colour: Dark grey Grain size: fine grained Weakly stippled Mafics (biot? pyroxenes?)				
127.50 TO 137.06	«FP»	Colour: Brown grey Grain size: fine grained Feldspar phenos: 5-10%, euhedral-subhedral Mafic (chloritized) phenos 3% 129.51-129.84m Colour: white with grey patches Brecciated 132.12-132.84m Colour: white and grey foliated with breccia clasts (qz, <5%) 132.84-137.06m Int Dyke 10% mafics (hbld?) Groundmass: pink brown to grey White anhedral blebs: fsp, 5-10%		129.51-129.84m Strong silicification Weak chlorite	1% py	
137.06 TO 168.25	«SERP»	¶137.06-142.00¶«LIST» 137.06-140.04m Colour: White to grey mottled, minor brecciation, 1% black specks 140.04-142.00m Colour: White to green to grey mottled to 'swirled' to weakly banded		137.06-140.04m St silicification Vns of bluish quartz and weakly banded quartz veins 140.04-142.00m Strong silic. Weak carbonate	137.06-140.04m Tr py 1% black fine grained mineral 140.04-142.00m 1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		142.00-142.93m Alt (bleached) Serp or intr.				
		‡142.93-146.26‡«LIST» White, pink, green, grey, and black in colour Moderately magnetic		142.93-146.26m Weak talc St silicification Hem, mod? Weakly banded quartz veins	142.93-146.26m 1% py; mt	
		143.57-143.70m "BIZARRE TEXTURE" Vermicular like Soft Clasts elongated, dark green				
		146.91-150.56m Massive, weakly veined		146.91-150.56m Weak carb (vns) V wk talc	150.05-150.56m 3-5% py	146.26-146.91m Fault 146.31m 50 deg CA
		‡150.56-151.28‡«LIST» White and black and grey mottled		150.56-151.28m Mod sil Wk Carb Tr maraposite	150.56-151.28m 2-3% py	
		151.28-152.60m Dark green		151.28-152.60m Weak talc Weak-mod Carbonate	151.28-152.60m Tr py 152.30-152.35m 2-3% py	
		‡152.60-156.17‡«LIST» Grey and white with black specks Bx zones>wk foliated zones 155.27-155.65m Quartz breccia with fg matrix (clasts 90-95%)		152.60-156.17m Strong silicification	152.60-156.17m 1% py	
		156.17-168.25m Massive Dark green with minor waxy green		156.17-168.25m Very weak talc and carb alt	156.17-168.25m Tr-1% py	
*****		*****END OF HOLE*****	*	*****	*****	*****

Sample	From (m)	To (m)	Length (m)	COMMENTS
25228	38.06	39.06	1.00	
25229	39.06	40.22	1.16	
25230	40.22	41.10	0.88	
25231	41.10	42.60	1.50	
25469	42.00	42.85	0.85	
25470	42.85	44.35	1.50	
25471	44.35	45.53	1.18	
25232	59.01	59.58	0.57	
25233	62.70	63.63	0.93	
25234	63.63	64.56	0.93	
25235	64.56	65.56	1.00	
25236	65.56	66.56	1.00	
25237	66.56	67.56	1.00	
25238	67.56	68.84	1.28	
25239	68.84	69.75	0.91	
25240	69.75	71.45	1.70	
25241	71.45	72.16	0.71	
25242	75.76	76.46	0.70	
25243	76.46	77.46	1.00	
25244	77.46	78.46	1.00	
25245	78.46	79.66	1.20	
25246	99.90	100.90	1.00	
25247	100.90	101.90	1.00	
25248	104.64	106.10	1.46	
25249	106.10	107.42	1.32	
25250	112.24	113.24	1.00	
25451	115.50	116.00	0.50	
25452	118.59	119.59	1.00	
25453	121.20	122.30	1.10	
25455	137.06	138.06	1.00	
25456	138.06	139.06	1.00	
25457	139.06	140.06	1.00	
25458	140.06	141.06	1.00	
25459	141.06	142.00	0.94	
25460	142.93	143.93	1.00	
25461	143.93	144.93	1.00	
25462	144.93	145.93	1.00	
25463	145.93	147.06	1.13	

HOLE NUMBER: AJ91-4

ASSAY SHEET

DATE: 19-June-1991

Sample	From (m)	To (m)	Length (m)
25464	150.56	151.26	0.70
25465	152.60	153.60	1.00
25466	153.60	154.60	1.00
25467	154.60	156.17	1.57

Sample	From (m)	To (m)	Length (m)
25226	23.47	26.47	3.00
25227	35.66	38.06	2.40
25454	134.00	137.00	3.00
25468	160.63	163.63	3.00

COMP: MINNOVA INC.
PROJ: ATHELSTAN JACKPOT 666
ATTN: R.HOLDER/D.HEBERLEIN

MIN-EN LABS — ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 1V-0525-RJ1
DATE: 91/06/14
* ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU-FIRE PPB
25951	2.1	94	115	527	19	1	41	2
25952	1.1	44	152	173	5	1	42	3
25953	1.6	1114	27	86	1	2	33	1
25954	.7	203	53	131	33	1	1339	2
25955	.7	1	6	47	1	1	36	1
25956	1.1	1	6	61	48	1	3002	1
25957	.7	1	280	58	20	1	167	4
25958	.2	1	48	335	20	1	65	2
25959	2.1	1	22	569	1	1	53	2
25961	1.0	37	6	96	1	1	40	1
25964	1.1	1	3	11	1	1	16	2
25967	.4	1	69	16	1	1	24	1
25969	.7	1	8	11	1	1	25	3
25970	.6	1	24	12	1	1	24	2
25228	.1	1	30	68	1	1	14	1
25229	.3	1	6	30	1	1	17	3
25230	.2	1	69	182	1	1	43	1
25231	.2	1	14	435	1	1	60	1
25232	1.4	1	179	63	1	1	104	4
25233	.5	1	52	30	1	1	186	2
25234	.8	1	9	17	1	1	21	1
25235	.7	1	187	93	1	1	16	2
25236	.8	1	60	28	1	1	17	4
25237	.5	1	7	18	1	1	18	2
25238	.8	1	8	8	1	1	34	1
25239	1.2	1	11	31	1	1	176	4
25240	1.2	106	4	37	1	1	22	2
25241	.7	1	48	57	1	1	70	4