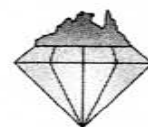


Drill Log Sheet

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockett
Date:	2nd July 2009
Total Depth:	606.20m
Hole Diameter:	HQ
Drill Type:	RAB RC (DDH)
Bit Type:	BLADE HAMMER ROLLER

TENEMENT: SEL 26946

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
30m	-89.7°	299.2
60m	-89.9	090.8



North
Australian
Diamonds
Limited

ABN 86 009 153 119

DRILLHOLE ID:	LV09-001
DATUM:	GDA94
ZONE:	Zone 53
EASTING:	639327 mE
NORTHING:	8139653 mN
RL:	N/A m
AZIMUTH:	0 degrees
INCLINATION:	-90° degrees

Page 1 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
0	1.0		Gy	0-9.2m Core loss of 6.8m - very broken and rubbley @ top, plus bottom portion of sequence very clayey Loss at top due to loose sand ~ 1m Loss due to broken ground & core fragmented ~ 5m Loss in clay section due to re-drill ~ 0.8m Surface clayey gtz sand	-	Sand
1.0	7.8		Greenish + Or	quartzitic sandstone - med grained; well sorted sandstone/gtzite w bands of red Fe-stain	0-1	
7.8	9.2		Bn Ph	siltstone/mudstone - clay-rich w fg gtz, laminated to finely bedded	0-4	SSL/SMD
9.2	15.6		PK-Gn Cr bands	interbedded siltstone, mudstone, and fine-med sandstone mudstone and siltstone pinkish brown + green, thinly bedded to laminated. Sandstone horizons appear more coarsely bedded - > 10mm. Individual units vary from 5mm to 100mm - SST horizon up to 30cm Siltstone has fg gtz colour variation? due to oxidation Sandstone horizons have some Or Fe-staining w fine to med gtz commonly have thin green SST layers	0-2	SSL/SSM
15.6	24.0		ye Or	fine to med gtzite sandstone - med well sorted w goethitic matrix med to strong Fe-stain, commonly conc along bedding planes 19.50-19.65m - green siltstone band 22.1-24.0m - less Fe-stain	0-4	SSFM
24.0	26.4		Gn + ye	green siltstone bands interbedded w SST. At 24.0m, can see inc of SST in base of overlying SST.	0	SSL + SST
26.4	37.65		ye Cr + ye Or	gtz sandstone - well sorted w fine - med gtz. Fe-stain conc along bedding, some Fe-stain concretions - darker like lens-shaped banding. Minor green SST/SMD bands @ 26.4 to 26.7m and 27.2 to 27.5m and 33.5 to 33.7m. Inc in Fe-stain below 29.0-31.6m Higher mag sus where Fe stain more haematitic	0-6	SSFM

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gia Rockett
Date:	7th July 09
Total Depth:	606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
60m	-89.9°	090.8°
90m	-89.7°	331.5°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 2 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
37.65	38.8		Pk-Gn-Ye	Interbedded Gn siltstone to crye ssm + pink fg gtz sst SSL finely laminated & appears cross-bedded Horizons each 2-5 to 15cm wide	0-3	SSL/SSM
38.8	59.40		ye cr + ye Or	Fine to medium, well sorted quartz sandstone Fe staining variable in intensity down unit - mostly conc along possibly slightly coarser beds. Some cross-cutting leisegang banding Some more haematitic (pink) bands @ 45.50 to 45.65m, 49.15 to 49.40m, and 58.65 to 58.8m Sandstone micaceous in places - sericite plus ? fuchsite as green. Minor thin (<2mm) green mudstone/siltstone bands	0-6	SSFM
59.40	87.45		Pk Pur	Fine to medium, mostly well sorted quartz sandstone Fe staining variable down unit but dominantly haematitic, rather than goethitic, although in places there are both present. Goethitic appears to overprint haematitic as leisegang bands. Irregular "bleached" cream white patches & bands & circles are common Unit finer grained in minor green sst inclusions & inc in goethite highlighting bedding - from 82.4 to base also more mica along bedding planes (green)	0-6	SSFM
87.45	88.05		Gn + Br	finely laminated siltstone to fg gtz. Upper 8cm and lower 10cm of unit is green, whereas the middle section is dark reddish brown. ? due to oxidation differences?	2-8	SSL
88.05	104.90		Pk Pur	Mostly a bedded (<1cm scale) fine grained gtz sandstone in variable haematitic Fe-stain to irregular "bleached" patches, circular patches, and mottling. In sections, (eg. 90.4 to 90.6) the unit is thinly bedded (1-5mm) and interbedded fine grained sst to brown siltstone, minor thin green siltstone bands. Cross bedding present, plus narrow bands of siltstone only (eg 96.15 to 96.35m). Also, in places, angular fragments of green & brown siltstone are incorporated in fg sandstone eg. 90.2 to 90.3m. In places, green mica present on bedding planes. Sand gtz grains tending more to med near base	0-2	SSF

Drill Log Sheet

Pipe/Prospect:	Levathan Anomaly
Logged by:	Gina Rockett
Date:	2th July
Total Depth:	606.20m

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
120m	-89.6°	300.2°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 3 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
104.90	110.85		Pk Bn	fine to medium grz sandstone - well sorted. Strong haematitic Fe-stain to some Goethitic Fe-stain which appears to be later. Bedding appears 5-10mm in thickness. SST has a green mudstone inclusion @ 106.85m. No mica observed.	0-4	SSFM
110.85	113.20		Gn+Bn	Finely laminated siltstone to fine grz. Mostly dark brown & uniform to 111.65m, then paler cream interbedded w green layers/laminae. Quite distorted - ? slumping b/w 111.65 to 111.90m. Green mica common along bedding planes - visible at core breaks. ? chlorite. Cream horizons quite sandy - fine grained grz.	0-3	SSL
113.20	114.55		BnCr	medium-grained grz sandstone - well sorted. Major ? haematitic brown Fe stain that highlights bedding dark green + pale micas on bedding planes. Occ blebs or bands of green mudstone/siltstone eg @ 114.30m. Bedding dips @ ~ 5°.	0	SSM
114.55	118.65		Mostly Bn w some Gn	mostly fine grained grz sandstone - well sorted. Bedding on a 5-10mm scale - highlighted by Bn stain. Core mottled brown cream and green. Sericite + some degreen mica common along certain bedding planes - visible on broken core faces. Unit contains three distinct brown finely laminated siltstone horizons: 15cm wide @ top of unit - 114.55, 5cm wide @ 116.26m, 5cm wide @ 117.75m.	0	SSF
118.65	124.85		Mostly Gn w some Bn	mostly medium grained grz sandstone - well sorted. Bedding on a 5-15mm scale - highlighted by colour changes. Mica rare on bedding planes. Small inclusions of brown + green mudstone common - Conc along bands varying from 10 to 25cm wide - notable zone @ 121.3 to 122.1m up to 5cm in size. Band of Bn siltstone (finely laminated) @ 120.55m - 17cm wide @ 123.25.	0-8	SSM

Drill Log Sheet

Pipe/Prospect:	Levia than Anomaly
Logged by:	Gina Rochett
Date:	8th July '09
Total Depth:	606.20m

TENEMENT:	SEL 26946
-----------	-----------

DRILLHOLE ID:	LV09-001
---------------	----------

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 4 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
124.85	130.70		Green	medium grained gtz Sandstone - well sorted Bedding on a 5-20mm scale - highlighted by colour change Some units slightly coarser - esp near base. Small inclusions of green mudstone - 1m near base Basal 10cm contains large (upto 5cm) pieces of Sub ang green SSL Sharp boundary with unit below	0-3	SSM
130.70	132.75		Gn+Bn	fine-grained clayey gtz Sandstone. Some mica - Sericite + ?chlorite Bedding on a 1-10mm scale. Blues 131.75-132.05m, numerous copper brown 1-2mm blebs - ?haematite as red streak Low angle dip to bedding ~ 5% Colouration due to ? Fe stain Small inclusions of green ?SSL clasts in horizons eg. 132.2-132.3m	12-16	SSF
132.75	134.55		Brown	more uniform, mostly Bn & cream fine-medium grained gtz Sandstone Bedding on 2-10mm scale mostly - shown by colour variations Mud or small Bn mica flakes Fairly uniform, except for colour variations Sharp undulating boundary to unit below.	5-10	*SSFM
134.55	138.30		Green	fine grained Mostly fine-grained gtz Sandstone w/ sulphides common on core breakage surfaces. Small dark green blebs - ?chlorite or just green stain. Finely bedded near top @ 1 to 5mm, then appears more coarsely bedded from 134.60m @ 5-10mm. Dip of bedding ~ 5° OCC small green SSL/SMD inclusions	0-5	SSF
138.30	140.20		Green	Similar to above but appears slightly coarser - more fine to medium gtz. Some Bl/Bn mica flakes on core break surfaces Bedding on 5-10mm scale defined by changes in grain size OCC small Gn SSL/SMD clasts.	0-3	SSFM

Drill Log Sheet

Pipe/Prospect:	LeVianthar Anomaly
Logged by:	Gina Rockett
Date:	9th July
Total Depth:	606.20m

TENEMENT: SEL 26944

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 5 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
140.20	141.35		Green Grey	Interbedded f to m r into cs gtz sandstone. Bedding varies from 2 to 10mm in thickness, w coarser beds tending to be thicker. Finer horizons are more green. 5mm wide distinct fine gr gtz sandstone band w sharp basal contact & diffuse upper boundary @ 140.82m. Other similar horizons present but narrower. Unit appears coarser towards base w 1cm ga SSL inclusions @ 141.23	0	SSFC
141.35	142.15		Green grey	Fine to coarse gtz sandstone. Bedding on 5-20mm scale - finer bands are more green. Basal 30cm comprises very coarse SST w gtz grains to 2mm + small blebs of honey yellow soft mineral - ? carbonate such as siderite? The middle 10cm of this basal horizon is finer - more m-cs & includes a 30mm green SSF clast. Basal contact w underlying green SSL is sharp & undulating w inclusion of the SSL present in the basal 2cm of the unit.	0	SSFVE
142.15	142.50		Green	Laminated green siltstone w vfg gtz Sulfides on bedding planes - fg cubes, prob pyrite, visible at core breaks. Basal contact is sharp & undulating - SSL appears to infill cracks in underlying unit. Sulfide common along cracks in basal unit at contact. Coarser bands eg @ 142.30 contain grains to 1mm inc large gtz grains + ? small pieces of fg SST	0-3	SSL
142.50	147.15		Cr wh + Green	? Silicified dolomite. Looks like it should dolomite but v hard and no reaction to acid when powdered. Mainly composed of white, cream & grey irregular bands 2-20mm thick. White bands are hard and v fine grained. Have sharp edges commonly rimmed by softer fg green ? mudstone + pyrite. White material also form ovoid and lozenge shapes, many w cream centres.	3-20	Silicified SDL + SSL (minor)

Drill Log Sheet

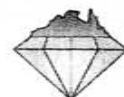
Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rochette
Date:	10th July
Total Depth:	606-20m

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
150m	-89.6°	243.6°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 6 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
				<p>cream bands appear to have more texture. Fine grained w/ small ? spheres in vfg matrix. Spheres almost grain-supported. In coarser bands, the plates or rods are clearer.</p> <p>The grey bands & patches appear to assimilate & overprint the cream material. This is probably crystalline quartz as relatively CS compared to cream & wh material.</p> <p>Although layers highly irregular & undulating, bedding overall appears to be sub horizontal.</p> <p>Within this sequence are bands of more regular & uniform green Siltstone - laminated in fg qtz & fg pyrite common. Laminar wrap around ovoid Cr/wh hard patches - these may be silica nodules? pyrite common along contacts. Also has bands w/ CS qtz & pieces of honey Ye?</p> <p>Green bands vary from 5 to 30cm thick & appear similar to SSL @ 142.15 to 142.5 w/ similar sharp contacts, but commonly diffuse. In places, the unit is highly disrupted - appears almost brecciated w/ white fg material filling in gaps around cream brown material w/ quartzitic texture but also shows original 1° laminae & bedding.</p>	3-20	
147.15	148.10		Cr Gy + Cr Br	<p>Strongly disrupted version of above.</p> <p>Irregular cream brown & cream pieces & probably original dolomite appears to have been brecciated & surrounded by silica. Rock looks like it should react to acid but only v weak reaction along fractured surface coated w/ fg pyrite xstals - ? Secondary.</p> <p>cream brown fragments retain some of original fabric - ? spheres & rods</p>	10-20	silicified SDL
148.10	154.55		Cr wh + Green	<p>similar to 142.50 - 147.15m</p> <p>Some pink stain (? haematite) from 153.55m.</p> <p>Section rich in sulphide from 153.7 to 153.9m - Sulphide fg w/ no distinct crystal form & greenish colour - ? marcassite. Secondary as infilling cracks and // to bedding. Same section w/ sulphide appears coarser and crystalline - reacts readily to HCL. Still appears to have pelletal texture but ? overprinted by calcite? In lower 20cm of unit there are clots of coarsely xstalline calcite up to 20mm in size</p>	5-10	silicified SDL + SSL

Drill Log Sheet

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Ricketts
Date:	11th July 2009
Total Depth:	606.20

TENEMENT: SEL 26944

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 7 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
156.55	155.45		Cream w pink	Bands of cream white to pink stain (haematite), interbedded w cream bands and minor v thin green layers. Bands w stronger base stain appear coarser w grains to 2mm - finely laminated and grains appear to be sphaeres and pellets. Cream white bands are more silicified & appear finer. Pink horizons mostly slowly to dilute Hcl whereas finer cream bands do not due to silicification. Circular & ovoid ? silica nodules present in places but not common. Edges are blurred & cross cut bedding - ? grown in situ.	5-8	Silicified dolomite
155.45	166.95		Creamy green + pink	Interbedded finely laminated green mudstone layers (2-5mm) w greenish or pinkish cream fg bands fg pelletal texture & calcareous (5-10mm) and cream fg clayey calcareous sandstone/siltstone. Silicified nodules, mostly ovoid in shape & parallel to bedding, are common. Base of unit defined by end of nodules.	5-8	Dolomite + dolocarbonate
166.95	171.05		Mostly Pink + cream	Interbedded finely laminated green mudstone bands (2-5mm) w fg calcareous clayey sandstone/siltstone (5-20mm). Some bands have a dolomite pelletal texture, rare narrow silicified bands to 20mm. Coarse bands w grains to 5mm are common. Bands tend to have strong haematite Fe-stain & vary from 10-50mm thick. Some have sharp basal contact & more diffuse upper contact. Coarse grains are mostly irregular shaped, but rounded. Comprise rounded qtz to 2mm + ? silicate & reworked strongly haemstained dolomite + chert/agate ? replacing a preexisting grain. Base of unit marked by irregular contact (sharp) w underlying unit.	5-10	Dolomite + calcareous arenite

Drill Log Sheet

TENEMENT: SEL 26946

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rockett
Date: 12th July 2009
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 7 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
171.05	173.4		cream + pale green	finely bedded (1-5 mm) carbonate horizon - mostly carbonate w/ f.g. gtz. Pods and bands of coarser pelletal carbonate (ye brown) - ? siltstone near base. Becomes more massive and cream white in upper 50cm. Reacts to acid - probably more calcite than dolomite	5-10	Calcareous
173.4	180.9		Pale green + cream	Interbedded green mudstone + dolomitic siltstone + f.g. sandstone Finely bedded/laminated w/ wavy, undulating beds showing small shallow structures + soft sediment deformation features Unit also contains layers 10-20mm wide containing coarser grains including rounded gtz to 2mm + irregular shaped pieces of pelletal carbonate which is OR brier cream & appears replaced by silica as v hard + Horizon f.g. cream carbonate w/ coarser bedding from 174.65 - 174.85 - basal contact more gradational than top (sharp) - Similar horizon btw 175.5-176.2m	5-10	Interbedded siltstone + fine gr SST
180.9	189.15		Pale greenish grey to brownish grey	finely bedded fine-grained dolomitic clayey gtz sandstone bedding on 2-5mm scale mostly - very horizontal and regular, defined by includes bands of coarser sandstone w/ grains to 5mm of pelletal orange material. Bands are 10-30mm thick. Some coarser bands also include angular fragments of laminated dk green mudstone. Few bands, such as 186.40 to 186.60m of interbedded f.g. SST + carbonaceous mudstone/shale zone @ 188.1 to 188.2 contains pink carbonate + pyrite infilling fracture	5-10 grain size changes	Dolomitic Calcareous sandstone
189.15	193.20		dk grey + brownish grey	Laminated carbonaceous mudstone/shale w/ v f.g. pyrite + stals on bedding planes (minor reaction to HCl) plus fine to med calcareous gtz sandstone. Bedding on 5-30mm scale + defined by grain size changes base of unit defined by 30mm thick coarse band, less calcareous contains irregular pods of silica (<5mm) replacing pelletal material. Some as rounded gtz. similar bands @ 189.55m + 189.65m + 191.15m	6-10	? Dolomitic Calcareous shale + sandstone

Drill Log Sheet

TENEMENT: SEL26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rockett
Date: 13th July 2009
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
204m	-89.4°	278.0°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 9 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
193.20	204.90		pale greenish grey + pale brownish grey	Interbedded calcareous siltstones & fine to med. calcareous gtz sandstones. Bedding horizontal and regular. Siltstones are laminated & sandstones thinly bedded - 5-20mm scale. Bands 20-30mm wide, eg @ 196.2m, comprise coarser grains in hard or pelletal grains (don't react to acid) + v. fine crystalline grains (carbonate) to 5mm + 2mm rounded gtz grains in finer calcareous sandy matrix. Contacts are diffuse. Some fragments are irregular & appear replaced by silica. Fg pyrite also assoc w these horizons. Zone from 199.45 to 202.55m includes bands of carbonaceous shale 5-60mm thick. 5° dip to bedding.	8-10	siltstone & calcareous sandstones
204.90	207.10		cr brown & greenish brown	finely bedded/laminated siltstones & mudstones in carbonaceous shale bands. Bedding is undulating and displays small slump structures & soft sediment deformation features. Unit appears to be overprinted by carbonate, blurring bedding in places. Pyrite crystals common on bedding planes & fractures. Reducing environment. Base of unit marked by coarser band (3cm thick) comprising pellets/pieces of underlying carbonate unit.	10-14	siltstones & carbonaceous mudstones
207.10	209.45		cream + greenish brown	Layers of fg massive carbonate interbedded w darker (green brown) layers that are laminated. 10-30mm wide bands of coarser material mark start of cycles? These layers comprise calcareous pellets and pieces of unit below + irregular cream white patches of ? fg stuff that appear to infill voids. Fg pyrite common along carbonaceous bands and along fractures.	5-8	dolomitite + dolomitite shale
209.45	211.10		fg	finely laminated dolomitite carbonaceous shale	5-8	carbonaceous shale
211.10	212.80		cream brown	fg dolomitite unit w layering about 5-30mm wide. Fg pelletal dolomitite interbedded w fg carbonaceous laminated clay horizons 1 to 10mm wide.	5-7	dolomitite
212.80	215.55		cream + green	laminated calcareous siltstone/mudstone interbedded w layered carbonate. Layering is horizontal and uniform. Coarser bands eg @ 211.45 & 215.25 appear to comprise pelletal carbonate + irregular patches filled w fg cream mineral (beaded) that doesn't react to acid.	10-12	dolomitite siltstone/mudstone + dolomitite

Red hardness

Drill Log Sheet

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockett
Date:	15th September 2009
Total Depth:	606.20m

TENEMENT:	SEL 26944
-----------	-----------

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
252m	-89.4°	354.2°

DRILLHOLE ID:	LV09-001
---------------	----------

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 10 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
215.55	224.40		cream + green	Similar to above but layers less uniform - more undulating. Bands (10-40mm wide) of coarser material, eg @ 218.05m & 221.3m have pelletal carbonate & fragments of ? yellow siderite & large rounded grey grains (minor). Fg crystalline pyrite common along fractures. Carbonaceous mudstone band (finely laminated) @ 221.7m. Carbonate dominated horizons show some dolomitization features - laminated, undulating in anastomosing bands.	5-12 Carbonate rich bands in lower	dolomitic siltstones, mudstones & fine sandstone, in carbonate bands
224.40	240.10		cream brown + green	Similar unit to above but more dolomitization features and dolomitized horizons eg. 224.4 to 224.95m. Dolomitized horizons tend to be cream brown, whereas siltstone horizons are more green. Coarser bands, eg @ 228.1, comprise pelletal carbonate grains & minor large rounded grey grains + irregular pellets filled with silica (chalcodony). Coarse unit @ 228.35 has narrow rounded grey grains, nodules to fine quartz, up unit. Siltstone/mudstone units are finely bedded/laminated and show soft sediment deformation features. Siltstone/fine SST beds are more uniform. Fg crystalline pyrite common along fracture surfaces.	7-14 Carbonate-rich bands tend to be lower	dolomitic mudstone + dolomitized + fine minor dolomite
240.10	248.95		cream to brown minor green	Similar to above but less green siltstone bands & more cream laminated to massive carbonate horizons & dolomitized coarser bands. Such as @ 241.7m & 244.75 show possible erosional episodes in fragments of the underlying carbonate unit included in the layer. Dark brown horizons, such as @ 241.5 & 246.65m appear to contain fine brown carbonate. Worn reaction to acid - ? siderite. Horizons of calcareous fine SST more common - usually 5-20mm wide.	3-7	dolomitic shale + dolomite + dolomitic fine sandstone
248.95	255.85		cream, brown, green- grey	Laminated dolomitic carbonate/mudstone (green-grey or brown) interbedded to 5-10mm wide calcareous sandstone bands. Layers fairly uniform to low dip. Also layers 20-50cm wide of strongly calcareous - overprint as internal structures are similar. Slumping @ 249.7m. Cream more massive bands are fine pelletal dolomite.	5-7	dolomitized + dolomitic Carbonaceous Shale + dolomite fine sandstone

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rockett
Date:
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
258m	-89.8°	231.2°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 11 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
255.85	261.60		cream + green	Similar to unit above but dolomitic textures better developed, esp in upper portion. Strong carbonate overprint in sections, destroys much of primary textures.	6-8	as above
261.60	268.35		cream + Brown + Grey	Unit comprises sub horizontal, undulating layers of siltstone + mudstone. Bedding on 5-20mm scale and individual layers are laminated. Some dolomitic textures. Brown layers appear to be a carbonate but no reaction to HCl - ? Siderite. Soft sediment deformation & slumping present - 261.6 to 262.1m, 267.0 to 267.75m. Sections in strong carbonate overprint present. Probably some fine grained sulfide present along brown siderite horizons	2-10	dolomitic shale + dolomite
268.35	275.65		cream + Brown- Grey	Unit has more typical dolomitic textures in cream fine grained dolomite interbedded in grey brown mudstone bands in calcareous matrix. Cr dolomite bands are 5-10mm in thickness near top increasing to 20-40mm near base of unit. Br Gy mudstone bands may contain some ? Siderite	3-6	Dolomite + dolomitic mudstone
275.6	284.0		cream + Green- Grey	Unit comprises cream dolomite horizons 50-200mm wide interbedded in laminated grey-green silt/sand bands 5-20mm wide. Unit also contains bands of coarser material comprising ? carbonate pellets & rounded grey + angular fragments of carbonate, plus lg blebs of sulfide. Some of these horizons, eg. 275.7 to 276.0m appear deformed/disrupted - ? soft sediment deformation. Green grey mudstone band @ 281.4 - 281.6m - contains lg sulfide along bedding. Shale bands less reactive to acid - dark coloration due partly to presence of carbonaceous material → terrestrial influence	4-10	Dolomite + dolarenite + carbonaceous shale

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
300m	-89.9°	117.0

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Pipe/Prospect:	Levathan Anomaly
Logged by:	Gina Rockett
Date:	
Total Depth:	606.20m



North
Australian
Diamonds
Limited

Page 12 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
284.0	285.65		cream + green- grey	cream dolomite interbedded w grey-green mudstone laminated bands + or green mudstone horizon + pelletal carbonate. Granular to above but layers deformed or dipping more steeply - ? Soft sediment deformation	4-10	dolomite + dolomitic carbonaceous shale
285.65	300.50		cream + grey-brown	Unit comprises finely bedded fg carbonate (? dolomite - reacts slowly but readily to acid) with zones of laminated mudstone to brown carbonate bands - probably siderite. Cream carbonate sequence is finely bedded on 2-16mm scale w interbeds of grey ? Carbonaceous siltstone/mudstone. Individual layers are V fine - < 1mm. Form interbedded sequences within carbonate in horizons 10-50mm wide. Within carbonate sequence are layers of dominantly siltstone. Layers are 2.5 to 100mm wide - appearance is grey brown banded. These horizons comprise fg grey carbonate layers 2-10mm wide interbedded w V fine layers of bn bl ? Carbonaceous clay. Minor CO ₂ present (as little or no reaction to acid). Honey brown mineral in brown horizons may be carbonate. ? Siderite Mostly Subhorizontal bedding except for zones w strong soft sediment deformation eg. 288.2 to 288.7m	4-7	dolomite + dolomitic shale
300.50	305.00		Grey/ Brown	Sequence of carbonate + siltstone similar to above but strongly deformed. Layering very jumbled - soft sediment deformation in patches/zones of ? Secondary silica overprint - V hard, no reaction to acid	2-5	dolomite + dolomitic shale
305.00	306.45		cream grey	Dominantly a carbonate sequence w minor thin/narrow grey siltstone bands Reacts readily to acid	3-7	dolomite

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

Pipe/Prospect: Leviathan Anomaly
 Logged by: Gina Rothell
 Date:
 Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 13 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
306.45	316.30		Grey + brown	Weakly calcareous siltstone. Finely bedded siltstone interbedded w/ laminated grey brown mudstone (pg 263) Bedding on 1 to 5mm scale. Some small-scale soft sediment deformation - possible worm burrows @ 314.4m? may be just bleaching Rock comprises mostly fg grg w/ carbonate, w/ darker horizons having more clay / less grg Bedding fairly uniform & subhorizontal - some minor undulations	5-9	Calcareous dolomite
316.30	323.00		cream + brown	finely bedded calcareous siltstone w/ interbedded mudstone. Unit is strongly deformed & jumbled - soft sediment deformation. Readily reacts to HCl	4-7	Calcareous dolomite w/ minor laminated siltstone
323.00	337.35		cream + gy brown	mostly fg carbonate - mainly calcite as strong response to HCl. minor siltstone horizons w/ interbedded mudstone (carbonaceous). Unit strongly deformed in places throughout unit - little & unit shows no soft sediment deformation. Strong overlap of secondary vfg white mineral - ? silica as v hard & no reaction to acid. Some dolomitic features preserved @ 331.25m & 331.80m Some core loss and deformation of core between 327.5 to 328.5m - estimate @ 10cm	3-5	calcareous dolomite minor w/ laminated carbonaceous siltstone
337.35	339.55		Grey Brown	finely bedded Carbonate (? dolomite) w/ siltstone siltstone interbedded w/ ? carbonaceous mudstone laminae Bedding on 2-10mm scale - subhorizontal and undulating w/ sections of soft sediment deformation Some ? dolomitic features	3-4	calcareous dolomite w/ laminated carbonaceous siltstone

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

Pipe/Prospect: Leura than Anomaly
 Logged by: Graia Rockett
 Date:
 Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
348m	-89.7°	212.9°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 14 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
339.55	343.70		cream + grey	interbedded Carbonate unit in mudstone laminae. Finely bedded on 2-10mm scale, but w/ larger sections of 30cm which is nearly massive for carbonate. Reacts slowly to acid - ? calcite + dolomite. Fine bedding is undulating w/ some soft sediment deformation. ? possible flame structures @ 343.20m From 341.7 to 343.0 unit contains large-shaped pieces of ? pelletal carbonate. Bedding wraps around these pieces - Pelletal carbonate pieces appear to be overprinted in silica - very hard, no response to acid + show chalcidary features	4-6	dololulite interbedded w/ mudstone laminae
343.70	349.30		cream + grey	Predominantly fg massive carbonate - reacts readily to HCl - prob calcite + dolomite. Contains narrow bands of grey mudstone laminae in carbonate. Bands are 10 to 20mm wide and tend to be @ 20-30cm intervals w/ fg massive carbonate between. A section in more siliceous + mudstone + strongly deformed (soft sediments) lies b/w 347.1-347.5m and also 345.9 to 346.7m This section contains fg sulfide clots around jumbled pieces. Section w/ sulfide possibly more brittle? appears to contain pieces of silicified pelletal carbonate similar to above.	3-6	dololulite + interbedded mudstone/ dololulite cycles
349.30	351.10		cream + grey	interbedded Finely bedded, med gr carbonate (bedding 2-5mm scale) w/ bands of pelletal carbonate - much coarser for much larger rounded etc. Pelletal layers show some deformation - disruption of layers. Possible sulfide along layers @ 350.0m. Vlg lined w/ calcite + clear cubic crystal @ 349.95m med grained carbonate also contains laminae of dk grey mudstone - ? carbonaceous	2-4	dololulite + dololulite interbedded w/ mudstone laminae

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LVØ9-ØØ1

Pipe/Prospect: Leviathan Anomaly
 Logged by: Gina Rockelt
 Date:
 Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 15 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
351.10	361.00		cream + grey	Mostly fg carbonate - finely bedded on 5-10mm scale. Includes bands 5-20cm wide comprising carbonate w laminae of dk grey mudstone. Some soft sediment deformation. Sections w no mudstone laminae or 10-50cm wide less ferruginous input. Cyclic periods of carbonate precipitation only, interspersed w periods of carbonate + mudstone. <i>weakly defined</i>	2-6	dolomite + interbedded mudstone/dolomite cycles (minor)
361.00	367.40		cream + grey	Similar to above but cycles shorter - dec in carbonate only units, increase in carbonate interbedded w fine laminae of grey black clay/mudstone. Carbonate prob dolomite as reacts slowly to HCl. Fine grained w only weakly defined internal bedding within carbonate-only units.	3-6	dolomite + interbedded mudstone/dolomite cycles
367.40	370.20		cream + greenish grey	Dominantly fg carbonate - prob dolomite as slow reaction to acid. Dolomite is thinly bedded (1-5cm) - defined by variations in amount of small ? clay flakes subparallel to bedding planes. Unit also contains minor zones/bands of carbonate interbedded w v fine mudstone laminae. These zones are 1 to 3cm wide and at 15-20cm spacing. Carbonate also has sub-vertical narrow veining - ? secondary dolomite (pale green/grey) + sub-circular colouration patches in carbonate. Zone w cream orange blebs of secondary dolomite @ 369.5m. Minor fine grained sulfides along cracks and bedding planes.	2-4	dolomite

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rochett
Date:
Total Depth: 606.20

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 16 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
370.20	372.40		cream-grey	Interbedded fg carbonate (prob dolomite) w vfg laminae of brown-black mudstone. Section w carbonate only present but much less - zones most 10-50mm thick. Some ? secondary dolomite in patches + fine subvertical veins. Some possible decalcification features such as cracking	4-9	dolomite + finely laminated carbonate/mudstone (carbonate)
372.40	387.95		cream-grey	Similar to above but less carbonate - only sections, + minor secondary ? dolomite patches + veining but slowly Carbonate mudstone sequences react readily to HCl suggesting possibly more calcite present than in units above. Probably still dominantly dolomite - fine grained Unit is mostly laminated w carbonate layers on 1-5mm scale and mudstone laminae usually < 1mm. Bedding is mainly sub horizontal (dip ~ 5°) and planar although slightly undulating. Section w soft sediment deformation present eg @ 376.3m & 381.3m. Some possible decalcification cracks in carbonate causing vertical cracks & splitting. Secondary dolomite blebs o/p bedding from 386.1m & section w more carbonate than mudstone laminae from 383.75 to 386.0m	5-7	as above
387.95	390.65		Brown	A finely laminated fg sediment w vfg sulfides along bedding & forming coarser blebs. Laminated are on < 1mm scale mostly subhorizontal but undulating. NO significant reaction to acid except along fractures. Top 0.3m of unit is more messy w sub angular blocks of more carbonate-rich mudstone incorporated in pyritic shale. Probably carbonaceous as layers grey on bedding plane	6-7	pyritic shale

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

North
Australian
Diamonds
Limited

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rochett
Date:	
Total Depth:	606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
402m	-89.6°	299.0°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 17 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
390.65	396.20		Cream -grey	Interbedded fg carbonate w mudstone laminae. Unit is very chaotic with disturbed bedding in top 1.2m - soft sediment deformation + secondary dolomite blebs overprinting bedding. Remainder of unit comprises a breccia w angular fragments of laminated carbonate - ? brittle deformation. ? partially lithified sediment slump. Basal contact sharp transition to planar subhorizontal laminae.	3-5	dolomite breccia
396.20	406.95		cream -grey + brown	Interbedded horizons of fg carbonate only w horizons of carbonate + mudstone laminae. Carbonate only bands are larger in the top section (to 401.2m) and show soft sediment deformation features + possible decalcification cracks normal to bedding. Also feature 2° alteration spots - brown coloration @ 397.45 to 398.25m. Carbonate mudstone laminated horizons are brown. The brown layers are much less reactive to acid but have carbonate appearance - ? siderite. Also contain blebs of sulfide + sulfates along bedding. Lower portion of unit is similar but carbonate only layers much narrower. Examples of decalcification fracturing @ 403.4 to 403.5m. Soft sediment deformation present. Large pyrite crystals (>1mm) present @ 406.30m in more carbonate-rich horizons.	5-8	dolomite + laminated carb-mudstone shale
406.95	422.50		Brown + grey	Interbedded cycles of fg carbonate w carbonate + mudstone laminated horizons (? carbonate shale?). Carbonate bands comprise fg carbonate (readily reacts to HCL) w bn clay plates subparallel to bedding - weakly defined bedding within carbonate horizons. Some decalcification features present suggesting emergent periods. Carbonate only zones are not dominant, and vary in thickness from 1 to 10cm. Cream-grey colour.		dolomite + laminated carb-mudstone shale

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rockett
Date:
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 18 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
406.95	421.50	Continued		Laminated Carbonate-mudstone horizons are mostly deep brown - readily react to acid but slowly. Prob dominantly dolomite but also siderite? Laminae are mostly on 6mm scale - planar but undulating. Minor pink blebs and along bedding eg @ 421.3m, 411.0m, 414.8m	6-8	
				Unit is overlain by 2° dolomite blebs (orange cream) from 402.15 to 411.35m Soft sediment deformation + ? Carbonate infill present between 415.85 to 418.35m. Laminated units are very crinkled - some ? brittle deformation as crinkled pieces separated by fg more massive carbonate @ 416.10 to 416.90m		
422.50	434.50		Brown + grey	Dominantly brown laminated fg carbonate + mudstone w very few carbonate only bands. Laminated brown-grey bands react more strongly to HCL, the dominantly dark brown bands react much more slowly - ? more dolomite or presence of siderite. Fine grained pink present + scattered throughout + present along a few fractures eg @ 425.35 to 425.80m and some bedding. secondary carbonate blebs (? calcite as react readily) over pink bedding between 430.1 to 431.6m Some evidence of soft sediment deformation in disrupted & crinkly bedding	5-8	laminated carbonate-mudstone shale
434.50	444.70		Brown + grey	Interbedded sequences of fine grained carbonate in minor to abundant brown mud flakes subparallel to bedding + layers of laminated fg carbonate + brown mudstone in ? siderite. cream-grey carbonate horizons + paler layers of laminated sequences react more readily to acid Unit is cyclic in carbonate bands mostly 1-5cm wide, alternating in carbonate shale bands 1 to 15 cm wide	5-9	dolomite + laminated carb-mudstone shale

Drill Log Sheet

TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
 Logged by: Gina Rockett
 Date:
 Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
450m	-89.5°	289.3°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 19 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10 ⁻⁵ SI units	LITHOLOGY
436.50	444.70	Continued		A section dominated by carbonate shale between 438.20 to 439.70m - much less reactive to HCl + has scattered fg sulfide. A zone dominantly carbonate between 440.2 - 442.1m. This fg carbonate reacts readily to HCl and contains pitting after large (21mm) sulfide - prob pyrite. This section also contains zone of soft sediment deformation that includes brown carbonate shale.		
444.70	448.00		Brown + grey	Similar to above, but periods for each sequence type are longer. Predominantly carbonate sequences vary from 1 to 5 to 20cm wide and vary from containing minor brown mudflakes to numerous mudflakes. Some desiccation features noted on upper contacts of carbonate sequences. Carbonate shale sequences are mostly 5-25cm wide. These comprise finely laminated interbedded dark brown mudstone + carbonate + paler carbonate only - both horizons react to acid slowly, but paler laminae more so. Scattered fine grained sulfide present but minor. Fg sulfide concentrated along contact in carbonate only + shale units in place eg. 446.80m. Some soft sediment deformation between 444.7 + 446.1m. Carbonate probably dolomite + calcite w/ ? brown siderite	5-10	dolomite + pyritic carbonate shale
448.00	450.05		Brown	Finely laminated carbonate shale - similar to above. NO carbonate-only horizons, except for 10cm at base of unit + this contains numerous brown mudflakes. Carbonate shale is overprinted in irregular blebs of white carbonate that react vigorously to acid - ? more calcite than dolomite? Some carbonate blebs contain sulfide crystals. Fine grained scattered sulfide crystals common throughout	4-7	pyritic carbonate-mudstone shale

Drill Log Sheet

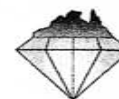
TENEMENT: SEL 26944

DRILLHOLE ID: LV09-001

Pipe/Prospect: Leviathan Anomaly
 Logged by: Gina Rockett
 Date:
 Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 21 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
466.05	468.50		Brown	Unit comprised mostly of finely laminated Carbonate - mudstone shale in scattered fg pyrite common. 5cm wide band of massive fg pyrite/sulphides @ 466.60m. Soft sediment deformation disrupting bedding in much of the basal 1.5m of unit.	6-10	Carbonate - mudstone shale - pyritic
468.50	472.25		cream grey + brown	Alternating bands of fg carbonate in brown mudflakes & brown finely laminated carbonate - mudstone shale in scattered fg pyrite crystals. mudflakes silt parallel to bedding in carbonate horizons in possible desiccation breccias eg @ 470.65m	6-10	finely laminated Carb - mudstone shale
472.25	489.0		Brown	Mostly finely laminated brown carbonate - mudstone shale interbedded with thin (5-10cm) fg massive carbonate in minor brown mudflakes. Bedding varies from normal 5-7° dip to ~ 26° in centre of unit. Some soft sediment deformation of bedding + brecciation between 474.4 to 475.85m. Main difference is a sharp increase in amount of fg sulphide present. Sulphide include pyrite + possible sphalerite - frets to white mineral. ? Goslonite? Zn SO ₄ · 2H ₂ O. Fine grained + some coarser (+1mm) pyrite present in carbonate unit @ 481.55m. Band ~ 5cm wide of high concentration of sulphide @ 480.8m. Bedding strongly disrupted by soft sediment deformation between 474.35 to 475.9m.	3-9 one reading 0.15 in Carbonate - mudstone band	Sulphide-rich laminated Carbonate - mudstone shale

Drill Log Sheet

TENEMENT: **SEL 26946**

DRILLHOLE ID: **LV09-001**

Pipe/Prospect: **Leviathan Anomaly**
 Logged by: **Gina Rockett**
 Date:
 Total Depth: **606.20m**

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
500m	-89.5°	272.3°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page **22** of **29**

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
487.00	495.50		Grey-green + Brown	Weakly bedded fg carbonate units dominant, alternating in thin horizons of brown laminated carbonate-mudstone shale. Carbonate units mostly contain brown mudflakes subparallel to bedding - clean carbonate bands scarce. Carbonate prob dolomite + calcite as reacts slowly but readily to acid. Carbonate bands 2 - 20cm thick. Brown laminated carbonate-mudstone shale units also react to HCL, mainly along pale laminae. Possible deconsolidation cracks at upper contacts of carbonate + shale bands, plus possible mud flaking from top of shale - concentration of flakes at base of carbonate, decreasing upwards eg @ 490.5m. Soft sediment deformation disrupts bedding between 492.1 to 492.7m. Shale horizons vary from 1cm to 5cm mostly. Scattered fine grained pyrite common in shale bands. Few clots or fractures filled w fg pyrite.	7-12	dolomite + laminated pyritic carbonate-mudstone shale
495.50	510.20		Brown + cream brown	Alternating layers of brown laminated carbonate-mudstone shale to cream-brown fg carbonate w numerous brown mudflakes. No carbonate bands in minor or no mudflakes. Section probably contains more dolomite as much less responsive to HCL, especially in central portion (498.5 to 506.5m). Fine-grained scattered pyrite common in shale. Carbonate horizons have fg quartz - silty. Pyrite also present as blebs, concentrated along fractures or along bedding planes. Some disruption of bedding by soft sediment deformation, mostly near base, below 506.6m - some fragments angular, brittle.	6-10	dolomite + laminated pyritic carbonate-mudstone shale

Drill Log Sheet

TENEMENT: **SEL 26944**

DRILLHOLE ID: **LV09-001**



North
Australian
Diamonds
Limited

Pipe/Prospect: **Leviathan Anomaly**
Logged by: **Gina Rockett**
Date:
Total Depth: **606.20m**

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page **23** of **29**

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10 ⁻⁵ SI units	LITHOLOGY
510.20	513.50		Grey-brown	fine-grained massive carbonate bands alternating in green brown fg carbonate w 2 minor fg grey (silty) + small brown mud plates aligned subparallel to bedding. No true carbonate-mudstone shale horizons, but a couple of narrow finely laminated bands of alternating pale carbonate + brown carbonate-mudstone. All layer types react readily but slowly to HCl. A fracture? infilled w carbonate contains large (5mm) honey yellow blebs overprinting original fabric - non responsive to HCl. ? dolomite or siderite. Bedding disrupted by soft sediment deformation in upper metre.	6-9	dolomite
513.50	517.00		Grey-brown	Interbedded sequences of finely laminated brown carbonate-mudstone shale with grey fg massive carbonate, plus brown green weakly bedded fg carbonate w numerous small to large (2-10mm) brown mud plates aligned subparallel to bedding. Possible desiccation fractures present on upper contacts. Scattered fg pyrite common in shale horizons, less common in carbonate-mudstone layers. Desiccation fracturing noted on upper contacts. Small fractures mostly in shale horizons present from 515.15m. These fractures infilled w crystalline carbonate + prob dolomite as only reacts slowly to acid. Cracks also filled w fg pyrite @ 515.85m.	4-9	dolomite + pyritic laminated carbonate-shale
517.00	520.05		Grey-brown	Unit appears to be comprised of brown carbonate-mudstone shale plus mudplate carbonate + fg massive carbonate similar to above. However unit is strikingly disrupted - looks brecciated in section from 518.6 to 519.3 + 519.7 to 520.05m. The "breccia" appears strongly overprinted by 2° carbonate. However, basal contacts are very sharp on these horizons. Breccia fragments moderately angular, suggests brittle deformation.	6-9	brecciated dolomite + laminated carbonate-mudstone

NB 519.70 to 520.05m - sharp contacts + looks more like large piece of more massive fg carbonate w inclusions

Drill Log Sheet

TENEMENT: 5EL 26944

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gina Rockett
Date:
Total Depth: 606.2 m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 20 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
450.05	455.25		Grey brown + brown	Lithology of unit is same as above but increase in weakly bedded carbonate horizons. Significant difference is increase in dip of bedding to between 20°-30°. Suspect change in dip a sedimentary post deposition effect as sections within unit have dip closer to normal 5-7°. A portion between 454.45-456.70m shows more normal soft sediment deformation features	7-10	pyritic laminated carbonate/ mudstone shale
455.25	462.85		cream grey + brown	Alternating bands of cream grey fg carbonate w minor to common brown mud flakes & finely laminated brown carbonate mudstone shale. Carbonate rich of dolomite & calcite as react readily but slowly to HCl. Scattered fg sulphide common in shale horizons. More shale (5 to 100cm) than weakly bedded carbonate (2-20cm). Soft sediment deformation disrupting layers present between 461.30 to 462.00m	6-12	dolomite + laminated pyritic carbonate mudstone 'shale'
462.85	466.05		cream + brown grey	fg carbonate, weakly bedded, w minor thin (<2cm) bands of brown carbonate shale. Unit comprises alternating bands of massive fg cream carbonate w fg carbonate w scattered brown mud flakes subparallel to bedding & narrow brown laminated carbonate mudstone shale. Scattered fg pyrite common in carbonate & mud flakes & shale horizons. Layering disrupted by soft sed deformation over much of unit. Possible desiccation cracks in top surface of massive carbonate & concentrations of mud flakes - desiccation breccia	8-10	dolomite w minor laminated pyritic carbonate mudstone 'shale'

Drill Log Sheet

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockett
Date:	
Total Depth:	600-20m

TENEMENT: SEL 26946

DRILLHOLE ID: LV09-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 24 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
517.00	520.05	Continued		Fragments vary in size from 2mm to 10cm. Most are angular to subrounded. Fine grained pyrite common in places as blebs or within sediment clasts.		
520.05	528.40		Grey brown	Strongly disrupted, pipe-bedded sequences very similar to above but less brittle-looking breccia features. Looks like 1.5m of sediment deformation. Pieces comprise mostly brown finely laminated carbonate-mudstone shale w/ scatter of pyrite common. Unit much darker colour due to much more sulfide - with pieces & in matrix. Matrix also appears sandy w/ fine quartz. More regular bedding (subhorizontal) btw 524.40 & 525.00m in more massive "normal" fine carbonate at base of section.	6-9	Intraclastic brecciated dolomite + laminated pyritic carb. mudstone shale
528.40	533.10		Brown grey	Strongly disrupted & brecciated sequences of brown finely laminated carbonate-mudstone shale w/ fine grey carbonate (massive) & brown & poorly bedded fine carbonate in fine mudstone flakes. Some pieces are angular, most subang. subround. Matrix seems mostly fine silty carbonate, w/ some xstalline carbonate (calcite) infilling fractures. Section btw 531.3 & 531.95m shows more regular bedding in subvertical fractures filled w/ secondary carbonate (prob calcite)	7-9	as above
533.10	540.00		cream & brown	Very similar to above, but more fine carbonate + mudstone than shale. Bedding strongly disrupted and brecciated. Some large carbonate pieces contain large (7mm) cubic pits ? after pyrite eg. @ 535.8m & 537.05m. Section of fine carbonate btw 537.70m to 537.95m contains lenticular pitting ? after gypsum crystals?	6-9	Intraclastic brecciated dolomite w/ minor laminated carbonate - mudstone shale

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockett
Date:	
Total Depth:	606-20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH
550m	- 89.5°	306.2°

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



Page 25 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
540.00	551.65		cream + grey	Similar to Unit above but only minor brown finely laminated carbonate - mudstone shale. Shale pieces tend to have more cream brown carbonate & less mudstone plus only trace of scattered sulphide. In highly disrupted and brecciated zones, fragments tend to smaller than sequences above and generally sub rounded - fragments mostly 5-20mm. However in places, brecciated fragments large - maybe simply a larger range than above?! Fine-grained pyrite present as blebs & along fractures & along chert boundaries but minor - shows up as "rust spots". Some stylolitic development.	7-9	intraclast brecciated dolomite w/ minor carbonate - mudstone shale
551.65	552.60		grey	Similar to above but brecciation less developed. Unit appears more regular w/ some planar bedding. Stylolite development along boundaries btw different lithologies, eg btw fine to slightly coarser.	6-8	as above
552.60	559.45		grey + cream + brown	Repeating sequences of upwardly-fining grey dolomite. Cycles range in thickness from mostly 5 - 15cm. Between cycles, there commonly is a 10-40mm horizon of brown or cream brown finely laminated very fine dolomite. Contacts btw thin units & graded dolomite are commonly sharp and discordant, either at slight angle eg @ 553.05m or possible desiccation cracking. Fine-grained sulphides along fractures is filled w/ probable calcite (strong reaction to HCl). The v fine-grained tan layers are much less responsive to acid - very slow reaction. Fining upward sequences commonly have 10-20m of coarser more pelletal dolomite - dolarenite. Unit fractured subvertical & $\approx 45^\circ$ to core - fine branching fractures filled w/ calcite crystalline. Few small vugs lined w/ small quartz crystals. Stylolites common w/ ? goethite filling - black. This has "rust" in places giving off stain along stylolite. Overall dip of beds has increased to $15-25^\circ$.	6-8	dolomite + dolarenite

Drill Log Sheet

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockett
Date:	
Total Depth:	606.20m

TENEMENT: SEL 26944

DRILLHOLE ID: LVØ9-001

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



North
Australian
Diamonds
Limited

Page 26 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
559.45	564.25		Grey + brown	Similar to above but only minor tan bands of V fine material. Fining upward sequences are thicker - most being 10-15cm. Basal portion is a pelletal doloparenite grading upwards to dololulite. Top of each sequence marked by narrow band of black fg? Carbonaceous shale/mudstone. Upper contact sharp + commonly stylolitic - filled w goethite. Dololulite sequences commonly have small mudflakes subparallel bedding. Dip of bedding ~ 20°. Unit becomes silty towards base. Carbonate-filled subvertical fractures and bedding parallel.	6-10	Doloparenite + dololulite
564.25	566.40		Grey + brown	Similar to above but sequences thinner - most 2-10cm. Doloparenite portions are finer in grain mostly < 1mm grading upwards to dololulite, and uppermost portion of each sequence marked by black V fine carbonaceous mudstone - much less reactive to acid. Bedding mostly @ 20°. Cross bedding common. Fine mud flakes in doloparenite, but minor. Some possible cross bedding. Doloparenite is silty w fg quartz common.	3-7	doloparenite + dololulite
566.40	569.20		Grey + brown	Mostly doloparenite - still upwardly fining cycles, but less dololulite. Doloparenite is pelletal to some extent. Fine portions are silty. Top contacts sharp and marked by mostly brown Vfg laminated mudstone/shale. Fine mud flakes common in doloparenite, especially in basal portions of sequences. Unit is very coarse (dololulite) between 568.15-568.25m. Cross-bedding present in finer horizons. No stylolite development noted.	4-7	doloparenite + dololulite

Drill Log Sheet

TENEMENT: SEL 26964

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anomaly
Logged by: Gna Kickett
Date:
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 27 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
569.20	574.50		cream-grey + brown	<p>Mainly fining upward sequences of dolarenite + dolomite. Less fq quartz. Less carbonaceous mudstone/shale making upper contacts. Dolomite has more dolomitic textures - very fq, cream brown w/ nodule formation. Some desiccation fracturing at top of dolomite bands.</p> <p>minor stylolite formation, sub parallel to bedding.</p> <p>Between 570.10 to 570.85m - strong brecciation. Matrix is crystalline carbonate with vugs lined w/ quartz crystals and is filled w/ black soft material w/ very high (adamantine) lustre & conchoidal fracture. Looks like obsidian but very soft! Core is pitted at this portion.</p> <p>? bitumen.</p>	6-9	dolarenite + dolomite bitumen in vugs
574.50	579.40		grey + brown	<p>mostly Finning upward sequences of dolarenite + dolomite in interbedded laminated sequences of carbonate shale. Only minor dolarenite at base of sequences. Brown finely laminated carbonate-mud shale bands common (brown). No scattered fq sulfides noted but Fe staining @ core breaks suggests pyrite present.</p> <p>Bedding mostly @ 2-25°</p> <p>Bedding disrupted by network veining blue 575.9 to 576.5m. Finely laminated units show some soft sediment deformation.</p> <p>Basal 2.0m is dolarenite w/ inclusion of brown laminated mudstone + mudflakes. Fq pyrite common as scattered xstals + fq small blebs. Sequence is strongly distorted below 578.95 to 579.3m. Pyrite more common in this section, along fractures & boundary to clasts.</p>	6-9	dolarenite + dolomite + laminated carb-mudstone shale
579.40	583.45		Greybrown	<p>fine-grained silty dolomite w/ small brown mudflakes.</p> <p>slow response to HCl → dolomite</p> <p>massive w/ no discernible laminae or bedding.</p> <p>minor small "bleached" patches w/ similar texture but lighter (crwh) colour - more reactive to acid ? Calcite overprinting.</p> <p>Many of these zones contain fq sulfides eg @ 582.55m.</p>	7-11	silty dolomite

Blebs elongated ? parallel to bedding? Bleached more common towards base.

Drill Log Sheet

TENEMENT: SEL 26 964

DRILLHOLE ID: LV09-001



North
Australian
Diamonds
Limited

Pipe/Prospect: Leviathan Anonymous
Logged by: Gina Rockett
Date:
Total Depth: 606.20m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

Page 28 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10 ⁻⁵ SI units	LITHOLOGY
583.45	590.45		Grey-brown	Similar to above but increased calcitic overprint blebs. Unit displays undulating laminae defined by slight colour changes. Bedding dip is 20-22°. Calcite overprint blebs commonly w/ fg sulphide, increase down unit giving mottled appearance. Carbonate seems to increase in grain size compared to above. ? dolarenite. Pelletal texture discernable. Rock overall has higher calcite content as reactive to HCl. Vugs ~ ? Vugs subparallel to bedding more common & infilled w/ crystalline clear white mineral & soft w/ rhombohedral cleavage. Slow response to HCl - ? dolomite. Minor subround & angular "clasts" include, commonly assoc w/ fg pyrite eg @ 585.25m	6-9	Silty calcitic dololite
590.45	592.90		Brown + cream	Similar to above - silty (fg pyrite) dolarenite w/ calcitic overprint blebs & small vugs and bedding parallel fractures filled w/ crystalline carbonate. From 591.1m, unit also contains subround fragments of coarsely laminated cream + brown dololite. These fragments commonly contain minor scattered fg pyrite. ? soft sediment deformation - probably a slump breccia. Fine grained sulphides common along fractures. Vugs lined w/ well form clear crystals. Soft so probably carbonate. Some vugs also have black shiny & soft plastic mineral - similar to that in vugs betw 570.10 - 570.85m	7-8	Silty calcitic dololite
592.90	606.20 EOH		Grey + brown	Interbedded horizons of dololite + dolarenite, in bands 2-15cm of dololite. Dololite bands tend to be more grey and smoother w/ very little internal structure. More dolarenite bands are either dark brown or more cream, and appear to fine upwards. Dolarenite is pelletal and the dololite horizons have minor	3-8	dololite + dolarenite + dololite

Pipe/Prospect:	Leviathan Anomaly
Logged by:	Gina Rockell
Date:	
Total Depth:	606.2m

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH

DOWNHOLE SURVEY		
DEPTH	DIP	AZIMUTH



Page 29 of 29

FROM (m)	TO (m)	SAMPLE NUMBER	COLOUR	ROCK DESCRIPTION	MAG. SUS. x10-5 SI units	LITHOLOGY
592.90	606.20 EOH	Continued		<p>Scattered vfg pyrite. Bedding has typical dolomitic undulations and wavy form. Overall dip is $\approx 15^\circ$.</p> <p>Below 597.0m, Layering is less regular, with possible nodular development - irregular, but nodulose lenticular zones which seen fri and are more cream brown in colour and tend to react less to HCl.</p> <p>Bands of dolomudite present through out unit - basal contacts normally sharp and planar, w/ upper contact more undulating.</p> <p>Unit comprises large carbonate pellets (22mm) + rounded pieces of pelletal dolocarenite. some horizons have small blebs of fgs. Sulfides shown by "rust" spots.</p> <p>Stylolites are common, mainly forming along lithological boundaries. Stylolites commonly lined w/ goethite - rust like streaks down core but no visible sulfides. Stylolites @ 15 - 30 cm intervals.</p> <p>In places the core is fractured @ steep angle to bedding. Fractures are commonly lined w/ crystalline ? dolomite + fgs sulfides.</p>		