COMPANY: Pacific-Nevada
PROJECT: North Butler
HOLE NUMBER: NB 002

Commenced:	01 December 99
Completed:	10 December 99
Logged By:	L.A.Newnham
Drilled By:	DDT

Purpose of Hole
to test a strong coincident IP and geochemical anomaly in a sequence of sediments and volcanics adjacent to a major NE trending structure cutting the Cape Sorell Peninsula;

Comments on Completion
drill hole intersected a sequence of mafic volcanics overlying a sequence of pyritic sediments including strongly pyritic and graphitic black shales; the only gold of any significance was a 3.0 m section of pyritic siltstones from 218.0-221.0 m., which assayed 0.1 g/t Au;

Collar Details

Grid	Northing	Easting	Elevation	Dip	Bearing
AMG	5307670	364180	2105	-50	0

Length (m)
262.5

Hole Size	
To (m)	Size
3	HW
101.3	HQ
262.5	NQ

Significant Core Loss Zones		
From	To	%Rec.
several	zones	
		see log

Hole Condition on Completion
all casing and rods removed from hole

Summary of Results:

Depth		Recovery	Description	Assays							
From	To	%		Length	ppm Au	Cu	Pb	Zn	%S		
218.0	221.0	100	pyritic siltstone-sandstone	3.0	0.10	204	61	27	>10		

DOWN HOLE SURVEY DATA

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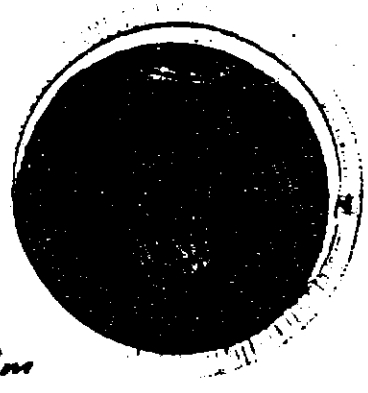
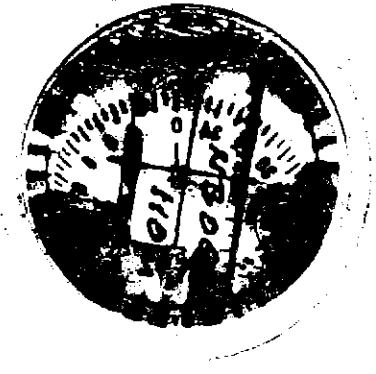
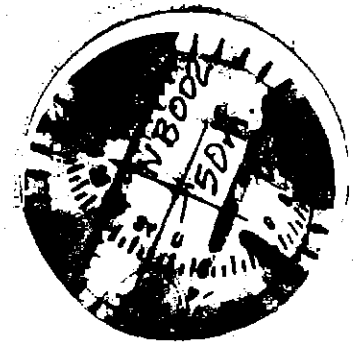
Depth	Dip	Bearing	Interval		Length	Vertical Distance		Horizontal Distance		Co-ordinates			
(m)		(AMG)	From	To	(D)	D.sin dip	R.L.	D. cos dip (HD)	Cumulative HD	N. distance HD. cos brg.	N. co-ordinate	E. distance HD. sin brg.	E. co-ordinate
COLLAR	-50	0					2105.00		0.00		5,307,670.0		364,180.0
0	-50	0	0	25	25	19.15	2085.85	16.07	16.07	16.07	5,307,686.1	0.00	364,180.0
50	-49	2	25	80	55	41.51	2044.34	36.08	52.15	36.06	5,307,722.1	1.26	364,181.3
110	-48	3	80	132	52	38.64	2005.70	34.79	86.95	34.75	5,307,756.9	1.82	364,183.1
154	-48	3	132	181	49	36.41	1969.28	32.79	119.74	32.74	5,307,789.6	1.72	364,184.8
208	-47	8	181	229	48	35.10	1934.18	32.74	152.47	32.42	5,307,822.0	4.56	364,189.4
250	-47	11	229	256.25	27.25	19.93	1914.25	18.58	171.06	18.24	5,307,840.3	3.55	364,192.9
262.5	-47	7	256.25	262.5	6.25	4.57	1909.68	4.26	175.32	4.23	5,307,844.5	0.52	364,193.4
262.5													



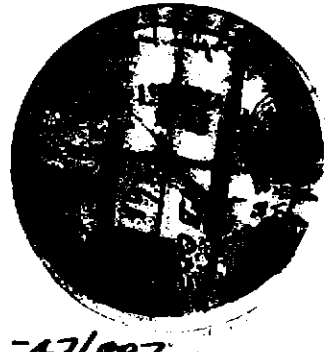
208m
read as -47/008

154m.
read as -48/003

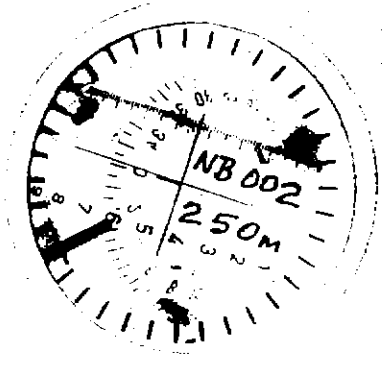




Films of poor quality
but originals readable.



261m.
read as -47/007



20102

COMPANY: Pacific-Nevada
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HOLE NUMBER: NB 002

Description			Core Recovery			RQD			Assays							
From	**To**		**From**	**To**	**%**	**From**	**To**	**%**	**From**	**To**	**Au ppb**	**Cu ppm**	**Pb**	**Zn**	**As**	**% S**
0.0	3.0	HW tricone, no core;	0.0	3.0	0											
3.0	19.4	**DOLERITE or GABBRO:** very weathered light brown-green medium grained gabbro or dolerite; core very broken and weathere with some core loss in clayey sections;	3.0	4.6	95				5.0	6.0	1	92	30	153	<5	<0.1
			4.6	7.6	100											
			7.6	10.6	70				8.0	9.0	<1	83	31	163	<5	<0.1
			10.6	12.1	90											
			12.1	13.0	75				13.0	14.0	<1	30	27	220	<5	<0.1
			13.0	15.8	60											
19.4	31.0	**CATACLASITE (fault breccia ?):** possibly a major brittle (near surface) fault zone; clast sizes highly variable from branule through to boulder size; generally angular and less commonly sub-rounded; clast types fine grained sandstone and possibly amagdaloidal basalts;	15.8	17.0	90				19.0	20.0	<1	151	16	129	<5	<0.1
			17.0	19.4	100											
									23.0	24.0	<1	132	19	60	<5	<0.1
			19.4	20.6	100											
			20.6	23.6	95				28.0	29.0	1	84	16	64	<5	<0.1
			23.6	25.6	90											
			25.6	27.1	85				32.0	33.0	<1	<5	13	61	<5	<0.1
31.0	47.0	**BASALTIC COBBLE BRECCIA:** variable sized clasts of amagdaloidal basalt and siliceous basaltic (?) clasts set in dark fine grained groundmass; clasts angular to sub rounded; base of weathering approx. 32 m;	27.1	27.9	80											
			27.9	28.6	95				35.0	36.0	<1	82	18	64	<5	<0.1
			28.6	29.1	90											
			29.1	29.6	50				38.0	39.0	<1	94	14	68	<5	<0.1
			29.6	31.2	100											
									41.0	42.0	2	225	14	63	<5	<0.1
			31.2	32.7	60											
47.0	69.0	**VOLCANICLASTIC SANDSTONE and GRANULAR BRECCIA INTERBEDS:** distal volcaniclastic (basaltic) sandstone and lithic sandstone; interbedded polymictic breccias; **below 53.5 m:** general increase in volcaniclastic siltstone and sandstone component; BCA 70; minor pyrite often rimming lithic fragments and as selvedges along thin carbonate veins; graded bedding suggests facing up hole; **below 63.3 m:** volcanic component decreases; light brown-gray well bedded siltstone and sandstone; small displacement of beds along microfaults and joint sets; core moderately competent to 62.5 m., then very broken to 66.3 m; BCA 65-70;	32.7	47.0	100				44.0	45.0	<1	46	20	90	<5	<0.1
			47.0	69.0	100				47.0	48.0	4	111	17	90	<5	0.2
									50.0	51.0	2	90	19	84	<5	0.2
									54.0	55.0	4	106	14	102	<5	<0.1
									57.0	58.0	3	67	14	77	<5	<0.1
									60.0	61.0	6	105	15	84	<5	<0.1
									63.0	64.0	<1	74	11	92	<5	<0.1
									66.0	67.0	1	112	15	102	<5	<0.1

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From	To		From	To	%	From	To	%	From	To	Au ppb	Cu ppm	Pb	Zn	As	% S
69.0	77.2	**GABBRO, minor basalt:** dark gray medium grained gabbroic rock with minor basaltic lava component from 69.0-70.0 m;	69.0	77.2	100				69.0	70.0	3	129	22	94	<5	0.4
									73.0	74.0	<1	118	20	123	<5	0.1
									75.0	77.0	<1	82	19	137	10	0.3
77.2	82.2	**VOLCANICLASTIC SEDIMENTS:** finely bedded light gray volcanoclastic siltstone with increasing component of dark gray siltstone towards base; BCA 80-85; 2-3% pyrite as finely disseminated grains, especially in shaley beds and infilling fine joints and fractures, and within thin irregular puggy seams cross-cutting bedding; core moderately competent but still strongly fractured parallel to bedding; principal joint sets 30 and 45 CA;	77.2	82.2	100				79.0	80.0	3	56	12	93	7	0.1
									81.0	82.2	<1	21	18	56	6	1.1
82.2	103.1	**GABBRO:** coarse-medium grained dark gray gabbro; bleached to lighter color in parts; altered /?weathered with pervasive development of green sericite-talc; 1-20 mm. soft carbonate veins common; several generations from 10°-70° CA; vague banding or layering in gabbro 75° CA; disseminated pyrite common in upper half of unit, decreasing down hole; ocassionally concentrated along margins of carbonate veins; some red staining (? hematite) also associated with veins; core moderately competent; most fracturing along carbonate veins; reduced to NQ at 101.3 m;	82.2	103.5	100				82.2	84.0	<1	113	21	110	<5	0.4
									85.0	86.0	<1	101	23	207	<5	0.4
									87.0	88.0	<1	211	23	155	<5	0.1
									89.0	90.0	<1	265	28	98	6	0.2
									91.0	92.0	<1	154	24	300	<5	<0.1
									94.0	95.0	<1	107	24	235	<5	<0.1
									97.0	98.0	3	7	15	31	<5	<0.1
									100.0	101.0	<1	103	17	125	<5	<0.1
103.1	111.4	**FAULT ZONE:** very broken zone of mixed quartzite, gabbro, breccias, pug and rubble; interpreted as significant fault zone, but could also be brecciated margin of gabbro dyke; **103.1-106.3 m:** breccia, pug and quartzite rubble;	103.5	104.2	70											
			104.2	104.8	60				102.0	103.5	1	47	16	58	<5	0.1
			104.8	105.7	65											
			105.7	106.3	85				107.0	108.0	<1	106	23	155	<5	<0.1
			106.3	107.8	100											
			107.8	109.0	95				110.0	111.4	<1	105	18	83	<5	<0.1
			109.0	110.2	90											
			110.2	111.4	100											

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From	To		From	To	%	From	To	%	From	To	Au ppb	Cu ppm	Pb	Zn	As	% S
103.1 continued.....	111.4	**106.3-111.4 m:** gabbro, rubble, pug, minor quartzite;														
111.4	133.5	**PYRITIC CALCAREOUS SILTSTONE, CARBONACEOUS SHALE, LIMESTONE:** interbedded buff brown calcareous siltstone, light gray limestone and carbonaceous shales; abundant carbonate veining; pyritic; **111.4-112.7 m:** medium-light gray calcareous siltstone; several thin carbonate veins; pyritic; broken; **112.7-113.7 m:** black carbonaceous pug and brecciated material; abundant fine pyrite; significant core loss; **113.7-120.9 m:** well bedded light buff brown calcareous siltstone; 117.0 m: 100 mm carbonaceous shale band; BCA 60°; carbonate and quartz-carbonate veining common as thin veins or partings parallel bedding and discordant veins 1-10 mm wide at random angles to bedding; 3-5% pyrite, locally more abundant; generally associated with carbonate veins as heavily disseminated concordant seams, selvedges and coarse clots and aggregates; core moderately competent; most fracturing parallel to bedding; **120.9-121.5 m:** dark gray calcareous siltstone, with white carbonate spots; 1-5 mm white carbonate veins common; 2-3% disseminated pyrite; **121.5-124.1 m:** buff colored pyritic calcareous sediments as for 113.7 m; broken; **124.1-125.0 m:** black carbonaceous shale with abundant pyrite as fine disseminations and large ovoid clots near HW and 20 mm. semi-massive to massive seam near FW; **125.0-133.5 m:** dark gray limey siltstone or silty limestone; stylolitic; white calcite as abundant veins and large crystalline masses; 2-3% pyrite disseminated in limestone but principally concentrated along fractures and	111.4	112.5	90				114.0	116.0	3	<5	<10	16	<5	1.27
			112.5	112.7	100				116.0	117.0	2	<5	<10	13	<5	1.77
			112.7	112.9	50											
			112.9	113.3	50				118.0	120.0	4	<5	<10	15	<5	0.9
			113.3	115.5	100											
			115.5	116.3	90				122.0	124.1	1	9	<10	19	<5	1.1
			116.3	133.5	100				124.1	125.0	163	75	19	26	74	13.2
									127.5	129.0	3	<5	<10	7	<5	0.5
									132.0	133.0	2	6	<10	11	6	0.7

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From	To		From	To	%	From	To	%	From	To	Au ppb	Cu ppm	Pb	Zn	As	% S
111.4 continued.....	133.5	stylolitic surfaces and carbonate vein margins; core moderately competent but some sections very broken along several joint sets; grades into unit below.....														
133.5	145.4	**BLACK PYRITIC CARBONACEOUS SHALE:** black carbonaceous shale; BCA 60-70°; 1-10 mm. carbonate and quartz-carbonate veins common; often convoluted; 5-7% pyrite as seams parallel to bedding, finely disseminated throughout and associated with carbonate veins; 140.5-143.0 m; more abundant (10%) 142.7-143.3 m: pyrite semi massive-massive; core very broken along graphitic bedding planes and several joint sets; 143.7-145.0 m: black pyritic pug with some core loss;	133.5	134.2	100				133.5	135.0	23	29	<10	14	6	1.8
			134.2	134.6	60											
			134.6	136.5	100				137.0	138.0	16	25	<10	13	<5	1.9
			136.5	137.9	60											
			137.9	140.5	100				140.0	141.0	37	36	14	27	32	4.9
			140.5	141.8	80				141.0	142.0	38	47	16	30	41	6.1
			141.8	142.6	100				142.0	144.0	31	68	18	40	230	12.3
			142.6	143.8	85											
			143.8	145.5	60											
145.4	151.1	**CALCAREOUS SILTSTONE or SILTY LIMESTONE:** light gray fine grained calcareous siltstone with abundant thin carbonate veins; 2-3% pyrite disseminated and associated with carbonate veins; similar to 125.0 m..... core extremely broken, little more than rubble;	145.5	146.0	50				149.0	150.0	4	<5	<10	9	<5	0.6
			146.0	146.5	20											
			146.5	146.9	100											
			146.9	148.1	35				152.0	153.0	45	16	<10	14	7	1.7
			148.1	148.7	80											
			148.7	151.1	100				155.0	156.0	19	21	<10	17	17	2.9
									158.0	159.0	23	27	10	15	28	4.3
151.1	187.3	**BLACK PYRITIC CARBONACEOUS SHALE:** black graphitic strongly carbonaceous shale with ocassional thin silty band; 1-5 mm carbonate veining common, ocassionally up to 200 mm. BCA generally 40-50°; 3-5% pyrite common, often 5-10%, as finely disseminated grains in shale; associated with carbonate veins, almost totally replacing the carbonate component as thin contorted semi-massive veins; core extremely soft and very broken along	151.1	153.4	100				161.0	162.0	29	54	23	23	43	7.85
			153.4	154.4	90											
			154.4	162.1	100				164.0	165.0	32	319	27	33	45	7.7
			162.1	162.5	50											
			162.5	163.4	100				167.0	168.0	26	34	17	19	33	5.6
			163.4	163.9	80											
			163.9	174.7	100				170.0	171.0	69	116	21	27	10	8.1
			174.7	175.9	25											
			175.9	176.4	35				173.0	174.0	51	73	32	26	18	6.9
			176.4	177.4	30											
			177.4	177.9	85				178.0	179.0	65	62	28	53	7	6.8

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From	To		From	To	%	From	To	%	From	To	Au ppb	Cu ppm	Pb	Zn	As	% S
151.1	187.3	graphitic bedding planes and joint surfaces;	177.9	179.6	100				181.0	182.0	65	62	25	37	<5	6.3
continued.....		ocassionally reduced to pug and rubble;	179.6	179.9	50											
			179.9	181.3	85				184.0	185.0	43	71	20	33	<5	5.5
187.3	211.4	**CALCAREOUS SILTSTONE, calcite veined and pyritic:**	181.3	182.8	70											
		dark gray medium grained calcareous	182.8	183.2	75				188.0	189.0	10	7	<10	<5	55	0.6
		siltstone; narrow carbonaceous shale bands	183.2	183.9	50											
		in places;	183.9	184.6	60				191.0	192.0	13	<5	<10	<5	25	0.4
		white calcite abundant as anastomosing fine	184.6	185.7	100											
		1-2 mm veins infilling fractures, and as larger	185.7	186.5	75				194.0	195.0	8	<5	<10	<5	21	0.4
		masses and veins to 20 mm;	186.5	187.3	50											
		205.3 m: 600 mm vein calcite and 206.4 m.,							197.0	198.0	6	6	<10	<5	15	0.7
		200 mm. vein;	187.3	207.9	100											
		below 207.8 m: calcite veining abundant,	207.9	209.7	80				200.0	201.0	5	7	<10	<5	19	0.4
		constituting 20-30% of core;	209.7	210.8	100											
		3-5% pyrite as fine pervasive disseminated	210.8	211.4	66				203.0	204.0	4	<5	<10	<5	18	0.4
		grains and larger aggregates; also														
		concentrated along fractures and within							205.0	206.0	4	<5	<10	<5	24	0.4
		carbonate veins;														
		below 210.0 m: pyrite abundant, 5-10%, as							208.0	209.0	4	<5	<10	<5	9	0.6
		veins, fracture infillings and large clots;							209.0	210.0	9	24	18	10	9	3.3
		BCA difficult to determine, but common fine							210.0	211.0	36	89	56	7	27	10.3
		fractures 50° CA, possibly parallel to bedding;														
		ground conditions vary from moderately														
		competent to rubble; strongly fractured along														
		carbonate veins and graphitic surfaces;														
211.4	211.8	**FAULT ??:**														
		unit above juxtaposed against unit below	211.4	211.8	100				211.0	212.0	37	108	54	7	18	15.6
		along a very sharp structure sub-parallel to														
		CA;														
		20-30% pyrite in units either side of														
		structure;							212.0	213.0	72	176	82	13	22	20.2
									213.0	214.0	10	34	17	33	<5	4.3
211.8	222.2	**SILTSTONE-SANDSTONE, fissile and pyritic:**	211.8	222.2	100				214.0	215.0	19	80	31	11	7	11.2
		light-dark gray siltstone, highly fissile; weakly							215.0	216.0	31	168	62	15	13	18.2
		calcareous cement;							216.0	217.0	12	103	26	17	<5	6.3
		BCA 30°;							217.0	218.0	18	71	34	27	<5	7.5
		white calcite as minor veins and irregular							218.0	219.0	65	114	52	26	<5	>10
		masses;							219.0	220.0	91	266	78	31	31	>10
		pyrite abundant, often 20-30%, as 10-50 mm							220.0	221.0	118	234	52	23	26	>10
		seams parallel to bedding, disseminated in							221.0	222.0	80	45	26	17	<5	6.9

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From	**To**		**From**	**To**	**%**	**From**	**To**	**%**	**From**	**To**	**Au ppb**	**Cu ppm**	**Pb**	**Zn**	**As**	**% S**
211.8 continued.....	222.2	matrix of sandy-gritty sections and abundant finely disseminated in more carbonaceous sections; core very broken as thin slithers along bedding plane fractures;														
222.2	222.3	**FAULT ??:** narrow light gray siliceous breccia; sharp contact with unit above; unobserved contact with unit below;														
222.3	239.6	**CALCAREOUS and PYRITIC SILTSTONE, minor carbonaceous shale:** dark-light gray siltstone with siliceous bands in places; significant fine grained calcareous component; **222.3-224.3 m:** very broken black carbonaceous and pyritic siltstone; **224.3-229.4 m:** well bedded siltstone; BCA 70°; 1-10 mm carbonate veins common, especially near top of unit; 5-10% pyrite mainly in massive and semi-massive bedding conformable seams and to a lesser extent associated with carbonate veins; **229.4-231.2 m:** similar to unit above but several 100-200 mm siliceous bands with quartz filled tension gashes and veining; (some of these siliceous seggregations have appearance of fossil shell sections??? , parallel to CA , that is, perpendicular to bedding); 3-5% pyrite as thin contorted seams infilling irregular fractures, as large clots of finely disseminated pyrite; gradational with.... **231.2-239.6 m:** similar to 224.3 m., but less carbonate veining; BCA 70°; 5-10% pyrite, principally as bedding parallel seams 1-5 mm wide; overall, core moderately competent; most fractures parallel to bedding;	222.2	223.0	100				222.0	223.0	21	37	<10	20	<5	5.3
			223.0	223.5	75											
			223.5	223.9	50				224.0	225.0	32	78	38	19	12	8.7
			223.9	232.7	100				225.0	226.0	7	22	<10	20	16	2.1
			232.7	233.5	40				226.0	227.0	22	60	<10	23	<5	7.7
			233.5	239.6	100											
									229.0	230.0	7	19	<10	17	<5	4.3
									231.0	232.0	4	8	<10	49	<5	2.1
									234.0	235.0	4	39	<10	<5	<5	3.5
									235.0	236.0	8	94	<10	10	<5	6.4
									237.0	238.0	10	23	<10	11	<5	2.9

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Description			Core Recovery			RQD			Assays							
From	To		From	To	%	From	To	%	From	To	Au ppb	Cu ppm	Pb	Zn	As	% S
239.6	259.6	**BLACK SHALES, carbonaceous and pyritic:** black highly carbonaceous and graphitic and pyritic shales with ocassional thin calcareous siltstone and sandstone interbeds; conformable with unit above; BCA 65-70°; carbonate common as thin irregular veins; **254.0-255.9 m:** light brown sandy bed; below 255.9 m: bedding flattens to 20-30° CA; 3-5% pyrite, principally as very fine pervasive disseminations in shales, and to a lesser extent as thin seams along carbonate filled fractures and veins; core is very broken, especially in more graphitic sections; most fracturing along bedding planes;	239.6	242.0	100				240.0	241.0	14	24	<10	6	17	2.3
			242.0	243.0	70				241.0	242.0	21	69	<10	30	19	2.4
			243.0	244.9	95											
			244.9	245.8	45				244.0	245.0	30	37	<10	23	<5	2
			245.8	250.3	100											
			250.3	251.0	50				246.0	247.0	11	22	<10	30	11	1.3
			251.0	251.8	90											
			251.8	252.9	90				248.0	249.0	27	35	<10	21	<5	2
			252.9	258.8	100											
			258.8	259.4	65				250.0	251.0	12	23	<10	15	<5	1.7
									251.0	252.0	16	8	<10	10	<5	0.7
									252.0	253.0	21	20	<10	24	<5	1.9
									255.0	256.0	11	21	<10	28	<5	3.6
									258.0	259.0	68	19	<10	22	<5	3.9
259.6	261.8	**FAULT ZONE ???** dark gray-black breccia and pug zone; clastic fragments of quartz, sandstone, shale set in very soft carbonaceous black clay/pug; some quartz veining near base; abundant pyrite as fine-coarse grains, aggregates and thin veinlets; core very soft and broken;	259.4	260.6	100											
			260.6	262.0	45				259.5	261.0	46	23	<10	22	<5	5.1
									261.0	262.5	20	40	<10	23	<5	3.8
261.8	262.5	**PYRITIC SANDSTONE and GRIT:** dark gray speckeled sandstone-grit; BCA 70°; <1 mm. carbonate veins common; 3-5% pyrite as disseminated grains and thin stringers; core very broken;	262.0	262.5	100											
		END OF HOLE														