PROJECT: NiMo

PROPERTY: DEER

HOLE: DDH-REN08-29

Easting	Northing	Elev.	Depth (m)
637428	7179953	1375	148.44

Contractor: Orofino
Drill: Zinex A5 B20

SURVEY

Depth (m)	Azimuth	Dip	Method	Depth (m)	Azimuth	Dip	Method
148.44	0	-65					

Core size: HQ/NQ
Cassing depth: (m) out

Drilling dates: May 30 to June 2, 2008

Logged by: D. Gregory

Target: NiMo horizon at contact btwn DMe and OSr

SUMMARY

From (m)	To (m)	Interval	Unit	Coments
0	82.96	DMe	82.96	
82.96	84.93	DMe	1.97	Barium carbonate horizon
84.93	148.44	Osr	63.51	

SAMPLES

Numbers: C491959-C491962

Total: 4
Date sent: June 4, 2008

COMMENTS

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Struct.		LITHOLOGY								ALT.			MINERALS				SAMPLES							Blocks			GEOTECHNICAL						JOINTS					
																											REC		RQD									
Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
v	61	0	16.99	16.99		DMe			dark grey cherty siltstone with minor quartz stringers (max 1 mm) with minor yellow (jarosite) on rare fractures.	w clay														0.00	9.75	9.75	0.25	2.56	0.00	0	VW	W						
																								9.75	11.28	1.53	0.81	52.9	0.23	15	VW	W						
																								11.28	12.80	1.52	0.66	43.4	0.00	0	VW	W						
																								12.80	14.35	1.55	0.67	43.2	0.00	0	VW	W						
																								14.35	15.85	1.50	0.66	44	0.34	23	VW	W	1	60	2	2		
v	37	16.99	17.78	0.79		DMe			light-med grey calcareous siltstone interbedded with oolitic texture in last 21 cm of interval (1 mm diameter oolites), oolites are ~30% of this part of the interval. Minor calcite veins (~3% of interval) erratic usually <1 mm wide but can be up to 2 mm. Minor limonitic stain on fractures.															15.85	17.37	1.52	1.29	84.9	0.72	47	MW	W						
v	8																																					
		17.78	23.64	5.86		DMe			dark grey cherty siltstone with minor erratic quartz stringers with minor yellow stain on fractures and minor yellow stain on fractures. t clay alt at beginning of interval and mod at end	t -> mod clay															17.37	18.90	1.53	1.31	85.6	0.42	27	MW	W	1	80	2	2		
																								18.90	20.42	1.52	1.37	90.1	0.92	61	MW	W	2	65	2	3		
																								20.42	21.95	1.53	1.32	86.3	0.87	57	MW	W	2	65	2	2		
																								21.95	23.47	1.52	0.97	63.8	0.10	6.6	MW	W	2	60	2	2		
		23.64	23.94	0.3		DMe			series of 3 quartz veins 5, 1.5 and 1.5 cm wide at 23.66, 23.78 and 23.92 m respectively. Milky white and massive. The 5 cm vein is slightly glassy with 1x4 mm milky white lathes. Area between main vein contains ~10% stringer veins connecting 3 main veins together. Minor limonization along veins and dark green discolouration (chloritization or serpentinization?) of dark grey cherty siltstone host rock.															23.47	24.49	1.02	1.00	98	0.41	40	MW	W	1	50	2	2		
bed	84	23.94	33.93	9.99		DMe			dark grey cherty siltstone with minor erratic quartz veining with mod limonite within the veins and t yellow stain on fractures 28.76-29.38 m contains ~2% quartz veining with limonitic stained quartz veins @ 4 degrees and 1-2 mm 1-2 mm wide. 30.97-31.22 28% med-dark grey interbeds. ~5-10 cm wide beds.	t-w clay															24.49	26.52	2.03	0.80	39.4	0.31	15	MW	W	1	80	3	3		
v	4																							26.52	28.04	1.52	0.94	61.8	0.00	0	MW	W						
v	27					DMe			@ 32.46 m a 1 cm wide white vein with limonite on the margins.															28.04	29.57	1.53	1.01	66	0.21	14	FR	W	1	60	2	2		
																								29.57	31.09	1.52	1.28	84.2	0.72	47	FR	W	1	50	2	2		
																								31.09	32.61	1.52	1.27	83.6	0.63	41	FR	W	1	50	2	2		
																								32.61	34.14	1.53	1.27	83	0.36	24	FR	W	7	50	3	3		

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Struct.		LITHOLOGY								ALT.			MINERALS				SAMPLES							Blocks			GEOTECHNICAL						JOINTS					
																											REC		RQD									
Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
		33.93	36.58	2.65		DMe			dark grey cherty siltstone with minor erratic limonitic quartz stringers. Calcite veins occur @ 34.04 m (1.5 cm wide @ 35 degrees); @ 34.32 m (2 cm wide @ 26 degrees); @34.88 m (0.5-0 mm pinch and swell vein @ 34 degrees) @ 35.36 m (5 cm @ 42 degrees - breccia with 20 % angular 2-5 mm dark grey cherty siltstone clasts) @ 36.40 m a 0.5 cm wide quartz vein @ 61 degrees and @ 36.59 m a 0.6 cm wide quartz vein @ 41 degrees.																			34.14	35.66	1.52	1.20	78.9	0.40	26	FR	W	1	50	2	2	
		36.58	39.16	2.58		DMe			dark grey cherty siltstone with minor forest green stain on fractures. Rare 1 mm wide quartz veining with minor limonite. Most of interval broken into pebble sized pieces or smaller. Rare 10 cm sticks.															35.66	37.18	1.52	0.74	48.7	0.44	29	FR	W	1	60	2	2	
		39.16	39.3	0.14		DMe			First 7 cm are calcareous breccia ~90% white -> light pink calcite clasts within a med to dark grey matrix. Next is nearly massive calcite with rare grey matrix stringers filling erratic fractures in the calcite. At bottom of interval subrounded calcite clasts 2 mm x 3 mm -> 1cm x 1cm with dark grey matrix. Clasts not aligned.															37.18	38.71	1.53	0.88	57.5	0.40	26	FR	W					
		39.3	40.15	0.85		DMe			quartz breccia with ~ 70% dark grey cherty siltstone clasts ranging from 1 mm x 1 mm angular clasts to 6x3 cm clasts. Matrix is limonitic fine grained quartz.															38.71	40.23	1.52	0.80	52.6	0.15	9.9	FR	W	1	60	2	2	
		40.15	40.6	0.45		DMe			dark grey cherty siltstone with minor thin erratic quartz vein and rare 3 mm wide erratic (but usually ~ 30 degree) calcite veins. (~4%)															40.23	41.75	1.52	0.80	52.6	0.22	14	FR	W					
		40.6	43.98	3.38		DMe			dark grey cherty siltstone with rare yellow stained thin quartz veinlets v. heavily fractured range from no clay alt at beginning of interval to s clay alt. by end of int.															41.75	43.28	1.53	0.16	10.5	0.00	0	FR	W					
		43.98	44.09	0.11		DMe			white massive calcite vein with minor pinkish hue and t. limonitic stain on margins of vein.															43.28	44.81	1.53	0.63	41.2	0.20	13	FR	W					
		44.09	55.89	11.8		DMe			dark grey cherty siltstone with 1% quartz stringers with minor calcite to 46.02 m. t. limonite stain on fractures. @ 54.76 a 2x3 cm limonite clot.															44.81	46.33	1.52	1.37	90.1	1.29	85	FR	W	1	50	2	2	
																								46.33	47.85	1.52	1.14	75	0.62	41	FR	W	1	60	2	2	
																								47.85	49.38	1.53	1.23	80.4	1.02	67	FR	W	1	60	2	3	
																								49.38	50.90	1.52	1.21	79.6	0.55	36	FR	W	2	50	2	3	
																								50.90	52.43	1.53	1.13	73.9	0.75	49	FR	W	2	50	3	3	
																								52.43	53.95	1.52	1.12	73.7	0.66	43	FR	W	2	60	3	3	
																								53.95	55.47	1.52		0		0							

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Struct.		LITHOLOGY								ALT.			MINERALS				SAMPLES							Blocks			GEOTECHNICAL						JOINTS					
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Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
		55.89	56.84	0.95		DMe			dark grey cherty siltstone with 1% quartz stringers erratic but generally 70-80 degrees. 56.54-56.62 m med grey calcareous horizon.															55.47	57.00	1.53	1.32	86.3	0.98	64	FR	W	1	50	3	3		
		56.84	58.7	1.86		DMe			dark grey cherty siltstone with minor erratic calcite veining. @58.21 m 1 cm wide calcite vein with minor angular dark grey clasts and minor limonite on edges of vein	w clay														57.00	58.52	1.52	1.34	88.2	0.20	13	FR	W	2	60	3	3		
		58.7	60.87	2.17		DMe			dark grey cherty siltstone with t. erratic calcite stringers.															58.52	60.05	1.53	1.30	85	0.47	31	FR	W	2	50	3	3		
bed	64	60.87	62.98	2.11		DMe			med grey calcareous siltstone with t. erratic calcite stringers, generally ranging from 10-20 degrees															60.05	61.57	1.52	1.49	98	1.24	82	FR	W	2	50	2	3		
																								61.57	63.09	1.52	1.43	94.1	1.07	70	FR	W	2	50	2	3		
		62.98	69.58	6.6		DMe			dark grey cherty siltstone with t erratic limonite stained quartz veinlets; generally dip ~20 degrees. Minor limonite +/- jarosite stain on fractures @64.90 m a 6x4 cm angular med, grey siltstone clast with calcite stringers @ 58 degrees across clast last 25 cm contain vertical calcite veins/stringers ~2% of rock. 1 main vein 6 mm wide with minor limonite stain, rest very thin stringers trend ~75 degrees.															63.09	64.62	1.53	1.21	79.1	0.43	28	FR	W	2	60	3	3		
																								64.62	66.14	1.52	1.94	128	0.37	24	FR	W	1	50	3	3		
																								66.14	67.67	1.53	1.20	78.4	0.50	33	FR	W	1	50	3	3		
																								67.67	69.20	1.53	1.01	66	0.31	20	FR	W						
		69.58	70.71	1.13		DMe			med -> dark grey siltstone calcareous with rare v. thin calcite stringers, slightly erratic but tend to be ~45 degrees.															69.20	70.71	1.51	0.93	61.6	0.71	47	FR	W						
		70.71	74.03	3.32		DMe			Dark grey cherty siltstone with minor limonitic stain on fractures															70.71	72.24	1.53	0.58	37.9	0.73	48	FR	W						
v	76	74.03	74.34	0.31		DMe			Med grey calcareous mudstone with ~2% calcite veins, @ 16 degrees 1-2 mm wide @14 degrees <1 mm wide ~ equal quantities of each.															72.24	75.29	3.05		0		0								
v	16																							75.29	78.33	3.04	1.15	37.8	0.26	8.6	FR	W	1	50	2	3		
v	68	74.34	82.96	8.62		DMe			v. heavily ground-up (~ pea sized) non-calcareous dark grey siltstone with minor limonitic stain. A few pieces of stick core with rare near vertical (80-90 degree) quartz veins up to 4 mm wide though dips somewhat erratic and can be as low as 70 degrees. @81.08 m an 11 mm wide calcite vein @ 68 degrees with limonite on the margins incorporating ~10 % angular 1x3 mm dark grey siltstone clasts. @81.10 m a 6 mm wide limonititic horizon dipping 68 degrees incorporating ~15% angular 1x3 mm dark grey siltstone clasts (resembles calcite vein @81.08 m but with higher sulphide content than last vein.	m-s clay alt							81.96	82.96	1.00	C491959				78.33	81.38	3.05	0.48	15.7	0.00	0	FR	W						

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Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
bed	66	82.96	84.93	1.97					light -> med grey barium carbonate bedded with alternating light->med grey horizons and thin med->dark grey horizons 27 cm are weakly brecciated with ~80% angular->subangular light->med grey micrite clasts in a dark grey calcareous matrix. Minor limonitic stain on fractures. Here clasts tend to start ~ 1x3 mm and get progressively larger with depth until breccia completely disappears. Beds are slightly wavy indicating minor soft sediment def. Last 6 cm of interval beds appear to be slightly broken-up (into 0.5 mm x 2 mm pieces) possibly indicating minor bioturbation. Interval ends with a 6 m wide limonitic bed with same dip as bedding, minor 1x1 mm pyrite casts.								82.96	83.96	1.00	C491960				81.38	84.43	3.05	1.10	36.1	0.26	8.5	FR	W	1	50	2	2	
bed	66																83.96	84.93	0.97	C491961																	
bed	69	84.93	98.13	13.2		OSr			dark grey->black mildly to mod calcareous siltstone mod hardness with rare calcite veins ~1 mm thick. Mildly limonite stained, erratic but generally steeply dipping (70-80 degrees) but occasionally flatten out. 86.38-86.98 m v. heavily broken. From 93.03 m to 94.50 m parallel calcite vein ~5 mm apart dip 10-15 degrees and have a series of thin calcite veins linking them together, ~20% of the rock between these veins is calcite stringers.								84.93	85.93	1.00	C491962				84.43	87.48	3.05	1.79	58.7	0.39	13	FR	W	1	60	2	3	
																								87.48	90.53	3.05	2.81	92.1	1.42	47	FR	W	2	60	2	3	
																								90.53	93.57	3.04	2.34	77	0.42	14	FR	W	12	76	2	3	
																								93.57	96.62	3.05	2.92	95.7	0.54	18	FR	W	20	74	2	3	
																								96.62	99.67	3.05	2.85	93.4	0.98	32	FR	W	14	81	2	3	
bed	76	98.13	99.85	1.72		OSr			dark grey mod -> hard slightly carbonaceous siltstone non-calcareous with extensively limonite stained calcite veins. Veins range in size from <1mm to 7 mm and occur erratically through-out interval making-up ~4% of the total interval. The wider veins tend to be shallow dipping (though can range up to 70 degrees) with erratic thin veins shooting off of them at vertical to near vertical dips. Veins occur at highest frequencies between 98.53-98.70; 99.33-99.50 and 100.78-101.22 m. In these zones veining can be up to 35% of rock.															99.67	102.72	3.05	2.67	87.5	1.32	43	FR	W	8	60	2	3	
v	70 to 80																							102.72	105.77	3.05	2.59	84.9	0.00	0	FR	W	17	64	2	3	

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Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
		99.85	106.2	6.36		OSr			dark grey mod->hard slightly carbonaceous siltstone slightly carbonaceous +/- slightly calcareous. 1-2% steeply dipping calcite veins with minor limonitic stain. Veins vary from 6 mm -> <1 mm wide and dip @ 70-80 degrees. Calcite is milky and fine grained and incorporates ~3% angular wall rock clasts up to 5x5 mm. 104.18-104.74 m is where largest calcite vein occurs, here vein is v. near vertical and is 5 mm wide through-out with minor pinch-swell habit.																												90				
bed	69	106.2	116.6	10.41		OSr			dark grey mod hardness calcareous slightly carbonaceous siltstone. Heavily fractured (most broken to pebble sized pieces) in last half of interval. Minor calcite stringers up to 1 mm wide with dips ranging from 30-70 degrees and t pale yellow stain on some fractures.								105.77	108.81	3.04					2.65	87.2	0.44	14	FR	W	12	60	2	3	
																								108.81	111.86	3.05	2.28	74.8	0.32	10	FR	W	25	45	2	3	
																								111.86	114.91	3.05	2.62	85.9	0.11	3.6	FR	W	>50	70	2	3	
bed	68	116.6	121.2	4.55		OSr			dark grey mod hardness calcareous slightly carbonaceous siltstone. Up to 1% calcite veins, predominantly <1 mm wide but rarely up to 4 mm wide ~20% of the time are limonite stained (most common at beginning of interval). Veins are most commonly steeply dipping and erratic but 20% of the time are dipping ~70 degrees (along bedding?). Most significant zones of veining are the 1st 93 cm of the interval, the last 15 cm and between 119.85 and 120.16 m. The later has a 1.7 cm wide pinkish calcite vein in the centre of it dipping 33 degrees.								114.91	117.96	3.05					2.60	85.2	1.63	53	FR	W	10	60	2	3	
																								117.96	121.01	3.05	2.74	89.8	0.81	27	FR	W	10	64	2	3	
		121.2	127.8	6.65		OSr			dark grey mod hardness calcareous slightly carbonaceous siltstone with ~0.5% calcite stringer veins generally dipping ~70 degrees but range up to 90 degree dip. ~10-15% of interval is slightly lighter coloured siltstone more calcareous layers often associated with brownish stain (pyrite?). Bedding difficult to determine. Minor gypsum on fractures. Mod->s clay alt from 124.98-125.99 m.								121.01	124.05	3.04					2.72	89.5	1.08	36	FR	W	11	81	2	3	
																								124.05	127.10	3.05	2.83	92.8	0.62	20	FR	W	15	77	2	3	

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Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
bed	71	127.8	148.4	20.62		OSr			med->dark grey calcareous siltstone with 1-2% 1-3 mm wide calcite veins are parallel / sub-parallel to bedding ~60% of the time but in areas of higher concentration some veins some occur at much steeper angles ranging up to vertical dip. The zones of higher vein density tend to decrease in size with depth but the veins themselves increase in size up to 1 cm thick. At the beginning of the interval high vein density zones tend to be 1.5 m long separated from each other by 1 m sections of low vein density; nearer the end of the interval the high vein density zones are 50-100 cm wide and separated by 2 m long low vein density zones.																			127.10	133.20	6.10	2.91	47.7	1.31	21	FR	W	10	79	2	3	
bed	76								143.29-143.99 m beige clay fills fractures that run erratically near vertical up the core.																														
bed	82								133.40-133.47: ~1% brown flecks, possibly altered pyrite(?) parallel to bedding in the core.																														
																								133.20	136.25	3.05	2.91	95.4	2.31	76	FR	W	5	63	2	3	
																								136.25	139.29	3.04	2.76	90.8	1.79	59	FR	W	9	76	2	3	
																								139.29	142.34	3.05	2.94	96.4	2.09	69	FR	W	7	76	2	3	
																								142.34	145.39	3.05	2.84	93.1	1.55	51	FR	W	7	73	2	3	
																								145.39	148.44	3.05	2.91	95.4	1.05	34	FR	W	13	73	2	3	