

Date: 3-6-2010

DDH: LNG-001-2010

CARDERO IRON ORE

Logged by: CRW

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Total feet: 794

SITE P1 - AZ: 315° - DIP: -45°

Interval		Depth		Lithology	Texture		Silicate Mineralogy					Comments	Total Sulfides	Total Oxide	Alteration		
Maj	Sub	From	To		Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
X		0	64									OVERBURDEN - MIXED INCH SIZED GRAVEL, + + + TRUCTCLITE BOULDERS					
X		64	152.5	T	WK-HET	IG	69	4	25	tr	—	WEAKLY HETEROGENEOUS, MEDIUM- GRAINED, TRUCTCLITE; INTERGRANULAR CP TO LOCALLY POIKILITE, MOD-TO-LW MAGNETIC. NUMEROUS FRACTURES COATED W/ SERPENTINE, INDINGSITE, + + + (white, powdery) 30°-60° TO CORE AXIS: NUMEROUS ZONES OF (OUT) OXIDE FELDSPATHIC PERIDOTITE AS outlined below: ↓ contact	trace	1-2% MAG	IDG	ST	PERVASIVE
X		71	82	OX-FPR	WK-HET	IG	15	2	58	tr	—	WK-HET, CS-SR, OXIDE FELDSPATHIC PERIDOTITE, ↑ contact SHARP; ↓ contact GRADATIONAL OVER ~1 foot; zone INCLUDES SEVERAL TALC-FILLED FRACTURES		25% MAG+ILL	IDG	ST	PERVASIVE
X		91.7	102.3	OX-MT	HET	IG	29	15	49	tr	—	HETEROGENEOUS, MED-SR-to- PEG (Cpx): OXIDE MELANOCRISTITE ↑ + ↓ contacts GRADATIONAL OVER ~6 INCHES		70% MAG+ILL	IDG	ST	PERV
X		111.5	118.5	OX-FPR	WK-HET	IG	12	8	55	tr	—	WEAKLY HET; CS-SR-to-PEG, OXIDE FELDSPATHIC PERIDOTITE, MOD-TO-ST MAGNETIC; ↑ + ↓ contacts SHARP		25% MAG+ILL	IDG	ST	PERV



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Maj	Sub	From	To	Lithology	Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
	X	119	125	OXMT	HET	IG	29	14	47	tr	—	HETEROGENEOUS, CS-GR, OXIDE MELTROCTANTS, ST-MOD-MAGNETIC (FN-GR) ↑+↓ CONTACTS SHARP	tr-CP	100%	IDG	ST	PERV
	X	150.5	152	OXFPR	Hom	IG	19	4	67	tr	—	HOMOGENEOUS, CS-GR, OXIDE FELDSPATHIC PERIDOTITE, MOD-MAGNETIC; ↑+↓ CONTACTS SHARP	tr-CP	100% MAG	IDG	ST	PERV
	X	152	165.5	OXFPR	HET	IG	19	4	62	—	—	HETEROGENEOUS, CS-GR, OXIDE FELDSPATHIC PERIDOTITE - INTERMIXED w/ MED-CS-GR TROCTOLITE; APPEARS AS A VERY GRADATIONAL/HETEROGENEOUS CONTACT ZONE ABOVE THE MAIN "OVI" BODY - ST-MAGNETIC, SHARP to GRADATIONAL INTERNAL CONTACTS NUMEROUS TALL COATED/FILLED FRACTURES @ 30°-60° to CORE AXIS	tr-CP (FN-GR)	15% MAG+ILL	IDG	ST	PERV



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Maj	Sub	From	To	Lithology	Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
X		165.5	289	OXFPR	HOM	IG	12	5	57	tr	—	HOMOGENEOUS, CS-GR, OXIDE FELDSPATHIC PERIDOTITE; ST-MAGNETIC; SULFIDES; FINE-GRAINED, DISSEMINATED THROUGHOUT, CP 77PO; OXIDES FAIRLY EVENLY DISPERSED, LOCALLY OCCURRING AS CLUMPS/CLOTS; CONTAINS NUMEROUS TALC/CHLORITE (2mm - 1cm THICK) FILLED FRACTURES LOCALLY DISPLAYING OBLIQUELY ORIENTED SUCKENSIDES; FRACTURES ORIENTED 30°-90° TO CORE AXIS; ↓ CONTACT ABRAPT OVER ~3 INCHES	10% CP 77PO	25% MAG+ILL	IDG SERP	ST ST	PERV LOCAL
X	231	244.5	50X	HOM	IG	5	5	44	tr	—		HOMOGENEOUS, CS-SR; SEMI- MASSIVE OXIDE, ST MAGNETIC, SAME AS MAJOR INTERVAL, BUT LESS PLAG + MORE OXIDE, CONTACTS GRADATIONAL OVER ~1 FOOT	10% CP 77PO	45% MAG+ILL	IDG + SERP	ST	PERV
X		289	327	T	HOM	IG	69	4	22	1	—	HOMOGENEOUS, MED-GR, troctolite, MOD-TO-LWK-MAGNETIC; NUMEROUS TALC + CALCITE + CHLORITE FILLED FRACTURES 30°-45° TO CORE AXIS 2-mm to 1cm THICK; ↓ CONTACT SHARP	rare CP 77PO	4% MAG	IDG SERP	ST MOD	LOCAL LOCAL



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Interval		Depth		Lithology	Texture		Silicate Mineralogy					Comments	Total Sulfides	Total Oxide	Alteration		
Maj	Sub	From	To		Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
X		327	342	OXDX	HGT	IG	7	38	35	tr	—	HETEROGENEOUS, PEGMATIC, OXIDE PYROXENE; STRONGLY MAGNETIC; ↓ contact GRADATIONAL OVER ~2 FEET.	tr CP77PO	200% MAG+ILL	IDG SERP	ST ST	PERV LOCAL + VEINING
															SAUS	ST	PERV
X		342	390.3	OXFPR	WL-HET	IG	15	7	53	tr	—	WEAKLY HETEROGENEOUS, OXIDE FELDSPATHIC PERIDOTITE; MOD-to-ST-MAG; NUMEROUS TALC+CALCITE+CHLORITE FILLED FRACTURES; ORIENTED 30-60° TO CORE AXIS 2mm - 1cm THICK; ↓ contact SHARP	10% CP77PO	25% MAG	IDG SERP	ST ST	LOCAL LOCAL + VEINING
															LOCAL MOD CHLOR		LOCAL PATCHY
															SAUS	MOD	PERV
X		390.3	393	T	Hom	IG	68	4	24	tr	—	HOMOGENEOUS, MED to CS-GR, TROCTOLITE; STRONGLY to MODERATELY MAGNETIC ↓ contact SHARP, IRREGULAR	rare CP77PO	4% MAG	SERP SAUS	WK ST	PERV PERV PATCHY
X		393	512	OXPR	WL-HET	IG	7	5	57	tr	—	WEAKLY HETEROGENEOUS, CS-GR, OXIDE PERIDOTITE, ST-MAG, SULFIDE MINZ FN-GR, DISSEMINATE THROUGHOUT, OXIDE MINZ DISSEMINATED to CLUMPY/CLOTTY to 1% FADE IN to LOCALLY FROM ~15% to ~70%; ↓ contact GRADATIONAL OVER ~2 FEET	10% CP77PO	30% MAG+ ILL	IDG SERP	ST ST	LOCAL LOCAL to PERV



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Maj	Sub	From	To		Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
X		512	522	SOX	Hom	IG	2	2	51	tr	—	HOMOGENEOUS, CS-GR, SEMI-MASSIVE OXIDE, ST-MAGNETIC OXIDES DISSEMINATED TO CLUMPY; ↓ CONTACT GRADATIONAL OVER ~1 FOOT	rare cp	45% MAG+ILL	SERP	MOD	PATCHY
X		522	573.5	MOX	Hom	IG	1	1	8	—	—	HOMOGENEOUS, CS-GR, MASSIVE OXIDE, STRONGLY MAGNETIC; NUMEROUS CALCITE FILLED FRACTURES - GENERALLY 45-60° TO CORE AXIS & 1-4 mm THICK; ↓ CONTACT GRADATIONAL OVER ~2 FEET	rare cp	90% MAG+ILL	SERP + IDG	ST	LOCAL + PATCHY
X		573.5	594.5	SOX	Wk-Het	IG	1	13	6	—	—	WEAKLY HETEROGENEOUS, CS-GR; SEMI-MASSIVE TO MASSIVE OXIDE; STRONGLY MAGNETIC; OXIDES DISSEMINATED TO CLUMPY/CLOTTY ↓ CONTACT ABRUPT OVER ~4 INCHES	rare cp	80% MAG + ILL	IDG	ST	LOCAL
X		594.5	711.5	OXFEX	Wk-Het	IG	12	58	2	tr	—	WEAKLY HETEROGENEOUS, CS-GR to PEGMATITIC; OXIDE FELDSPATHIC PYROXENITE; STRONGLY MAGNETIC, OXIDES GENERALLY OCCUR AS PEGMATITIC CLUMPS & CLOTS, BUT LOCALLY OCCUR AS MED-TO-FIN-GR DISSEMINATIONS; ↓ CONTACT ABRUPT TO GRADATIONAL OVER 0.5-1.0 FEET.	rare cp	30% CHOR + GRAN	CHOR + GRAN	MOD	LOCAL + PATCHY

CONTAINS NUMEROUS RESTRICTED  
 ZONES OF MASSIVE OXIDE AS  
 OUTLINED BELOW



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Maj	Sub	From	To		Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
	X	618.7	618.4	MOX	Hom	IG	1	2	2			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS ABRUPT OVER ~ 1 INCH		950/0 MAG+ILL			
	X	619	619.5	MOX	Hom	IG	2	3	2			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS ABRUPT OVER ~ 1 INCH		930/0 MAG+ILL	CLUSTER + CLUSTER	MOD	LOCAL
	X	622	623.5	MOX	Hom	IG	1	3	2			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS ABRUPT OVER ~ 4 INCHES		960/0 MAG+ILL			
	X	626.3	637.3	MOX	Hom	IG	1	3	1			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS ABRUPT OVER ~ 2 INCHES		950/0 MAG+ILL			
	X	643.6	645.8	MOX	Hom	IG	2	5	2			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS GRADATIONAL to ABRUPT OVER ~ 6 INCHES		910/0 MAG+ILL	IDG	ST	LOCAL
	X	648.5	649.5	MOX	Hom	IG	2	5	2			HOMOGENEOUS, CS-GR, MASSIVE OXIDE; ST-MAG; CONTACTS GRADATIONAL to ABRUPT OVER ~ 6 INCHES; IDDINGITE + SERPENTINE COATED FRACTURE @ 649' - ROUGHLY 20-25° TO CORE AXIS		910/0 MAG+ILL	IDG	ST	LOCAL



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Maj	Sub	From	To		Bulk	Type	Plag	Cpx	Ol	Bt	Other				Type	Int	Style
	X	688	692	SOX	Hom	IG	5	17	3	tr	—	HOMOGENEOUS, CS-SR, SEMI-MASSIVE TO MASSIVE OXIDE; STRONGLY MAGNETIC, OXIDES DISSEMINATED TO CLUMPY/CLOTTY; CONTACTS ABRUPT OVER OVER ~3 INCHES	—	75% <sub>D</sub>	CHLOR	WK	PATCHY
X		711.5	794	AGT	Hom	IG	61	7	30	tr	—	HOMOGENEOUS; MED-TO-FIN-SR, AUGITE TRACTANTS; NON-MAGNETIC CONTAINS NUMEROUS, LOCALIZED FRACTURES, COATED + FILLED W/ IDdingsite + SERPENTINE + LOCALY TALL + CALCITE + CHLORITE, ~2mm to 2cm THICK; 300-600 TO CORE AXIS  EOH @ 794'	—	2% <sub>D</sub> MAG	IDG, mod	PERV BUT SELECTIVE	LOCAL