Table 3.1 - Kalgoorlie District Regional Stratigraphic Correlation Chart

MACLAREN and THOMSON (1913) (Kalgoorlie Region)	HONMAN (1916) (Kalgoorlie south)	TALBOT (1934) (Kalgoorlie West)	FORMAN (1937) (Kalgoorlie)	GUSTAFSON AND MILLER (1937) (Kalgoorlie)	McMATH et al (1953) (Coolgardie)
	KURRAWANG SERIES Slate, arkose, conglomerate	KURRAWANG SERIES Sandstone and conglomerate -------unconformity------- KUNDANA SERIES Sandstone and shale with a basal conglomerate	KURRAWANG SERIES Sandstone, grit, basal conglomerate KUNDANA SERIES Grit, sandstone, shale, basal conglomerate -------unconformity-------		
YOUNGER GREENSTONES a) Serpentine, talc schist, gabbroid rocks, coarse amphibolite, epidiorite, quartz dolerite greenstones b) porphyrite and feldspar porphyry	KALGOORLIE SERIES (INTRUSIVES) Dolerite and gabbro, serpentine; norite granite, porphyry, porphyrite		YOUNGER GREENSTONES Quartz-dolerite greenstone	YOUNGER GREENSTONE FORMATION Quartz dolerite, gabbro, hornblendite	YOUNGER GREENSTONE SERIES Metagabbros and dolerites
		WHITE FLAG VOLCANICS Andesitic and dacitic lavas, agglomerate and sedimentary tuff -------unconformity-------	WHITE FLAG - YINDARLGOODA SERIES Andesite-dacite, flows, tuffs, agglomerates, interbedded sedimentary rocks -------unconformity-------		
SEDIMENTARY BEDS Shale, chert , quartzite and conglomerate	KALGOORLIE SERIES (SEDIMENTARY) Slate, sandstone KALGOORLIE SERIES (PORPHYRIITE - VOLCANIC) Sills or flows; tuff, agglomerate	BLACK FLAG SERIES Sandstone, shale, quartzite, sedimentary tuff; rhyolitic lava and agglomerate	BLACK FLAG SERIES Tuffaceous sedimentary rocks, grit, quartzite, mudstone, rhyolite-trachyte tuff, tuff agglomerate, tuff breccia, lava, flow breccia	BLACK FLAG SERIES Slates, metamorphosed tuffs and grits	EASTERN AND WESTERN METASEDIMENTARY SERIES (Whitestone Series) Sedimentary rocks, slate, graphitic and micaeous schist, feldspathic grits, quartzites with thin bands of greenstones
OLDER GREENSTONES Fine grained amphibolite, calc schist	KALGOORLIE SERIES (GREENSTONE - VOLCANIC) Tuff, dolerite, amphibolite, agglomerate	KALGOORLIE SERIES (CALC-SCHISTS) Basaltic lavas and interbedded slate	KALGOORLIE SERIES (older greenstones) basaltic dolerite lava, interbedded tuff, sediment jasper or jaspilite, pillow lavas	KALGOORLIE SERIES (older greenstones) Fine grained lavas with interbedded slates	OLDER GREENSTONE SERIES Basic and ultrabasic lavas, and minor intrusives with pyroclastics and thin interformational and interlow sedimentary horizons
GNEISSIC GRANITE (not as yet known in the region)					

WOODALL (1965) Kalgoorlie	HALL AND BEKKER (1965) (Norseman)	McCALL (1969) (Lake Lefroy-Kambalda)	GLIKSON (1971) (Coolgardie-Mungari)	GEMUTS AND THERON (1975) (Coolgardie-Norseman)	WILLIAMS (1969)
		KURRAWANG CONGLOMERATE	KURRAWANG BEDS Upper pebbly metagreywacke White Lake Metaconglomerate Lower pebbly metagreywacke	*Sequence 8* Polymictic conglomerate and pebbly greywacke	
			MUNGARI BEDS; Black Flag Metasediments Metagreywacke, metasiltstone, slate	*Sequence 7* Acid tuffaceous rocks and acid volcanic breccia. Some acid extrusive rocks	*Association V* KALPINI FORMATION Basic to intermediate extrusive and intrusive rocks, ultramafic intrusive rocks, minor clastic rocks
BLACK FLAG BEDS Tuff, agglomerate, acid to intermediate lavas, slate, shale, greywacke, quartzite		YILMIA OPHIOLITE BELT; CAVE ROCKS OPHIOLITE BELT	RED LAKE OPHIOLITES Basalt, andesite, dolerite, meta pyroxenite --------------unconformity--------	*Sequence 6* High-Mg basalt, ultramafic rocks, minor chert, black slate and tholeiitic basalt	*Association IV* GUNDOCKERTA FORMATION Turbidite sequence, clastic sequence, conglomerate and sandstone
	MT THIRSTY BEDS Slate, acid tuff, quartzite, chert ABBOTSHALL BEDS Chert with interbedded basalt, acid volcanic and sedimentary rocks	LAKE DAM BEDS WANDA WANDA BEDS CAVE ROCK BEDS MANDILLA BEDS TRIANGLE ISLAND BEDS	BROWN LAKE METASEDIMENTS phyllite, siltstone, greywacke grit MT ROBINSON OPHIOLITES Basalt, dolerite, pyroxenite	*Sequence 5* Conglomerate. Arkosic greywacke and argillite with minor tholeiitic basalt. Basal conglomerate	
		MEROUGIL CREEK BEDS CAUSEWAY BEDS	GUNGA META-ARGILLITES Argillite, slate, graphitic slate (no sandstones), minor BIF, intercalated basic igneous rocks	*Sequence 4* Top of sequence gradational to sequence 5 Greywacke, minor chert and black slate. Acid extrusive rocks and feldspar porphyry intrusives, minor tholeiitic basalt	Acid volcanic complexes
GOLDEN MILE DOLERITE					
PARINGA BASALT	WOOLYEENER GROUP Tholeiitic pillow lavas, slate, minor high-Mg basalt		COOLGARDIE OPHIOLITES *Bonnivale Belt:* pyroxenite, basalt dolerite with intercalated argillite		*Association III* MULGABBIE FORMATION Basic intrusive and extrusive rocks.
WILLIAMSTOWN DOLERITE					
KAPAI SLATE				Sequence 3 Black chert marker, tholeiitic basalt.	
DEVON CONSOLS BASALT					
HANNANS LAKE SERPENTINITE			Hampton Belt: serpentinite, basalt with interecalated slate Tindals Belt: pyroxenite, basalt, gabbro Lord Bob's Belt: serpentinite	Four horizons of ultramafic rocks, intercalated slate and chert bands. Minor high-Mg basalt	Ultramafic rocks, intermediate and acid extrusive rocks, minor cherts
	NOGANYER GROUP Banded iron formation, greywacke, shale, conglomerate, sandstone PENNESHAW BEDS greywacke and acid lithic tuff Tholeiitic basalt			*Sequence 2* Equivalent and exactly the same as Noganyer Group *Sequence 1* Equivalent and exactly the same as Penneshaw Beds	*Association II* GINDALBIE FORMATION Clastic sequence Acid volcanic complexes *Association I* MORELANDS FORMATION Tholeiitic and ultramafic lavas

GRESHAM AND LOFTUS_HILLS (1971) (Kambalda)	TRAVIS et al (1971) (Kalgoorlie Goldfield)	CHRISTIE(1975) (Scotia)	KEATS (1987) (Kalgoorlie-Boulder)	COWDEN and ROBERTS (1990) (Kambalda)	LANGSFORD (1989) (New Celebration; Location 48/50)
			UNIT IV Current bedded, fluvial fan-based sandstone, massive bedded conglomerate, interlayered thinly bedded coarse grained feldspathic wacke ----------unconformity----------	MEROUGIL BEDS Terrigenous rudite, arenite, minor argillite	
Mafic and felsic volcanics, greywacke, mafic intrusives			Unit III.B Clastic sedimentary rocks, shale, siltstone, felsdpathic sandstone and conglomerate; mafic to felsic polymictic conglomerate		
BLUEBUSH SEQUENCE Bluebush hangingwall basalt Bluebush ultramafic rocks Bluebush footwall basalt	BLACK FLAG BEDS Tuff, agglomerate, acid to intermediate lava, slate, shale, greywacke, quartzite			BLACK FLAG GROUP Morgan's Island Epiclastic / Newtown Felsic - argillite, wacke, rudite, felsic and intermediate lava; volcanic conglomerate, breccia, tuff and intrusive tholeiitic gabbro	BLACK FLAG BEDS Black shale, acid volcaniclastics, greywacke siltstone
		SEDIMENTS	UNIT III.A Felsic to intermediate volcanic and subvolcanic rocks, porphyritic dacite, andesite, rhyolite-trachyte, vesicular flows, tuffs and coarse fragmental rocks	JUNCTION DOLERITE Differentialted layered sill	
Felsic volcanics, greywacke, argillite					
	GOLDEN MILE DOLERITE Layered Basic Sill		S2 (GOLDEN MILE DOLERITE) Layered mafic sill, 10 units amphibolitic gabbro to granophyric quartz gabbro	CONDENSER DOLERITE	TRIUMPH GABBRO Differentiated dolerite, cumulate pyroxenite, spotted gabbro, leucodolerite, granophyric quartz dolerite
KAMBALDA SEQUENCE Kambalda hanging-wall basalt upper member Sediment-intrusive complex Kambalda hangingwall basal lower member	PARINGA BASALT Basaltic pillowed lava, minor intercalated shales		UNIT II.2 Basaltic flows and interflow sedimentary rocks, high-Mg to tholeiitic	PARINGA BASALT Quartz tholeiite, to siliceous high-Mg basalt, minor interflow sedimentary rocks	KYARRA BASALT Lower High-Mg basalt, massive unpillowed; Upper massive basalt, thin interflow sedimentary rocks, abundant pillow lava and flow-top breccia
	WILLIAMSTOWN DOLERITE Dolerite-gabbro sill with lower ultramafic rocks		S1 Layered ultramafic to mafic sill, peridotite to quazrt gabbro	DEFIANCE DOLERITE Differentiated dolerite or flow, orthopyroxene cumulate, dolerite	PERNATTY DOLERITE Differentiated dolerite, cumulate pyroxenite, gabbro
	KAPAI SLATE Graphitic slate		CHERT MARKER silicified graphitic shale	KAPAI SLATE Carbonaceous and sulphidic argillite with felsic-intermediate sills	KAPAI SLATE Black shale, chert
	DEVON CONSOLS BASALT Basaltic pillowed lava			DEVON CONSOLS BASALT High-Mg basalt, thin differentiated dolerite, rare interflow sedimentary rocks	MUTAROO BASALT Variolitic basalt, high-Mg basalt
Kambalda ultramafic rocks	HANNANS LAKE SERPENTINITE Massive fine grained sepentinite	ULTRAMAFICS Lenses with massive dunitic cores surrounded by pyroxene peridotite, spinifex komatiite, volcanic breccia; lenses of sedimentary rocks and high magnesium basalt	UNIT II.1 Cumulate and spinifex komatiite flow lava, high-Mg basalt, thin interflow chert horizons ----------unconformity----------	KAMBALDA KOMATIITE Tripod Hill - thin spinifex komatiite flows Silver Lake - Thick komatiite flows, high-Mg cumulate rocks, interflow sedimentary rocks	KAMBALDA KOMATIITE Serpentinite, chlorite-tremolite rocks, spinifex komatiites and cumulates; rare chert and interflow shale; rare flow top breccia
Kambalda Footwall Basalt		BASIC VOLCANICS Lineated tholeiitic basalts with intercalated tuff, thin sedimentary rocks and some ultramafic pods; overlain by graphitic black slate, quartzite	UNIT I.B Sedimentary rocks, mafic, lithic siltstone, sandstone UNIT IA Mafic volcanic rocks, basalt, micrograbbro, ocellar high-Mg basalt	LUNNON BASALT pillowed to massive tholeiitic basalts, minor gabbro, rare interflow sedimentary rocks	

CLOUT ET AL, (1990) (Kalgoorlie)	WITT (1990); WITT and HARRISON (1989) (Ora Banda Domain)	SWAGER ET AL. (1990) (Kalgoorlie Terrane)	HUNTER (1993) (Kalgoorlie-Yilmia)	WYCHE and WITT (1994) (Daveyhurst)	KRAPEZ ET AL. (2000) / BARLEY ET AL. (2002) (Eastern Goldfields Province)
	KURRAWANG GROUP	POLYMICTIC CONGLOMERATE UNIT Polymictic conglomerate, immature sandstone; coarse trough and cross beds, graded beds	KURRAWANG FORMATION Conglomerate, sandy conglomerate, and sandstone	POLYMICTIC CONGLOMERATE UNIT Polymictic conglomerate, immature sandstone; coarse trough and cross beds, graded beds	*Kurrawang Sequence/Merougil Sequence* KURRAWANG FORMATION Quartzofelspathic conglomerate, sandstone, mudrock ----------unconformity----------
					Kalgoorlie Sequence WHITE FLAG FORMATION Coarse grained andesitic epiclastic turbidites, olistoliths of pillowed and massive andesite ----------unconformity---------- BLACK FLAG FORMATION Volcaniclastic and epiclastic turbidites, carbonaceous shale, minor rhyolite-dacite pyroclastics and lavas ----------unconformity----------
BLACK FLAG BEDS Lower sequence of tholeiitic basalt with minor black mudstone and shale; thick sequence of turbidtic mudstone, siltstone, sandstone, unconformably overlain by felsic volcanic rocks and minor sedimentary rocks ABERDARE DOLERITE Weakly differentiated gabbroic sill					
	PIPELINE ANDESITE	FELSIC VOLCANIC AND SEDIMENTARY UNIT Felsic volcaniclastic-sedimentary rocks, ranging from coarse clastic sandstone to interbedded sand/siltstone; rhyolite to dactie locally andesite; lava, tuff, agglomerate	WHITE FLAG FORMATION Intermediate tuff breccia and tuffs, minor dolerite sills	FELSIC VOLCANIC AND SEDIMENTARY UNIT Felsic volcaniclastic-sedimentary rocks, ranging from coarse clastic sandstone to interbedded sand/siltstone; rhyolite to dactie locally andesite; lava, tuff, agglomerate	
	BLACK FLAG GROUP ORINDA SILL		SPARGOVILLE FORMATION Felsic tuff breccia, tuffs, and intrusions; minor felsic flows, shales and cherts POWDER SILL Major layered ultramafic to mafic intrusion		Spargoville Sequence SPARGOVILLE FORMATION Rhyolitic and dacite lava interlayered with resedimented volcaniclastic breccia and sandstone, overlain by carbonaceous shale ----------unconformity----------
GOLDEN MILE DOLERITE Tholeiitic silll, lower ultramafic layer, gabrro, iron-rich micrograbbro, central granophyric dolerite	ORA BANDA SILL		HAMPTON FORMATION Komatiite flows, minor shale, major basaltic flow horizon GOLDEN BAR SILL Dolerite		
PARINGA BASALT Pillowed to massive, magnesian to tholeiitic basalt, minor interflow sedimentary rocks FEDERAL DOLERITE differentiated gabbroic sill EUREKA DOLERITE Weakly differentiated gabbro sill	*Grants Patch Group* VICTORIOUS BASALT Distinctive coarsely feldspar porphyritic tholeiitic basalt; multiple flow units, massive basalt, coarse gabbroic ponded lava BENT TREE BASALT Pillowed massive hi-Mg to tholeiitic basalt, multiple flow horizons, lower thick gabbro	UPPER BASALT UNIT High-Mg and tholeiitic basalt; massive, pillowed and vesicular lavas	BURBANKS FORMATION High-Mg basalt flows, minor mafic intrusions, shale, and tholeiitic flows, porphyritic basalt-dolerite	UPPER BASALT UNIT High-Mg and tholeiitic basalt; massive, pillowed and vesicular lavas	*Kambalda Sequence* PARINGA BASALT
WILLIAMSTOWN DOLERITE Olivine bearing lower ultramafic section grading up into granophyric pyroxene gabbro	MOUNT PLEASANT SILL MOUNT ELLIS SILL		THREE MILE SILL Major layered ultramafic-mafic intrusion, bounded by shale-chert horizon		
KAPAI SLATE Shale, persistent marker horizon of black sulphidic mudstone and shale	CASHMANS COMPLEX Metasedimentary rocks, grey pyritic shale, bedded tuff, porphyry flow				KAPAI SLATE Distal lowstand fan sedimentary rocks
DEVON CONSOLS BASALT Variolitic textured , pillowed to massive basalt with basal olivine basalt flow rocks, minor intercalated pyritic graphitic mudstone	*Linger and Die Group* BIG DICK BASALT Ocellar high-Mg basalt, locally pillowed	KOMATIITE UNIT High-Mg basalt at top	?basalt	*Linger and Die Group* BIG DICK BASALT Thin variolitic textured high-Mg basalt at top	DEVON CONSOLS BASALT
HANNANS LAKE SERPENTINITE Komatiitic flows varying from picrite to peridotite, with rare thin black suphidic mudstone interbeds	*Linger and Die Group* SIBERIA KOMATIITE Olivine spinifex komatiite, spinifex textured high-Mg basalt WALTER WILLIAMS FORMATION Adcumulate dunite with upper and lower olivine orthocumulate margins, leucogabbro	KOMATIITE UNIT Thin komatiite flows with minor interflow sedimentary beds overlying thicker komatiite flows and/or massive olivine adcumulate	?komatiite	*Linger and Die Group* SIBERIA KOMATIITE Thin komatiitic flows with thin interflow sedimentary beds overlying thikcer komatiite flows WALTER WILLIAMS FORMATION Massive olivine adcumulate	KAMBALDA KOMATIITE
	Pole Group MISSOURI BASALT WONGI BASALT	LOWER BASALT UNIT Tholeiitic and high-Mg basalt flows, subaqueous		LOWER BASALT UNIT MISSOURI BASALT,WONGI BASALT (Ora Banda Domain); poorly exposed basalt and amphibolite (Coolgardie and Bullabulling domains);	LUNNON BASALT (Woolyeener Formation equivalent)
					NOGANYER FORMATION Epiclastic quartzose to quartzo-feldspathic sandstone-siltstone turbidites and carbonaceous shale, magnetic shale UPPER PENNESHAW FORMATION Internally differentiated felsic volcanic rocks, biotite rhyolite

STANDING AND CASTLEDEN (2002) (Coolgardie)	TROFIMOVS (2003) (Boorara Domain)	KRAPEZ AND PICKARD (2010) (Kalgoorlie)	SQUIRE ET AL., (2010) (Kalgoorlie-Kambalda)	**THIS STUDY** (Kalgoorlie, including Ora Banda mafic stratigraphy from Tripp, 2000; suggested new formation names in bold)
		KURRAWANG SUPERSEQUENCE	KURRAWANG GROUP Resedimented quartz rich sandstone and polymictic conglomerate with abundant BIF clasts; detrital ages up to 3.5Ga CYCLE TWO MEROUGIL GROUP Late Merougil Group Resedimented qz-fd rich volcanic sandstone and conglomerate dominated by felsic clasts, detrital zircon ages up to ~2800Ma with dominate sub populations at ~2665Ma	KURRAWANG FORMATION *Kurrawang/Panglo* Siltstone Cross-bedded quartz sandstone Polymictic Conglomerate -------------minor unconformity-------------- *Navajo Sandstone* Quartz sandstone and polymictic conglomeratic sandstone ------------ major unconformity--------------
		KALGOORLIE SEQUENCE Stage IV	CYCLE TWO MEROUGIL GROUP EarlyMerougil Group rapidly reworked units from quartz rich pyroclastic deposits; dominant zircon sub populations at ~2665Ma	**Gidji Lake formation** Upper Black Flag fm Felsic volcanic and coarse clastic sedimentary rocks at Gidji Lake; Grave Dam Grit; Binduli Porphyry Conglomerate ------------ major unconformity------------
		KALGOORLIE SEQUENCE Stage III	CYCLE ONE BLACK FLAG GROUP late BFG Resedimented feldspar and quartz rich volcanic sandstone and polymictic conglomerate dominated by mafic clasts; detrital zircon ages up to ~2800 Ma, with main peak ~2690 Ma	**Gibson-Honman formation** Lower Black Flag fm Rhyolitic/rhyodacitic volcanic rocks at Gibson-Honman Rock; Lakewood; Perkolilli
		KALGOORLIE SEQUENCE Stage II		WHITE FLAG FORMATION UPPER Andesitie tuff breccia and tuffs, minor dolerite sills
BLACK FLAG BEDS	UPPER FELSIC SEDIMENTARY UNIT		CYCLE ONE BLACK FLAG GROUP Early BFG Rapidly reworked feldspar-rich pyroclastic deposits; rare conglomerate; unimodal detrital zircon population ~2685-2680 Ma; dolerite in uppermost parts of this unit	WHITE FLAG FORMATION lower Conglomeratic part of White Flag Formation andesite complex
		KALGOORLIE SEQUENCE Stage I		**Talbot formation** Sandstone, shale, turbiditic sedimentary rocks; tuff; rhyolitic lava and agglomerate
GREENFIELDS SILL GLEESONS BASALT	UPPER BASALT	KAMBADLA SEQUENCE Stage III	*Kambalda Sequence* PARINGA BASALT	UPPER BASALT UNIT *Victorious Basalt / Bent Tree Basalt* High-Mg and tholeiitic basalt; massive, pillowed and vesicular lavas
				MOUNT PLEASANT SILL ENTERPRISE DOLERITE
HAMPTON ULTRAMAFIC			KAPAI SLATE	SLATE MARKER UNIT Cashman's Sedimentary Horizon
LINDSAYS BASALT THREE MILL SIL LINDSAYS BASALT	KOMATIITE	KAMBADLA SEQUENCE Stage II	DEVON CONSOLS BASALT	BASALTIC UPPER PART OF KOMATIITE UNIT *Big Dick Basalt*
BRILLIANT ULTRAMAFIC	DACITE / KOMATIITE CLASTIC DEPOSITS DACITE/KOMATIITE	KAMBADLA SEQUENCE Stage I	KAMBALDA KOMATIITE	KOMATIITE UNIT *Siberia Komatiite* *Walter Williams Formation*
BURBANKS BASALT	LOWER BASALT		LUNNON BASALT	LOWER BASALT
	LOWER FELSIC SEDIMENTARY UNIT		META VOLCANIC BASEMENT	

(column heights are not proportional to unit thickness)