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# Intersections and Extensions Provide Steps Toward Gold Resource Further Mineralisation Definition Drilling Planned for the Acra Gold Project

Pioneer Resources Limited ("Company" or "Pioneer") (ASX: PIO) is pleased to provide final assay results and commentary about the three phases of drilling completed between October and December 2015 at the Company's 100% held Acra Gold Project, located 60km northeast of Kalgoorlie, WA.

Pioneer's Managing Director, Mr David Crook, said that the drilling results have provided firm steps forward for the Acra Gold Project, demonstrating it to be a significant value-adding asset that is in its growth phase, with extensions and discoveries continuing to be revealed.

"We will commit to drilling programs to reach the next commercial decision point as soon as possible." He said.

#### Three phases of drilling demonstrate that the Acra Gold Project is advancing:

- Aircore drilling geochemistry extends Kalpini South target by 60% to 240m. Extension has coincident EM conductor (likely detecting pyrite-arsenopyrite sulphides – host to primary gold at Kalpini South);
- High grade gold (9m at 6.17g/t Au) intersected in RC drilling at Kalpini South demonstrates presence of a shallow, supergene gold deposit (see release to ASX 18 December 2015);
- Diamond drilling indicates that multiple gold-in-sulphide lodes are present;
- Aircore drilling generates new targets, highlighting potential for further gold discoveries, including:
   KPAC078: 21m at 1.0g/t Au, including 3m at 4.6g/t Au from 42m, at the Deep River Prospect.

Between October and December 2015, The Company completed 5,434 metres of drilling – including 3,936m of aircore ("AC" - generating new targets), 1,263m of reverse circulation ("RC" - for mineralisation definition) and 235m of diamond core drilling (for structural and ore-genesis information).

### Aircore Drilling Extends Kalpini South Target by 60% to 240m in length.

Aircore hole **KPAC015** (3m at 0.8g/t Au from 42m) confirms that the Kalpini South mineralised structure extends for at least a further 100 metres from the western-most RC holes; KSRC021 and KSRC022 (Refer to Figures 1 and 2). This is reinforced by the presence of a coincident EM conductor detected over much of this distance. Conductive massive pyrite-arsenopyrite sulphide mineralisation (marked '\$' on Figure 1) hosts gold in fresh rock at the Kalpini South Eastern Zone.

Aircore is a blade drilling technique used to sample shallow, unconsolidated, weathered rock ("regolith") for subsurface geochemistry. Against a background of less than 0.005g/t Au, 0.80g/t Au is considered very anomalous.

#### Supergene Gold deposit demonstrated at Kalpini South - Drill-out to establish Mineral Resource next.

Thick intersections of gold mineralisation in RC drill holes KSRC031: 9m at 6.17g/t Au from 60m, and KSRC032: 7m at 1.92g/t from 106m (see release to ASX 18 December 2015) demonstrate the presence of premium supergene gold mineralisation from a depth of 35 metres below surface, with vertical continuity to at least 100 metres below surface. (Refer to Figure 1).

Supergene refers to secondary gold mineralisation that has been re-deposited within the regolith at oxidation boundaries. The gold is often very pure and metallurgically simple; and this style of deposit inspired the gold boom during the 1980s.

Holes KSRC031 and KSRC032 are the start of the program to infill the Kalpini South Deposit, to enable a Mineral Resource Estimate to be completed. The Company plans to drill the balance of holes required during the second quarter of 2016.

Additional holes will also target the recently recognised western gold zone.

Supergene Gold intersections from RC drilling to date include:

KSRC004	10m at 6.38g/t Au from 61m	KSRC004	5m at 3.29g/t Au from 100m
KSRC005	9m at 5.31g/t Au from 36m	KSRC007	13m at 3.31g/t from 94m
KSRC010	3m at 5.44g/t Au from 128m	KSRC016	4m at 1.98g/t Au from 95m
KSRC018	6m at 3.72g/t Au from 97m	KSRC021	6m at 1.89g/t Au from 85m
KSRC031	9m at 6.17g/t Au from 60m	KSRC032	7m at 1.92g/t from 106m

N.B. Drill hole angles mean that actual intersection widths could be less.

#### **Diamond Drilling Indicates Multiple Gold Lodes.**

Diamond core holes KSRCD024: 0.2m at 116 g/t Au from 131m and KSRCD025: 1.2m at 20.8 g/t Au from 145.71m (see release to ASX 6 October 2015) demonstrate very high gold grades from within a strongly altered, andesitic, volcanoclastic rock with massive pyrite-arsenopyrite sulphide lenses.

While gold grades were lower, similar massive pyrite-arsenopyrite rock was intersected in the western-most RC holes drilled to date - KSRC021: 6m at 1.89g/t Au and KSRC022: 4m at 1.89g/t Au. (Refer to Figure 1).

Subsequent diamond core holes, KSRDC026 and KSRCD029, drilled between KSRCD25 and KSRC022 which are 75m apart, intersected iron sulphides, however devoid of gold and arsenopyrite, within the targeted andesitic, volcanoclastic rocks.

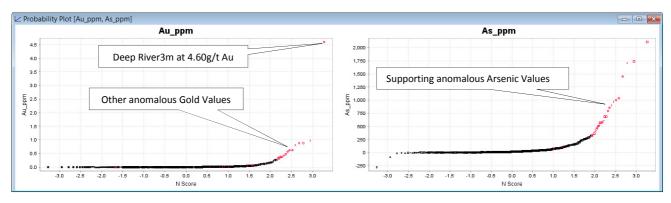
Pioneer's geologists conclude that gold has been introduced into the Kalpini South system when ground fluids, containing gold and arsenic, chemically reacted with pre-existing, barren, iron sulphide beds near fracture conduits to form the gold-bearing massive pyrite-arsenopyrite lodes. At least 2 lode structures are indicated, with the second, the western zone, by the intersections in RC holes KSRC021 and KSRC022 which is open further west.

#### Aircore Drilling Highlights Potential for Future Gold Discoveries;

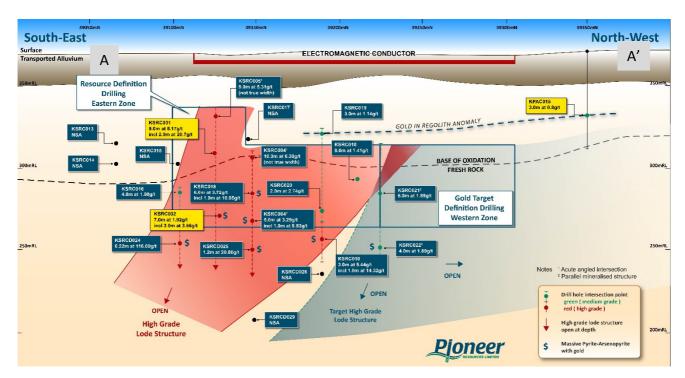
The Aircore results also highlight the potential for new discoveries within the Acra project area.

Aircore drill hole KPAC078 intersected **21m at 1.00g/t Au**, including **3m at 4.60g/t Au from 42m**. This hole is from the new Deep River Prospect, located 2km from Kalpini South. (See Figure 3.)

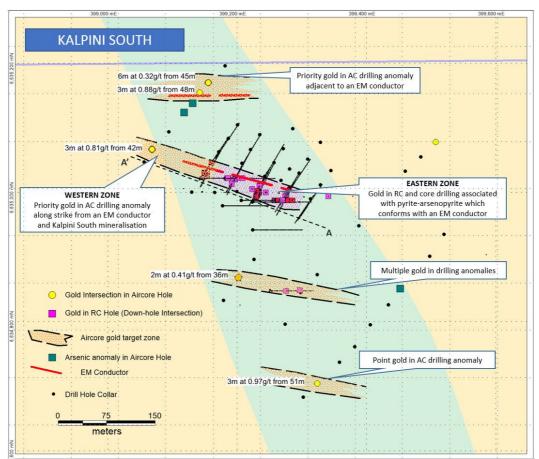
Overall, 12 aircore holes intersected anomalous gold-in-regolith values, highlighting the potential for further gold discoveries as exploration programs progress.



**Graphs 1a and 1b:** Probability plots showing the distribution of gold (Au) and arsenic (As). Assays above 0.3g/t Au in aircore drilling at the present 200x40m grid spacing are considered anomalous against background of less than 0.005g/t Au. Gold and arsenic were evidently deposited during the same mineralising event, and due to the higher concentration of arsenic deposited, it forms a halo to the gold mineralisation, and therefore is a useful proximity indicator for gold.

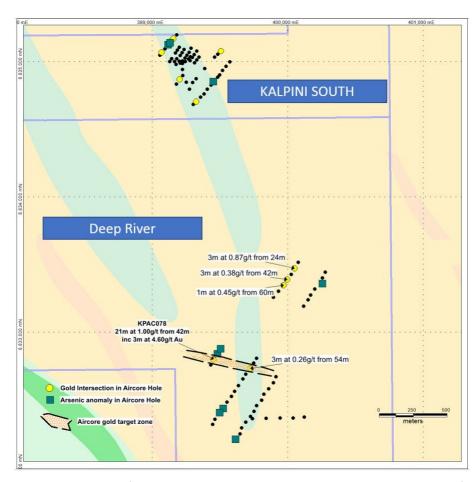


**Figure 1:** Long section showing the updated interpretation of the Kalpini South Gold Lodes. Marked points are drill hole pierce points through the planes of the gold mineralisation. Boxes are priority areas for the next round of drilling.



**Figure 2:** Anomaly Summary for the Kalpini South Prospect and surrounding area. Aircore drilling has indicated an extension to the Kalpini South mineralisation and 3 additional targets.

A - A' is the plane of the long section shown in Figure 1.



**Figure 3:** Anomaly Summary for the Deep River Prospect Area, located 2km south of the Kalpini South Gold Deposit. Aircore drill hole KPAC078 intersected a very strong gold-arsenic anomaly, providing a priority target for additional drilling.

	Table 1									
Aircore Drilling: Drill Hole Summary and High Grade Report										
Hole ID	East	North	Depth	Dip	Azimuth	Intersection				
	(m)	(m)	(m)							
KPAC012	399202	6634868	38	-90	0	3m at 0.26g/t from 30m				
KPAC012		and				2m at 0.41g/t from 36m EOH				
KPAC015	399068	6635067	58	-90	0	3m at 0.81g/t from 42m				
KPAC019	399142	6635155	63	-90	0	3m at 0.88g/t from 48m				
KPAC020	399155	6635170	56	-90	0	6m at 0.32g/t from 45m				
KPAC024	399507	6635078	66	-90	0	3m at 0.28g/t from 39m				
KPAC035	399324	6634704	65	-90	0	3m at 0.97g/t from 51m				
KPAC039	399969	6633349	61	-90	0	1m at 0.45g/t from 60m				
KPAC040	399995	6633389	49	-90	0	3m at 0.38g/t from 42m				
KPAC042	400050	6633473	42	-90	0	3m at 0.87g/t from 24m				
KPAC062	399726	6632732	63	-90	0	3m at 0.26g/t from 54m				
KPAC078	399451	6632799	75	-90	0	21m at 1.00g/t from 42m				
KPAC078		Including				3m at 4.60g/t from 42m				

EOH means end of hole.

#### ABOUT THE ACRA GOLD PROJECT

The Acra Gold Project is one of the Company's three key exploration assets.

The Acra Project has a 20km long, north-west trending, structural corridor, which is evident in aeromagnetic data with elements observable in field mapping, and which is considered prospective for gold. Physical gold has been recovered from small gold workings that date from the 1890s until WW2, and more recently from nugget patches that are still being located and worked. Most exploration undertaken from the early 1970s to the present, however, has focussed on identifying nickel mineralisation.

There are many examples of large, narrow vein, high grade gold lode systems throughout the Eastern Goldfields of Western Australia, including the very successful Andy Well Mine (Doray Minerals Limited ASX: DRM), the Daisy Milano Mine (Silver Lake Resources Limited (ASX: SLR) and the Wattle Dam Mine (Ramelius Resources Limited ASX: RMS) where quartz lodes carrying high gold grades were mined.

#### **Next phase of Exploration**

Pioneer is progressively evaluating its Acra targets in a sequence reflecting the priority attributed each target. Ongoing work programs include:

- RC drilling to quantify the supergene gold zone at Kalpini South;
- Further soil geochemistry programs at Kalpini West, Mayday North, Iron King, Jubilee West and other structural targets;
- New traverses and infill aircore drilling over structural targets and geochemical anomalies, and in areas where alluvial channels preclude the use of soil geochemistry.
- Drilling for shallow supergene gold, and deeper primary gold deposits;

Managing Director

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For further information about drill intersections noted in the text and on Figure 1 refer to the Company's announcements dated 16 April 2014, 22 October 2014, 26 June 2015, 6 October 2015, 18 December 2015 and Quarterly Activities Reports.

The Company is not aware of any new information or data that materially affects the information included in this announcement.

#### Glossary

"Aircore" is a blade drilling technique which returns relatively uncontaminated samples through a central annulus inside the drill pipes. It is used to test the regolith (near surface unconsolidated and weathered rock) as an alternative to RAB drilling when conditions are wet, sandy or holes need to go deeper than by RAB.

"Diamond Drilling" or "Core Drilling" uses a diamond-set drill bit to produce a cylindrical core of rock.

"g/t" means grams per tonne (used for precious metals) and is equivalent to ppm.

"ppm" means 1 part per million by weight.

"RAB" means rotary air blast, a cost-effective drilling technique used to test the regolith (near surface unconsolidated and weathered rock) for plumes of trace-level gold that may have dispersed from a nearby primary source of gold. In this type of work gold values above 0.2g/t are considered anomalous and above 1g/t, very anomalous.

"RC" means reverse circulation, a drilling technique that is used to return uncontaminated pulverised rock samples through a central tube inside the drill pipes. RC samples can be used in industry-standard Mineral Resource estimates.

"Regolith" means the layer of loose, heterogeneous material covering solid rock. It includes dust, soil, broken rock, and other related materials. In Western Australia it most commonly refers to the almost ubiquitous layer of weathered and decomposed rock overlying fresh rock.

Elements: "Au" means gold, "Cu" copper, "Ni" nickel, "Ag" silver, "Pb" lead, "Zn" zinc, "Pt" platinum, "Pd" palladium.

"N", "S", "E", or "W" refer to the compass orientations north, south, east or west respectively.

"pXRF" means portable x-ray fluorescence. Pioneer owns an Olympus portable XRF analyser which is an analytical tool providing semi-quantitative analyses for a range of elements 'in the field'.

#### **Competent Person**

The information in this report that relates to Exploration Results is based on information supplied to and compiled by Mr David Crook. Mr Crook is a full time employee of Pioneer Resources Limited and a member of The Australasian Institute of Mining and Metallurgy (member 105893) and the Australian Institute of Geoscientists (member 6034). Mr Crook has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2004 and 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Crook consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

#### **Caution Regarding Forward Looking Information**

This document may contain forward looking statements concerning the projects owned by the Company. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on the Company's beliefs, opinions and estimates of the Company as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

There can be no assurance that the Company's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that the Company will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.

APPENDIX 1. Drill Hole Information, Result Summary and Competent Person

	Table 2  Drill Hole Collar Summary								
Hole ID	Hole Type	Grid ID	East (m)	North (m)	RL (m)	Survey Method	Hole Depth	Dip	Azimuth
KPAC011	AC	MGA94_51	399179	6634833	368	GPS	52	-90	0
KPAC012	AC	MGA94_51	399202	6634868	371	GPS	38	-90	0
KPAC013	AC	MGA94_51	399226	6634896	371	GPS	46	-90	0
KPAC014	AC	MGA94_51	399056	6635047	374	GPS	50	-90	0
KPAC015	AC	MGA94_51	399068	6635067	374	GPS	58	-90	0
KPAC016	AC	MGA94_51	399094	6635094	371	GPS	57	-90	0
KPAC017	AC	MGA94_51	399118	6635124	376	GPS	61	-90	0
KPAC018	AC	MGA94_51	399131	6635138	382	GPS	58	-90	0
KPAC019	AC	MGA94_51	399142	6635155	382	GPS	63	-90	0
KPAC020	AC	MGA94_51	399155	6635170	377	GPS	56	-90	0
KPAC021	AC	MGA94_51	399181	6635196	370	GPS	56	-90	0
KPAC022	AC	MGA94_51	399460	6635033	369	GPS	37	-90	0
KPAC023	AC	MGA94_51	399484	6635055	371	GPS	34	-90	0
KPAC024	AC	MGA94_51	399507	6635078	371	GPS	66	-90	0
KPAC025	AC	MGA94_51	399572	6634998	373	GPS	79	-90	0
KPAC026	AC	MGA94_51	399545	6634965	368	GPS	33	-90	0
KPAC027	AC	MGA94_51	399520	6634935	364	GPS	41	-90	0
KPAC028	AC	MGA94_51	399498	6634901	365	GPS	45	-90	0
KPAC029	AC	MGA94_51	399483	6634885	373	GPS	66	-90	0
KPAC030	AC	MGA94_51	399452	6634851	375	GPS	66	-90	0
KPAC031	AC	MGA94_51	399434	6634826	377	GPS	56	-90	0
KPAC032	AC	MGA94_51	399406	6634795	364	GPS	56	-90	0
KPAC033	AC	MGA94_51	399382	6634761	370	GPS	62	-90	0
KPAC034	AC	MGA94_51	399358	6634737	367	GPS	56	-90	0
KPAC035	AC	MGA94_51	399324	6634704	365	GPS	65	-90	0
KPAC036	AC	MGA94_51	399302	6634683	371	GPS	57	-90	0
KPAC037	AC	MGA94_51	399895	6633258	362	GPS	46	-90	0

	Table 2 Drill Hole Collar Summary								
Hole ID	Hole	Grid ID	East	North	RL	Survey	Hole	Dip	Azimuth
	Туре		(m)	(m)	(m)	Method	Depth	·	
KPAC038	AC	MGA94_51	399932	6633304	362	GPS	50	-90	0
KPAC039	AC	MGA94_51	399969	6633349	363	GPS	61	-90	0
KPAC040	AC	MGA94_51	399995	6633389	359	GPS	49	-90	0
KPAC041	AC	MGA94_51	400026	6633428	370	GPS	43	-90	0
KPAC042	AC	MGA94_51	400050	6633473	365	GPS	42	-90	0
KPAC043	AC	MGA94_51	400078	6633517	361	GPS	29	-90	0
KPAC044	AC	MGA94_51	400277	6633443	362	GPS	26	-90	0
KPAC045	AC	MGA94_51	400255	6633401	365	GPS	21	-90	0
KPAC046	AC	MGA94_51	400255	6633359	361	GPS	22	-90	0
KPAC047	AC	MGA94_51	400199	6633319	359	GPS	24	-90	0
KPAC048	AC	MGA94_51	400168	6633275	364	GPS	25	-90	0
KPAC049	AC	MGA94_51	400150	6633241	362	GPS	33	-90	0
KPAC050	AC	MGA94_51	400118	6633192	362	GPS	43	-90	0
KPAC051	AC	MGA94_51	399770	6632809	362	GPS	108	-90	0
KPAC052	AC	MGA94_51	399446	6632320	366	GPS	71	-90	0
KPAC053	AC	MGA94_51	399463	6632358	366	GPS	84	-90	0
KPAC054	AC	MGA94_51	399497	6632407	368	GPS	63	-90	0
KPAC055	AC	MGA94_51	399523	6632437	358	GPS	51	-90	0
KPAC056	AC	MGA94_51	399551	6632485	364	GPS	76	-90	0
KPAC057	AC	MGA94_51	399585	6632527	364	GPS	78	-90	0
KPAC058	AC	MGA94_51	399608	6632565	358	GPS	69	-90	0
KPAC059	AC	MGA94_51	399636	6632607	353	GPS	62	-90	0
KPAC060	AC	MGA94_51	399669	6632655	357	GPS	66	-90	0
KPAC061	AC	MGA94_51	399691	6632692	363	GPS	66	-90	0
KPAC062	AC	MGA94_51	399726	6632732	359	GPS	63	-90	0
KPAC063	AC	MGA94_51	399749	6632774	368	GPS	66	-90	0
KPAC064	AC	MGA94_51	399914	6632673	368	GPS	67	-90	0
KPAC065	AC	MGA94_51	399895	6632627	366	GPS	75	-90	0

	Table 2									
	Drill Hole Collar Summary									
Hole ID	Hole	Grid ID	East	North	RL	Survey	Hole	Dip	Azimuth	
	Туре		(m)	(m)	(m)	Method	Depth			
KPAC066	AC	MGA94_51	399860	6632584	363	GPS	81	-90	0	
KPAC067	AC	MGA94_51	399825	6632543	358	GPS	78	-90	0	
KPAC068	AC	MGA94_51	399807	6632499	356	GPS	74	-90	0	
KPAC069	AC	MGA94_51	399770	6632459	357	GPS	74	-90	0	
KPAC070	AC	MGA94_51	399751	6632417	358	GPS	84	-90	0	
KPAC071	AC	MGA94_51	399726	6632378	363	GPS	83	-90	0	
KPAC072	AC	MGA94_51	399691	6632336	362	GPS	75	-90	0	
KPAC073	AC	MGA94_51	399660	6632295	358	GPS	59	-90	0	
KPAC074	AC	MGA94_51	399648	6632250	376	GPS	45	-90	0	
KPAC075	AC	MGA94_51	399616	6632210	366	GPS	38	-90	0	
KPAC076	AC	MGA94_51	399505	6632879	365	GPS	64	-90	0	
KPAC077	AC	MGA94_51	399481	6632840	359	GPS	72	-90	0	
KPAC078	AC	MGA94_51	399451	6632799	366	GPS	75	-90	0	
KPAC079	AC	MGA94_51	399432	6632759	368	GPS	41	-90	0	
KSRC028	RC	MGA94_51	409318.872	6623181.948	349.066	DGPS	114	-55	214	
KSRC030	RC	MGA94_51	399328.823	6635077.848	369.735	DGPS	147	-60	214	
KSRC033	RC	MGA94_51	399388.08	6634948.199	368.863	DGPS	97	-60	214	
KSRC034	RC	MGA94_51	399274.102	6634796.017	369.029	DGPS	120	-60	214	
KSRC035	RC	MGA94_51	399298.32	6634844.52	368.865	DGPS	120	-60	214	
KSRC036	RC	MGA94_51	399323.858	6634872.391	368.77	DGPS	120	-60	214	
KSRC037	RC	MGA94_51	409220.765	6623241.981	349.2	DGPS	150	-60	220	
KSRCD029	RCD	MGA94_51	399285.857	6635098.552	370.15	DGPS	306.8	-60	214	

	Table Selected Assay Results: Au 50g Fire Assay, Other Elements pXRF											
Hole ID	From	То	Au	As	Cu	Ni	Cr	Fe	Mn	S	Ti	Zr
	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Representa	tive Backgro	und Gold Va	alues from Air	core Drilling								
KPAC017	39	42	0.0025	248	66	11	47	37173	446	676	1447	94
KPAC024	15	18	0.0025	20	20	0	30	34511	9	2701	1928	167
KPAC028	36	39	0.0025	7	227	169	1279	112965	1733	0	4019	28
KPAC045	12	15	0.0025	10	66	0	-48	140572	39	0	5208	77
KPAC067	54	57	0.0025	4	17	146	98	54862	1140	0	5203	148
KPAC071	81	83	0.0025	3	48	179	604	73622	701	0	4767	97
KPAC077	48	51	0.0025	47	9	0	3	17685	64	9	1087	133
Anomalous	Aircore Dril	Results	<u> </u>							<u>'</u>		
KPAC012	30	33	0.256	35	44	75	147	75472	21	-16	4875	37
KPAC012	36	38	0.412	13	55	111	64	91185	816	-226	4487	45
KPAC015	42	45	0.806	147	5	33	-10	45864	83	255	3233	192
KPAC019	48	51	0.878	23	71	68	-9	108200	1477	-261	5717	59
KPAC020	45	48	0.304	71	83	123	-28	120651	2329	-143	6880	65
KPAC020	48	51	0.342	76	73	73	-21	116675	670	-63	5191	46
KPAC035	51	54	0.974	108	32	18	-25	57633	147	73	1279	16
KPAC039	60	61	0.454	43	70	93	-23	128750	1299	-341	5784	59
KPAC040	42	45	0.377	105	56	25	-22	159666	2511	-104	5353	65
KPAC042	24	27	0.874	81	66	69	-21	166645	2906	-406	7603	81
KPAC078	42	45	4.600	507	56	17	221	305645	1159	-66	4201	71
KPAC078	45	48	0.377	468	205	244	277	177379	235	-268	4892	58
KPAC078	51	54	0.623	860	163	93	216	172915	1241	-64	4807	78
KPAC078	54	57	0.569	794	32	12	-5	92835	749	-110	4494	210
KPAC078	60	63	0.615	1453	83	38	106	120336	109	133	2730	94
Anomalous	RC Results f	rom Jubilee	Gift Prospect									
KSRC028	74	77	0.617	34	46	50	113	40680	364	57	3608	102
KSRC028	106	109	0.580	125	34	216	149	54463	693	4706	4821	133
KSRC035	48	51	1.263	1	44	93	28	114378	499	212	3963	31.5

## **Section 1 - Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

## Acra Project:

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut Faces, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> </ul>	<ul> <li>Aircore (AC) samples from holes drilled from surface.</li> <li>Reverse Circulation (RC) samples.</li> <li>NQ2 Diamond Core.</li> </ul>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<ul> <li>RC and AC Samples were collected using a cyclone and laid out in piles. 3m composite samples were formed of approximately 3.5kg weight, by spearing each pile with a PVC tube. This is fit for purpose.</li> <li>Core: Standard core delivery and orientation markup into trays.</li> <li>Certified Reference Standards were inserted at regular intervals to provide assay quality checks. The standards reported within acceptable limits.</li> </ul>
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>AC and RC drilling was used to obtain 1 m samples from which samples of 3 sequential piles were taken with an aggregate weight of approximately 3.5 kg sampled. Selected 1m samples may have been taken.</li> <li>Core samples: selected 1m samples of half core.</li> <li>3.5kg samples were crushed and pulverised by pulp mill to nominal P80/75um to produce a 50 gram charge for analysis.</li> <li>Gold assays were analysed by 50g Fire Assay (Intertek analysis code FA50/OE). 5ppb lower detection limit.</li> <li>Each pile was analysed using an Olympus Delta pXRF</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>Aircore Drilling 3.5 inch drill string, Blade bit.</li> <li>RC Drilling. 4.5 inch face sampling hammer</li> <li>NQ2 diamond core. Core orientated using an IS gyro.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	The geologist records occasions when sample quality is poor, or sample return is low, or the sample is wet or compromised in another fashion.
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	<ul> <li>Aircore samples are for geochemistry, and therefore fit for purpose.</li> <li>RC used booster and auxiliary compressors to restrict water inflows</li> <li>Diamond core was monitored, and high rates of recovery was achieved.</li> </ul>
	<ul> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	Sample recoveries were generally good, therefore no study was made. The samples were considered fit for purpose.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	Lithological logs exist for these holes in a database. Fields captured include lithology, mineralogy, sulphide abundance and type, alteration, texture, recovery, weathering and colour.
	Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography.	Logging has primarily been qualitative.

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		<ul> <li>Qualitative litho-geochemistry based on pXRF analyses is used to confirm rock types.</li> <li>Samples that are representative of lithology are kept in chip trays for future reference.</li> </ul>
	The total length and percentage of the relevant intersections logged.	The entire length of the drill holes were logged.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>Samples are tube sampled forming composites from 3 sequential sample piles, yielding an approximate 3.5kg sub-sample.</li> <li>The sample collection, splitting and sampling for this style of drilling is considered to be standard industry practise.</li> <li>Core samples were sawn in half.</li> </ul>
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Cyclones are routinely cleaned.</li> <li>Geologist looks for evidence of sample contamination, which would be recorded if evident.</li> <li>Samples are for geochemistry, and therefore fit for purpose</li> </ul>
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	<ul> <li>Standard Reference Material is included at a rate of 1 per 25 samples.</li> <li>Duplicate field samples are not routinely collected at this stage of the project.         Rather, samples that assay above 0.75g/t are regularly repeated from the 3.5kg sample retained by the laboratory.     </li> <li>Laboratory quality control samples are also monitored.</li> </ul>
	Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>Studies by Pioneer have shown that a 50g fire assay produces repeatable results.</li> <li>Field samples in the order of 2-3.5kg are considered to correctly represent the gold in potential ore at the Acra Project.</li> </ul>
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	The sample preparation and assay method used is considered to be standard industry practice and is appropriate for the type of deposit. The fire assay technique is a near total assay.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Pioneer owns an Olympus Delta handheld XRF instrument which it used to assist with rock-type classification only.
	<ul> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	Standards and laboratory checks have been assessed. Most of the standards show results within acceptable limits of accuracy, with good precision in most cases. Internal laboratory checks indicate very high levels of precision.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	Not at this stage of the project development.
g	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<ul> <li>Pioneer has a digital SQL drilling database where information is stored.</li> <li>The Company uses a range of consultants to load and validate data, and appraise quality control samples.</li> </ul>
	Discuss any adjustment to assay data.	Pioneer has not adjusted any assay data.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	Collar surveys were completed using a hand-held GPS with an accuracy of +-5 metres.
	Specification of the grid system used.	• MGA94 (Zone 51)

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	Quality and adequacy of topographic control.	Fit for purpose.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Individual drill holes.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	<ul> <li>Not the purpose of aircore drilling.</li> <li>RC and diamond core spacing is too wide for a resource calculation at present.</li> </ul>
	Whether sample compositing has been applied.	<ul> <li>The majority AC and RC of assays are of 3m composites.</li> <li>Diamond core samples are of 1m intervals of half core.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Gold often accumulates as sub-horizontal layers of supergene mineralisation at paleo-water tables. Therefore vertical drill holes for AC drilling is appropriate.</li> <li>The Kalpini South gold mineralisation dips at between -90 (vertical) and -60 degrees, therefore drill holes with a -60 degree dip are appropriate, and is an azimuth of approximately 214 degrees.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Pioneer uses standard industry practices when collecting, transporting and storing samples for analysis.</li> <li>Drilling pulps are retained by Pioneer off site.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling techniques for assays have not been specifically audited but follow common practice in the Western Australian gold industry.</li> <li>The assay data and quality control samples are periodically audited by an independent consultant.</li> </ul>

## **Section 2 - Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites	<ul> <li>The Kalpini South drilling reported herein is within E27/438 and E27/278 which are granted Exploration Licences.</li> <li>The tenements are located approximately 60km NE of Kalgoorlie WA.</li> <li>Pioneer Resources Limited is the registered holder of the tenements and holds a 100% unencumbered interest in gold within the tenement.</li> <li>There is no registered claim for Native Title which covers the tenements.</li> </ul>
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	<ul> <li>At the time of this Statement E27/436 and E27/278 are in Good Standing. To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to Pioneer's operations within the tenement.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	This report refers to data generated by Pioneer alone.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Kalpini South mineralisation, while identification is at a very early stage, is likely to be a typical Eastern Goldfields-style shear hosted 'orogenic' gold deposit.</li> <li>The mineralisation is currently hosted within a intermediate volcanoclastic rock adjacent to a mafic (dolerite) body.</li> <li>Gold occurs within a zone that is sheared, has quartz veining and deposits of iron and arsenic sulphides. This zone strikes at approximately 300° and dips steeply towards NW.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Refer to Appendix 1 of this announcement.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	samples.  Intervals reported are above a 0.25g/t (lower) cutoff,

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	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Downhole lengths are reported in Appendix 1 and are most often not an indication of true width.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Refer to maps in this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Comprehensive reporting of drill details has been provided in Appendix 1 and Appendix 2 of this announcement.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All meaningful and material exploration data has been reported.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Having ascertained the strike and dip of a mineralised structure at Kalpini South Prospect the next phase of drilling will be conducted .using a more appropriate drill hole azimuth, being approximately 210°.</li> <li>Fences of RC and diamond core drill holes, on a nominal 40x20m grid are planned.</li> </ul>