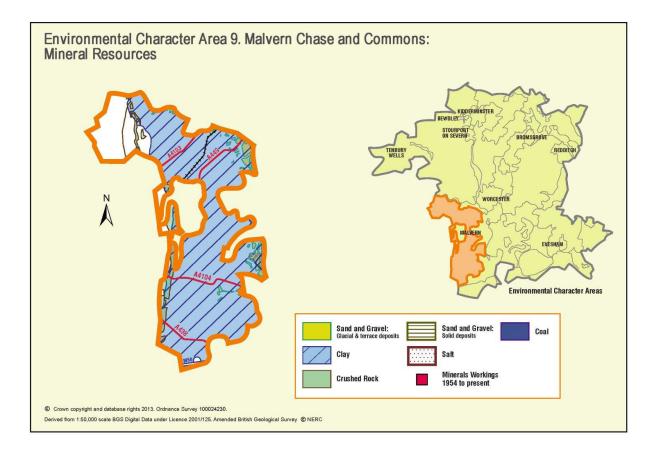
Appendix 9: Analysis of aggregate resources in ECA 9: Malvern Chase and Commons



ECA Summary for the Fourth Stage consultation on MLP (Winter 2018):

Sand and gravel

There are 15 resource areas identified for sand and gravel in Malvern Chase and Commons ECA:

- Key: 1
- Significant: 4
- Not significant: 3
- Compromised: 7

Crushed rock

There are 6 resource areas identified in Malvern Chase and Commons ECA for crushed rock:

- Significant: 1
- Compromised: 5

Non-aggregates

BGS data indicates that there are deposits of clay in this ECA.

Overview of resource assessment for ECA 9

Sand and gravel resource areas:

Resource	Resource Second Stage Consultation		Third Stage Co	onsultation	Four	th Stage Consult	ation
number*	Original estimated resource tonnage (2 tonnes/m ³)	Significance	Revised estimate of resource tonnage (1.65 tonnes/m ³)	Significance	New resource number (where resource has been split)	Revised estimate of resource tonnage (1.65 tonnes/m ³)	Result
9/1	510,000	Not significant	420,750	Not significant	Not reassessed		
9/2	3,570,000	Key	2,945,250	Key	9/2	2,743,125	Key
5/2	3,370,000	Rey	2,943,230	Ney	9/2b		Compromised
9/3	1,800,000	Significant	1,485,000	Significant	9/3	1,485,000	Significant
9/3	1,000,000				9/3b		Compromised
9/4	290,000	Not significant	239,250	Not significant	Not reassessed		
9/5	385,000	Compromised	317,625	Compromised	NULTEASSESSEU		
9/6	1,435,000	Significant	1,183,875	Significant	9/6	1,115,000	Significant
9/0	1,435,000	Significant	1,103,075	Significant	9/6b		Compromised
9/7	2,484,000	Кеу	2,049,300	Кеу	9/7	1,745,700	Significant
9/7					9/7b		Compromised
9/7a	690,000	Compromised	569,250	Compromised	Not reassessed		
9/8	790.000	Cignificant	642 500	Significant	9/8	643,500	Significant
9/0	780,000	Significant	643,500		9/8b		Compromised
9/9	Depth not known	Not significant	Depth not known	Not significant	Not reassessed		

Crushed rock resource areas:

Resource	Second Stage Consultation		Third Stage Consultation		Fourth Stage Consultation		ation
number*	Original estimated resource tonnage (2.7 tonnes/m ³)	Significance	Revised estimate of resource tonnage (2.45 tonnes/m ³)	Significance	New resource number (where resource has been split)	Revised estimate of resource tonnage (2.45 tonnes/m ³)	Result
9/10	937,575,000	Key	850,762,500	Key			Compromised
9/11	129,600,000	Key	117,600,000	Key			Compromised
9/12	30,375,000	Key	27,562,500	Key			Compromised
9/13	2,025,000	Key	1,837,500	Key			Compromised
9/14	3,442,500 Key	Kov	2 122 750	Kov	9/14	1,470,000	Significant
9/14		3,123,750 Key	rtey	9/14b		Compromised	

Overview					
Resource number:	9/1	Liffey			
Resource name:	Northend Farm	Liftfey Wood			
Resource area:	34 ha	(Wheel G)			
Resource depth:	Estimated 1.5m	iestfield			
Location					
OS sheet reference:	SO 84 SW	Sink Fm Sev			
National grid ref:	383811, 243751	State			
3					
		Northfield			
		A CAPEM			
		Fm ^{9/1b}			
		Cro			
		Derived from 1.50 000 scale BOS Digital Data 9/1			
		Derived from 1:50 000 scale BGS Digital Data 9/1 under Licence 2001 125 Americad British Geological Survey 9 NGAC			
		© Crown copyright and database rights 2018 Ordhance Survey 100024230 Prevale			
		Ordnance Survey 10002423 Merevale			
Resource description:					
Resource description:		er Station) sand and gravel. No boreholes or exposures are recorded but the 4 th			
	terrace deposits are tent	tatively correlated with those in the Teme Valley at Lower Poswick Farm where up to			
	1.5m of gravel are prese				
	(Estimated resource dep	oth based on exposure at Lower Poswick Farm of 1.5m)			
		ation on MLP (Autumn 2013)			
Commentary:		all-scale dispersed development across the resource area.			
Crude estimate of	Area: 34ha x average depth: 1.5m / 2				
	Estimated resource volume: 255,000m ³ .				
resource:					
	Estimated resource to	nnage (at 2 t/m ³): 510,000 tonnes			
Conclusion:	Estimated resource to Not significant: Small de	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ .			
Conclusion:	Estimated resource tou Not significant: Small de Not for consideration in o	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search.			
Conclusion: Assessment of resource	Estimated resource to Not significant: Small de Not for consideration in o for the Third Stage con	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015)			
Conclusion: Assessment of resource Revised estimate of	Estimated resource to Not significant: Small de Not for consideration in o for the Third Stage con Area: 34ha x average de	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015) epth: 1.5m / 2			
Conclusion: Assessment of resource	Estimated resource to Not significant: Small de Not for consideration in o for the Third Stage con Area: 34ha x average de Estimated resource volu	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015) epth: 1.5m / 2 ime: 255,000m ³ .			
Conclusion: Assessment of resource Revised estimate of resource:	Estimated resource ton Not significant: Small de Not for consideration in o for the Third Stage con Area: 34ha x average de Estimated resource volu Estimated resource ton	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015) epth: 1.5m / 2			
Conclusion: Assessment of resource Revised estimate of resource: Conclusion:	Estimated resource tou Not significant: Small de Not for consideration in o for the Third Stage con Area: 34ha x average de Estimated resource volu Estimated resource tou Not significant.	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015) epth: 1.5m / 2 ime: 255,000m ³ . nnage (at 1.65 t/m ³): 420,750 tonnes			
Conclusion: Assessment of resource Revised estimate of resource: Conclusion: Assessment of resource	Estimated resource tor Not significant: Small de Not for consideration in o for the Third Stage con Area: 34ha x average de Estimated resource volu Estimated resource tor Not significant.	nnage (at 2 t/m ³): 510,000 tonnes eposit with less than 300,000m ³ . defining areas of search. sultation on MLP (Spring 2015) epth: 1.5m / 2 ime: 255,000m ³ .			

Overview		9/16				
Resource number:	9/2	Ctc trems				
Resource name:	Hanley Castle	9/1				
Resource area:	102 ha					
Resource depth:	Estimated 3.5m					
Location		Merevale Em				
OS sheet reference: National grid ref:	SO 84 SW 384024, 242220	Gilbert's 17 9/2 ee End 7/16 Gilbert's 17 9/2 ee 7/19 5 PH-2 9/2 9/2 9/3 5 PH-2 9/4 Churc Fr Derived from 1:50,000 scale BGS Digital Data indel Li2ence 2000/R25, Amended Curs Britishir@ae0logical Survey © NERC (site or 9/3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
Resource description:						
Resource description:	3 rd terrace (Holt Heath)	sand and gravel. No boreholes or exposures are recorded but the 3 rd terrace generally				
	comprises gravel, sandy gravel and sand which may be clayey or cobbly and between 1m and 6m thick. (Estimated resource depth based on median depth of 3.5m)					
Assessment of resource		Itation on MLP (Autumn 2013)				
Commentary:		it partially compromised by the village of Hanley Castle and with small-scale dispersed				
Crude estimate of	Area: 102ha x average	depth: 3.5m / 2				
resource:	Estimated resource vol	ume: 1,785,000m ³ .				
	Estimated resource tonnage (at 2 t/m ³): 3,570,000 tonnes					
Conclusion:	Significant – key resour					
	Use to define areas of s					
	Assessment of resource for the Third Stage consultation on MLP (Spring 2015)					
Revised estimate of	Area: 102ha x average					
resource:	Estimated resource volume: 1,785,000m ³ .					
	Estimated resource tonnage (at 1.65 t/m ³): 2,945,250 tonnes					
	Conclusion: Significant – key resource.					
		consultation on MLP (August 2018)				
This resource area has be						
Res	source area 9/2	Resource area 9/2b				

Resource area:	95 ha	Commentary:	Screened out due to the following appendix A criterion:
Resource depth:	Estimated 3.5m		- Conservation Area
Revised estimate	Area: 95 ha x average depth: 3.5m ÷ 2		- Listed Buildings
of resource:	Estimated resource volume: 1,662,500 m ³ Estimated resource tonnage (at 1.65		Settlement boundaryScheduled Ancient Monument
	t/m³): 2,743,125 tonnes		
Conclusion:	Key resource	Conclusion:	Compromised

Resource number: 9/3 Resource name: East of Hanley Castle Resource area: 45ha Resource depth: 4m OS sheet reference: S0 84 SW National grid ref: 384494, 241434 Resource description: Resource for the save as ad and gravel. The pebble content is indistinguishable from that of the 3 rd terrace. It is usually described as sand and gravel although some boreholes in the 2 rd terrace proved only sit and clay. The deposit generally varies between 2m and 6m in thickness. (Estimated resource depth. 4m / 2 resource: Estimated resource ovolume: 900.000m ³ . Estimated resource ovolume: 900.000m ³ . Revised estimate of Area: 45ha x average depth: 4m / 2 Resource: Estimated resource ovolume: 900.000m ³ . Estimated resource ovolume: 900.000m ³ . Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area: 45ha x average depth: 4m / 2 Revised estimate of Area:	Overview		7/17 K		
Resource name: Resource area: 45ha Resource depth: 4m Location OS sheet reference: SO 84 5W National grid ref: 384494, 241434 Resource description: Resource to the Resource description: Resource to the Resource to numage (at 2 Um ³): 1,800,000 tonnes Conclusion: Significant. Resource to the Resource to numage (at 2 W ³): 1,850,000 tonnes Conclusion: Resource to the F	Resource number:	9/3	37 A Northend 1b		
Resource depth: 4m Location 384494, 241434 National grid ref: 384494, 241434 So sheet reference: So B set reference: Resource description: Convertence Resource description: 2 rd Resource description: 2 rd Resource description: 2 rd Commentary: A small deposit with small-scale dispersed development across the resource only sitt and clay. The deposit generally varies between 2m and 6m in thickness. (Estimated resource depth based on median depth of 4m) Assessment of resource for the second consultation on MLP (Autumn 2013) Commentary: A small deposit with small-scale dispersed development across the resource area. Crude estimate of Area: 45ha x average depth: 4m / 2 resource: Reside estimate of Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Fourth Stage consultation on MLP (Spring 2015) Revised estimate of Area: 45ha x average depth: 4m / 2 resource: Area: 45ha x average depth: 4m / 2 resource: Estimated resource volume: 900,000m ³ . Estimated resource toronage (at 1.65 t/m): 1,485,000 tonnes Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) The desource area has been split into areas 9/3 and 9/3b.	Resource name:	East of Hanley Castle			
Location OS sheet reference: SO 84 SW 384494, 241434 June 1 Image: Solid State in the solid State	Resource area:	45ha	• Seve 7/16		
Location OS sheet reference: SO 84 SW National grid ref: 384494, 241434 Image: Comparison of the second comparison of the	Resource depth:	4m	Merevale R And And A H Jecs		
OS sheet reference: S0 84 SW National grid ref: 384494, 241434 Image: Solid Structure S	Location				
Resource description: 2 nd terrace (Worcester) sand and gravel. The pebble content is indistinguishable from that of the 3 rd terrace. It is usually described as sand and gravel although some boreholes in the 2 nd terrace proved only silt and clay. The deposit generally varies between 2m and 6m in thickness. (Estimated resource depth based on median depth of 4m) Assessment of resource for the second consultation on MLP (Autumn 2013) Commentary: A small deposit with small-scale dispersed development across the resource area. Crude estimate of resource: Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 2 t/m ³): 1,800,000 tonnes Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource toronage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 2 t/m ³): 1,800,000 tonnes Conclusion: Significant. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has	OS sheet reference: National grid ref:		End Gilbert's End Gilbert's Find Gilbert's Gilber		
is usually described as sand and gravel although some boreholes in the 2 nd terrace proved only silt and clay. The deposit generally varies between 2m and 6m in thickness. (Estimated resource depth based on median depth of 4m) Assessment of resource for the second consultation on MLP (Autumn 2013) Commentary: A small deposit with small-scale dispersed development across the resource area. Crude estimate of Area: 45ha x average depth: 4m / 2 resource: Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 2 t/m ³): 1,800,000 tonnes Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of Area: 45ha x average depth: 4m / 2 resource: Estimated resource volume: 900,000m ³ . Estimated resource volume: 900,000m ³ . Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	Resource description:				
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Commentary: A small deposit with small-scale dispersed development across the resource area. Crude estimate of resource: Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 2 t/m ³): 1,800,000 tonnes Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	Assessment of resource				
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Estimated resource tonnage (at 2 t/m³): 1,800,000 tonnes Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource: Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	resource:				
Conclusion: Significant. Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource: Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.			,		
Consider in defining areas of search. Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource Area: 45ha x average depth: 4m / 2 Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	Conclusion:				
Assessment of resource for the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource of the Third Stage consultation on MLP (Spring 2015) Revised estimate of resource of the Source volume: 900,000m ³ . Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.		Consider in defining areas	as of search.		
resource: Estimated resource volume: 900,000m ³ . Estimated resource tonnage (at 1.65 t/m ³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	Assessment of resource	e for the Third Stage cons	nsultation on MLP (Spring 2015)		
Estimated resource tonnage (at 1.65 t/m³): 1,485,000 tonnes Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	Revised estimate of				
Conclusion: Significant. Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.	resource:		,		
Assessment of resource for the Fourth Stage consultation on MLP (August 2018) This resource area has been split into areas 9/3 and 9/3b.		Estimated resource ton	nnage (at 1.65 t/m³): 1,485,000 tonnes		
This resource area has been split into areas 9/3 and 9/3b.	Conclusion:	Significant.			
This resource area has been split into areas 9/3 and 9/3b.	Assessment of resource	ofor the Fourth Stage con	onsultation on MLP (August 2018)		
Resource area 9/3 Resource area 9/3b					
	Res	ource area 9/3	Resource area 9/3b		

Resource area:	45 ha	Commentary:	Screened out due to the following appendix A criterion:
Resource depth:	Estimated 4m		- Listed Buildings
Revised estimate	Area: 45ha x average depth: 4m / 2		- Settlement boundary
of resource:	Estimated resource volume: 900,000m ³ .		
	Estimated resource tonnage (at 1.65		
	t/m³): 1,485,000 tonnes		
Conclusion:	Significant resource	Conclusion:	Compromised

Overview					
Resource number:	9/4				
Resource name:	Lodge Farm				
Resource area:	14ha				
Resource depth:	Estimated 3.5m				
Location		9/26			
OS sheet reference:	SO 84 SW	PHA #			
National grid ref:	383465, 241722	Age Derived from 1:50,000 scale BGS Digita Derived from 1:50,000 scale BGS Digita D			
Resource description:	rd				
Resource description:	3 rd terrace (Holt Heath) sand and gravel. No boreholes or exposures are recorded but the memoir for this area states that the 3 rd terrace generally comprises gravel, sandy gravel and sand which may be clayey or cobbly and between 1m and 6m thick. (Estimated resource depth based on median depth of 3.5m)				
Assessment of resource		ation on MLP (Autumn 2013)			
Commentary:		all-scale development on the north-western periphery of the resource area.			
Crude estimate of	Area: 14ha x average de				
resource:	Estimated resource volu				
	Estimated resource tonnage (at 2 t/m ³): 290,000 tonnes.				
Conclusion:	Not significant: Small der	posit with less than 300,000m ³ .			
	Not for consideration in c				
		sultation on MLP (Spring 2015)			
Revised estimate of	Area: 14ha x average depth: 3.5m / 2				
resource:	Estimated resource volume: 245,000m ³				
	Estimated resource to	nnage (at 1.65 t/m³): 239,250 tonnes			
Conclusion:	Not significant.				
Assessment of resource	e for the Fourth Stage co	onsultation on MLP (August 2018)			
		as Key or Significant in the Third Stage Consultation			

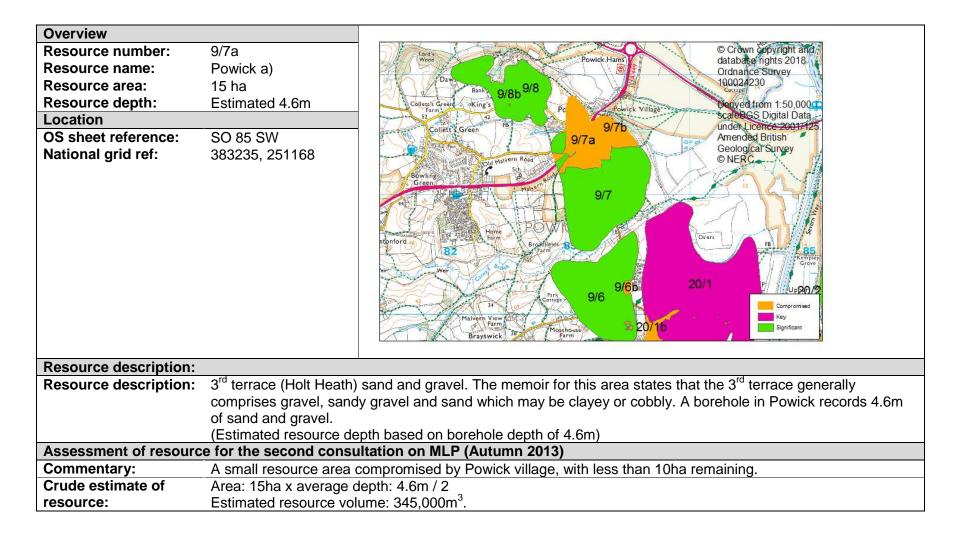
Overview					
Resource number:	9/5	9/6 9/6b 20/1b © Crown copyright and database rights 2018			
Resource name:	Callow End				
Resource area:	11 ha	Benness 100024230			
Resource depth:	Estimated 3.5m	vick tige St.:htmax			
Location		scaleBGS Digital Data/			
OS sheet reference:	SO 84 NW	Same Callow			
National grid ref:	383594, 249383	Sector Callow End 9/5 9/5 Verver of Free Sector Compromised Key Sector Compromised Key Significant			
Resource description:					
Resource description:	3 rd terrace (Holt Heath) sand and gravel. No boreholes or exposures are recorded but the memoir for this area states that the 3 rd terrace generally comprises gravel, sandy gravel and sand which may be clayey or cobbly and between 1m and 6m thick. (Estimated resource depth based on median depth of 3.5m)				
Assessment of resource		Itation on MLP (Autumn 2013)			
Commentary:		entirely compromised by Callow End village.			
Crude estimate of	Area: 11ha x average d				
resource:	Estimated resource volume: 192,500m ³				
	Estimated resource to	onnage (at 2 t/m³): 385,000 tonnes			
Conclusion:	Compromised by devel	opment.			
Assessment of resourc	e for the Third Stage co	nsultation on MLP (Spring 2015)			
Revised estimate of	Area: 11ha x average depth: 3.5m x 0.5				
resource:	Estimated resource volu	ume: 192,500m ³			
	Estimated resource to	onnage (at 1.65 t/m ³): 317,625 tonnes			
Conclusion:	Compromised by develo	opment.			
Assessment of resource	e for the Fourth Stage of	consultation on MLP (August 2018)			
		ed as Key or Significant in the Third Stage Consultation			

Overview			
Resource number:	9/6	Crown copyright and	
Resource name:	North of Callow End	9/7 Ordnance Survey	
Resource area:	41ha	5/7 100024230	
Resource depth:	3.5m	Derived from 1:50,000	
Location	19-1 be a State	scaleBGS Digital Data under Licence 2001/125	
OS sheet reference:	SO 85 SW	Amended British	
National grid ref: Resource description:	383270, 250200	Geological Survey NERC 9/65 20/1 4 4 4 4 4 4 4 4 4 4 4 4 4	
Resource description:	2 rd torrage (Helt Heath) aged and	gravel. No boreholes or exposures are recorded but the memoir for this	
Resource description.	area states that the 3 rd terrace de	nerally comprises gravel, sandy gravel and sand which may be clayey or	
	cobbly and between 1m and 6m tl		
	(Estimated resource depth based		
Assessment of resource	e for the second consultation on I		
Commentary:		scale dispersed development across the resource area.	
Crude estimate of	Area: 41ha x average depth: 3.5m		
resource:	Estimated resource volume: 717,5		
100001001	Estimated resource tonnage (at		
Conclusion:	Significant.		
Conclusion.	Consider in defining areas of sear	ch	
Assessment of resource	of or the Third Stage consultation		
Revised estimate of	Area: 41ha x average depth: 3.5m		
resource:	Estimated resource volume: 717,500m ³ .		
	Estimated resource tonnage (at		
Conclusion:	Significant.		
	of or the Fourth Stage consultatio	n on MLP (August 2018)	
	een split into areas 9/6 and 9/6b.		
	source area 9/6	Resource area 9/6b	
Resource area: 40 h		Commentary: Screened out due to the following appendix A criterion:	
	a	Commentary. Screened out due to the following appendix A chileholi.	

Resource depth:	Estimated 3.5m		- Allocated site in South Worcestershire
Revised estimate of resource:	Area: 40ha x average depth: 3.5m / 2 Estimated resource volume: 700,000m ³		Development Plan - Listed Buildings
	Estimated resource tonnage (at 1.65 t/m ³): 1,155,000 tonnes		- Settlement boundary
Conclusion:	Significant resource	Conclusion:	Compromised

Overview						
Resource number:	9/7	© Crown copyright and				
Resource name:	Powick	Wrose Powick Hams database rights 2018 Ordnance Stryey				
Resource area:	54 ha	Banky 9/8b 9/8				
Resource depth:	Estimated 4.6m	Collects Green King's Powiek Willing Powiek Willing Powiek Willing				
Location		ScaleBGS Digital Data - Collect's Green				
OS sheet reference: National grid ref:	SO 85 SW 383235, 251168	Collett's Green Bowling Green Green War Hone Have Hone Have Hone Have Hone Have Hone Have Hone Have Hone Hone Have Hone Have Hone				
Resource description:						
Resource description:	3 rd terrace (Holt Heath)	sand and gravel. The memoir for this area states that the 3 rd terrace generally				
-	comprises gravel, sand	dy gravel and sand which may be clayey or cobbly. A borehole in Powick records 4.6m				
	of sand and gravel.					
		epth based on borehole depth of 4.6m)				
		Itation on MLP (Autumn 2013)				
Commentary:		rce area intersected by a road with small-scale ribbon development and other small the periphery of the resource area. The deposit extends under Powick village, this is a area 9/7a.				
Crude estimate of	Area: 54ha x average o					
resource:	Estimated resource volume: 1,242,000m ³ .					
		onnage (at 2 t/m ³): 2,484,000 tonnes				
Conclusion:	Significant – key resou					
	Use to define areas of					
	e for the Third Stage consultation on MLP (Spring 2015)					
Revised estimate of	Area: 54ha x average depth: 4.6m / 2					
resource:	Estimated resource vol	lume: 1,242,000m°. onnage (at 1.65 t/m³): 2,049,300 tonnes				
Conclusion:	Significant – key resour					
		consultation on MLP (August 2018)				

This resource area	This resource area has been split into areas 9/7 and 9/7b.			
	Resource area 9/7		Resource area 9/7b	
Resource area:	46 ha	Commentary:		
Resource depth:	Estimated 4.6m		 Allocated site in South Worcestershire 	
Revised estimate	Area: 46ha x average depth: 4.6m / 2		Development Plan	
of resource:	Estimated resource volume: 1,058,000m ³		- Conservation Area	
	Estimated resource tonnage (at 1.65		- Listed Buildings	
	t/m³): 1,745,700 tonnes		- Settlement boundary	
Conclusion:	Significant resource	Conclusion:	Compromised	



	Estimated resource tonnage (at 2 t/m ³): 690,000 tonnes
Conclusion:	Compromised by development with less than 10ha of the deposit remaining.
Assessment of resour	ce for the Third Stage consultation on MLP (Spring 2015)
Revised estimate of	Area: 15ha x average depth: 4.6m / 2
resource:	Estimated resource volume: 345,000m ³
	Estimated resource tonnage (at 1.65 t/m³): 569,250 tonnes
Conclusion:	Compromised by development.
Assessment of resour	ce for the Fourth Stage consultation on MLP (August 2018)
Not reassessed due to r	esource not being classified as Key or Significant in the Third Stage Consultation

Overview		
Resource number: Resource name: Resource area: Resource depth: Location OS sheet reference: National grid ref:	9/8 King's End 26ha Estimated 3m SO 85 SW 382491, 251890	© Crown copyright and database rights 2018 Ordnancer Survey 100024230 Derived from 1:50,000- scaleBGS Digital Data under Stintesy © NERC 9/8 9/8 9/8 9/8 9/8 9/8 9/8 9/8 9/8
Resource description:		
Resource description:	according to the BGS r point.	ter Station) sand and gravel. The deposit varies in grade from gravel to sand and nemoirs its thickness is believed to range from 1-5m, and may be up to 3m thick at this epth based on median depth of 3m)
Assessment of resourc	e for the second consu	Iltation on MLP (Autumn 2013)
Commentary:	A small deposit with sn	nall-scale dispersed development across the resource area.
Crude estimate of resource:	Area: 26ha x average of Estimated resource vo	

	Estimated resource tonnage (at 2 t	./m ³): 780,000 tor	nnes
Conclusion:	Significant.	Significant.	
	Consider in defining areas of search.		
Assessment of res	source for the Third Stage consultation o	n MLP (Spring 2	015)
Revised estimate			
resource:	Estimated resource volume: 390,000	m ³	
	Estimated resource tonnage (at 1.	65 t/m ³): 643,500	tonnes
Conclusion:	Significant.		
Assessment of res	source for the Fourth Stage consultation	on MLP (August	2018)
This resource area	has been split into areas 9/8 and 9/8b.	• -	
	Resource area 9/8		Resource area 9/8b
Resource area:	26 ha	Commentary:	Screened out due to the following appendix A criterion:
Resource depth:	Estimated 3m		- Listed Buildings
Revised estimate	Area: 26ha x average depth: 3m / 2		- Settlement Boundary
of resource:	Estimated resource volume: 390,000m ³		
	Estimated resource tonnage (at 1.65		
	t/m ³): 643,500 tonnes		
Conclusion:	Significant resource	Conclusion:	Compromised

Overview		
Resource number: Resource name: Resource area: Resource depth: Location OS sheet reference: National grid ref:	9/9 Welland Lodge 21ha Not known. SO 73 NE 381148, 239525	Crown copyright and database rights 2018 Ordhance Survey 100924230 Derived from 1:50:000 ScaleBGS Digital Data Mindel British Geological Survey 9/9 9/9 9/9 0 NERC
Resource description:		
Resource description:	2 nd terrace (Worcester) s the lower and may give a area.	and and gravel. The upper part of the 2 nd terrace deposit is typically more sandy than a misleading impression of the gravel content. There is no information on depth in this
Assessment of resource		ation on MLP (Autumn 2013)
Commentary:		Ill-scale dispersed development across the resource area.
Crude estimate of resource:	Depth not known.	
Conclusion:	Not significant: Small dep Not for consideration in c	posit with no information to estimate the resource in this area. defining areas of search.
Assessment of resource		sultation on MLP (Spring 2015)
Revised estimate of resource:	No change to the assess	
Conclusion:	Not significant.	
		onsultation on MLP (August 2018)
Not reassessed due to reasonable	source not being classified	as Key or Significant in the Third Stage Consultation

Overview		
Resource number: 9/	/10	GREAT CALL AND
	lorth Hill to	
	langman's Hill	and the local state of the second state of the
	63 ha	
-	stimated 1658m,	The second
	naximum working epth estimated 150m	Notice and Annual Annua
Location		Barger Comment Contraction
	O 74 NE, SO 74 SE	
	76863, 243606	A second and a second and a second and a second
5		A WALKING AND A REAL A
		A start of the sta
		10 venere light 12 73 77 74 a manual light 12 179 72 17 17 17 17 17 17 17 17 17 17 17 17 17
		Derived from 1/50,000 scale B/SS Digital Data
		under Licence 2001/125 Amended
		39 January Contraction of the second s
		© Crown convergent and estabase rights 2018 0/11 Ordnance Survey 100024230 Out of County
Resource description:		
	alverns complex and V	Varren House formation (crushed rock). The Malverns Complex of Precambrian age
		Hills which straddle the border between Worcestershire and Herefordshire. The
		nly intrusive igneous rocks. These include diorites and tonalities, with minor granites
		ny of the rocks are extensively sheared and are cut by microdiorite dykes and granite
p	egmatites.	
т	he BGS geological mar	o ¹ indicates that in some areas of the Malvern Hills, the pre-Cambrian rock is an
		at Worcestershire Beacon). However, the geological map indicates that, due to
		-cambrian rock is likely to be much less than this at the southern end of the range,
		Om depth at Herefordshire Beacon. The memoir for Worcester reports that the
		m north-west of this resource area, in Herefordshire) did not reach the pre-Cambrian
bi	asement until 1710m bu	ut that seismic readings suggested this should have been 1800m.
	bo intrusivo Malvero re	cks were widely used for roadstone and building stone in and around Malvern for
		^h centuries. The Malvern Hills Conservators (a locally elected body charged with the
		the Hills) have been granted a number of local Acts of Parliament which included the
		hase quarries. As a result of these Acts and Appeal decisions by the Secretary of

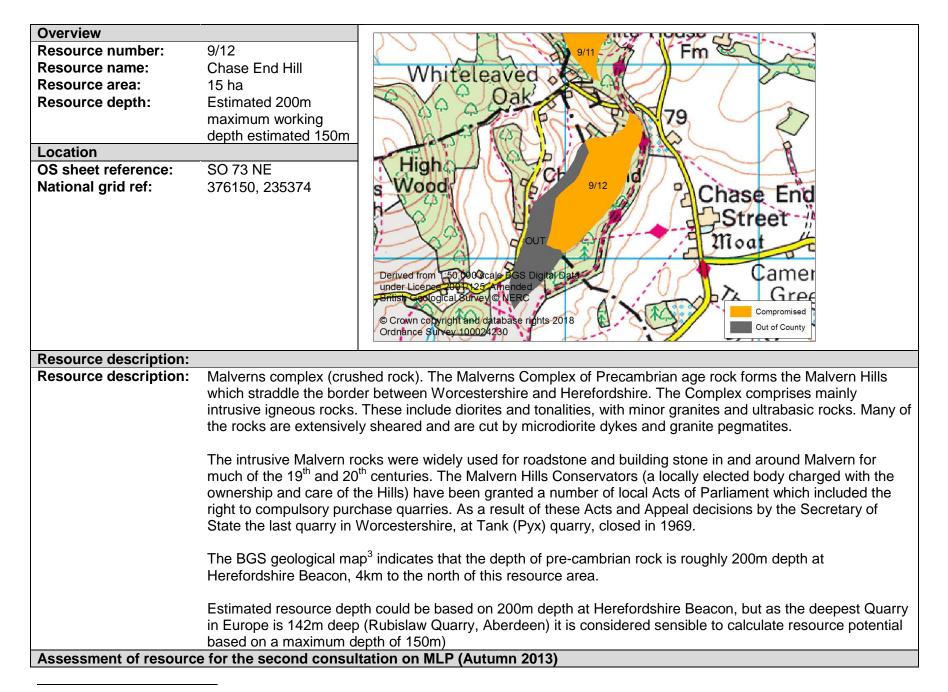
¹ Cross-sections shown on the 1:50000 Series England and Wales Sheet 199, Worcester, Solid and Drift Geology)

	Estimated resource depth could be based on the average of a) 3000m at Worcestershire Beacon b) 200m at
	Herefordshire Beacon and c) Borehole at Collington (median average 1710m to 1800m): 1775 = 1658m but as
	the deepest quarry in Europe is 142m deep (Rubislaw Quarry, Aberdeen) it is considered sensible to calculate
	resource potential based on a maximum depth of 150m.
Assessment of resour	rce for the second consultation on MLP (Autumn 2013)
Commentary:	A large resource area with little built development. This deposit extends beyond the county boundary into Herefordshire.
Crude estimate of	Area: 463 ha x average depth: 150 m ÷ 2
resource:	Estimated resource volume: 347,250,000 m ³
	Estimated resource tonnage (at 2.7 t/m ³): 937,575,000 tonnes
Conclusion:	Significant – key resource.
	Use to define areas of search.
Assessment of resour	rce for the Third Stage consultation on MLP (Spring 2015)
Revised estimate of	Area: 463 ha x average depth: 150 m ÷ 2
resource:	Estimated resource volume: 347,250,000 m ³
	Estimated resource tonnage (at 2.45 t/m ³): 850,762,500 tonnes
Conclusion:	Significant – key resource.
Assessment of resour	rce for the Fourth Stage consultation on MLP (August 2018)
Commentary:	Screened out due to the following appendix A criterion:
-	- Ancient Semi-Natural Woodland
	Area of Outstanding Natural Beauty
	- Conservation Area
	- Listed Building
	- Settlement Boundary
	- Site of Special Scientific Interest
	- Source Protection Zone
Conclusion:	Key resource
	•

Overview		Common
Resource number: Resource name:	9/11 Hollybush,	News Wood
Resource name.	Midsummer and Swinyard Hills	Start For the Former Start Sta
Resource area:	64 ha	
Resource depth:	Estimated 200m maximum working depth estimated 150m	Eastnor Park Obelisk Pairoaks
Location	depin estimated 150m	Pin Fin Pin Pin Pin Pin Pin Pin Pin Pin Pin P
OS sheet reference: National grid ref:	SO 73 NE 376251, 237336	Bronsil Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Common Hollybed Hollybed Hollybed Common Hollybed Hol
		Idelified from 1:50,000 scale BGS bighar Data Idelified from 1:50,000 scale BGS bighar Data Under Licence 2001/125. Amended Iter House Batist Geological Survey © NERC Iter House Ind Compromised Ordnance Survey 100824230 Oak
Resource description:		
Resource description:	which straddle the bord igneous rocks. These in	shed rock). The Malverns Complex of Precambrian age rock forms the Malvern Hills er between Worcestershire and Herefordshire. The Complex comprises mainly intrusive include diorites and tonalities, with minor granites and ultrabasic rocks. Many of the meared and are cut by microdiorite dykes and granite pegmatites.
	much of the 19 th and 20 ownership and care of t right to compulsory pure	ocks were widely used for roadstone and building stone in and around Malvern for th centuries. The Malvern Hills Conservators (a locally elected body charged with the the Hills) have been granted a number of local Acts of Parliament which included the chase quarries. As a result of these Acts and Appeal decisions by the Secretary of Worcestershire, at Tank (Pyx) quarry, closed in 1969.
	The BGS geological ma Herefordshire Beacon, a	ap ² indicates that the depth of pre-cambrian rock is roughly 200m depth at a little to the north of this resource area.
		pth could be based on 200m depth at Herefordshire Beacon, but as the deepest Quarry (Rubislaw Quarry, Aberdeen it is considered sensible to calculate resource potential lepth of 150m)

² Cross-sections shown on the 1:50000 Series England and Wales Sheet 199, Worcester, Solid and Drift Geology)

Assessment of resour	ce for the second consultation on MLP (Autumn 2013)
Commentary:	A small resource area with little built development. This deposit extends beyond the county boundary into Herefordshire.
Crude estimate of	Area: 64 ha x average depth: 150m ÷ 2
resource:	Estimated resource volume: 48,000,000 m ³
	Estimated resource tonnage (at 2.7 t/m ³): 129,600,000 tonnes
Conclusion:	Significant – key resource.
	Use to define areas of search.
Assessment of resour	ce for the Third Stage consultation on MLP (Spring 2015)
Revised estimate of	Area: 64 ha x average depth: 150m ÷ 2
resource:	Estimated resource volume: 48,000,000 m ³
	Estimated resource tonnage (at 2.45 t/m ³): 117,600,000 tonnes
Conclusion:	Significant – key resource.
Assessment of resour	ce for the Fourth Stage consultation on MLP (August 2018)
Commentary:	Screened out due to the following appendix A criterion:
	- Ancient Semi-Natural Woodland
	- Area of Outstanding Natural Beauty
	- Listed Building
	- Site of Special Scientific Interest
Conclusion:	Key resource



³ Cross-sections shown on the 1:50000 Series England and Wales Sheet 199, Worcester, Solid and Drift Geology)

Commontory	A small resource area with little built development. This deposit extends beyond the source beyond any inte
Commentary:	A small resource area with little built development. This deposit extends beyond the county boundary into
	Herefordshire.
Crude estimate of	Area: 15 ha x average depth: 150 m ÷ 2
resource:	Estimated resource volume: 11,250,000 m ³
	Estimated resource tonnage (at 2.7 t/m ³): 30,375,000 tonnes
Conclusion:	Significant – key resource.
	Use to define areas of search.
Assessment of resour	ce for the Third Stage consultation on MLP (Spring 2015)
Revised estimate of	Area: 15 ha x average depth: 150 m ÷ 2
resource:	Estimated resource volume: 11,250,000 m ³
	Estimated resource tonnage (at 2.45 t/m ³): 27,562,500 tonnes
Conclusion:	Significant – key resource.
Assessment of resour	rce for the Fourth Stage consultation on MLP (August 2018)
Commentary:	Screened out due to the following appendix A criterion:
	- Ancient Semi-Natural Woodland
	- Area of Outstanding Natural Beauty
	- Site of Special Scientific Interest
Conclusion:	Key resource

Overview	
Resource number: Resource name: Resource area: Resource depth: Location OS sheet reference: National grid ref:	9/13 Ravenshill Wood 10 ha Estimated 15m SO 75 SW 374117, 253519
Resource description:	Woolhope Limestone Formation (crushed rock). In this area, the formation ranges from about 6m to 18m in thickness, although the BGS memoirs state that over much of its outcrop it maintains a relatively uniform thickness of about 15m, perhaps thinning regionally northwards from 17m in the Colwall Tunnel. The minimum thickness of 6m was recorded in a disused quarry at Merryhill Common, Storridge. (Estimated depth based on the relatively uniform thickness of 15m)
Assessment of resource	e for the second consultation on MLP (Autumn 2013)
Commentary:	A small resource area with no built development.
Crude estimate of resource:	Area: 10 ha x average depth: 15 m ÷ 2 Estimated resource volume: 750,000 m ³ Estimated resource tonnage (at 2.7 t/m³): 2,025,000 tonnes
Conclusion:	Significant – key resource. Use to define areas of search.
	e for the Third Stage consultation on MLP (Spring 2015)
Revised estimate of resource:	Area: 10 ha x average depth: 15 m ÷ 2 Estimated resource volume: 750,000 m ³ Estimated resource tonnage (at 2.45 t/m ³): 1,837,500 tonnes
Conclusion:	Significant – key resource.
Assessment of resource	e for the Fourth Stage consultation on MLP (August 2018)

Commentary:	Screened out due to the following appendix A criterion: Ancient Semi-Natural Woodland Area of Outstanding Natural Beauty
Conclusion:	Key resource

Overview				
Resource number:	9/14			
Resource name:	Alfrick Pound			
Resource area:	17 ho			
Resource depth:	Estimated 15m			
Location				
OS sheet reference:	SO 75 SW 9/14			
National grid ref:	374525, 252183			
	Ordnance Survey 100024230			
Resource description:	Marthurse Livers (and Francisca (and the day of) is this ender the formation marked (and the day is the day is			
Resource description:	Woolhope Limestone Formation (crushed rock). In this area, the formation ranges from about 6m to 18m in thickness, although the BGS memoirs state that over much of its outcrop it maintains a relatively uniform thickness of about 15m, perhaps thinning regionally northwards from 17m in the Colwall Tunnel. The minimum thickness of 6m was recorded in a disused quarry at Merryhill Common, Storridge.			
	(Estimated depth based on the relatively uniform thickness of 15m)			
	e for the second consultation on MLP (Autumn 2013)			
Commentary:	A small resource area with no built development.			
Crude estimate of	Area: 17 ha x average depth: 15 m ÷ 2			
resource:	Estimated resource volume: 1,275,000 m ³			
	Estimated resource tonnage (at 2.7 t/m ³): 3,442,500 tonnes			
Conclusion:	Significant – key resource.			
	Use to define areas of search.			
Assessment of resource for the Third Stage consultation on MLP (Spring 2015)				
Revised estimate of	Area: 17 ha x average depth: 15 m ÷ 2			
resource:	Estimated resource volume: 1,275,000 m ³ Estimated resource tonnage (at 2.45 t/m ³): 3,123,750 tonnes			
Conclusion:	Significant – key resource.			
Assessment of resource for the Fourth Stage consultation on MLP (August 2018)				

This resource area has been split into areas 9/14 and 9/14b.				
Resource area 9/14		Resource area 9/14b		
Resource area:	8 ha	Commentary:	Screened out due to the following appendix A criterion:	
Resource depth:	Estimated 15m		 Ancient Semi-Natural Woodland Area of Outstanding Natural Beauty 	
Revised estimate	Area: 8 ha x average depth: 15m ÷ 2			
of resource:	Estimated resource volume: 600,000 m ³		- Listed Buildings	
	Estimated resource tonnage (at 2.45		 Site of Special Scientific Interest 	
	t/m³): 1,470,000 tonnes			
Conclusion:	Significant resource	Conclusion:	Compromised	