

Depth	Grain	Size	Lithology	Porosity Total Poros (%)	Perm (mD) Visually Estimated Perm	Geological Descriptions
5	Gravel Fine Silt/clay Claystone			20% Estimated Porosity	1-5 to pos 5-50 mD + 7	SS: vf-predom med-vc gr varicol clr-pnk ang-sb ang com sly fros qtz grs, com vc-granule & larger size qtz grs, 2-3% ch chert, com pink FELDSPAR, completely UNCONSOLIDATED in spl, SIDERITIC CLAY/ CLAY-RICH SLTST CLASTS, infer good por/perm, ??, immature gravel lag.
10				15-20% +7		
15				15-20% +7?		SS: vf-predom med-vc gr varicol clr-pnk ang-sb ang com sly fros qtz grs, com vc-granule & larger size qtz grs, 2-3% ch chert, com pink FELDSPAR, completely UNCONSOLIDATED in spl, SIDERITIC CLAY/ CLAY-RICH SLTST CLASTS, infer good por/perm, ??, immature gravel lag.
20				15-20% +7?	1-5 to pos 5-50 mD + 7	
25				15-20% +7?		
30				15-20% +7?		
35						NO SAMPLE
40						SH, com sly, pyritic; abund cement, mnr SLTST.
45						SH, VERY DIRTY, POORLY WASHED SAMPLES.
50				20% Estimated Porosity		
55						SH, VERY DIRTY SAMPLES
60						
65						SH, VERY DIRTY SAMPLES
70						
75						
80						SH, dk gy, com sly, silty-silty.
85						
90						SS: vf fgr to com cfts to vf fgr, clr & trsl gy qtz grs, 1-2% carbonaceous material, silty, abund kao clay, PATCHY DISSEMINATED PYR, mod-weakly consolidated, sil, RR GLAUC, fair grn relief, RR VIS POR, 3-6% total por, <0.05 md.
95				3-6% ELRUC	<0.05 md	SH
100				possible healed frac OR VEIN		SH, tr BLOCKY CALCITE - FRAC FILL ? VEIN ?
105				20% Estimated Porosity		sh, very dirty, poorly washed samples
110						SH, mnr SLTST stringers.
115				7-12% ELRUC	0.05-0.5 md	115 spt. SH, com SS: vf+ med gr, tr f c gr, silty & v argillaceous, com pink k-FELDSPAR, tr-com GLAUC, tr-com carb mat & pos dk CHT, TR-COM VISBLE POROSITY, 7-12% por, 0.05-0.5 pos 1 md.
120				5-8% ELRUC	0.05-0.5 md	SS: sil-vf fgr, silty argillaceous, com CARB material, TR GLAUC, TR-COM VISBLE POROSITY, 5-8% por, 0.05-0.5 md.
125				1-2% ELRUC	<0.02 md	120 spt CONGL: abund rd CHT with common attached matrix material; vf+ med gr, ang-sb ang qtz and com carb grs, abund sideritic clay, NO VIS POR.
130				3-6 TO POS 8% POR	0.02-0.05 to pos 0.5 md	125 SS: sil-vf to com f fgr, ang clr qtz grs, rr GLAUC, tr carb mat, com-abund interstitial clay/sly material, RARE tr VIS POR, 3-6% to pos 8% POR, 0.02-0.05 to pos 0.3 md.
135				1-3 to pos 8%	0.02-0.05 to pos 0.5 md	130 SS: vf+ com med-c gr CHT PEBBS, RR-TR VIS POR, 1-3% com 3-6 & 8% por, 0.02-0.05 to pos 0.5 md.
140				1-3 to pos 8%		SH, SLTST grading to SS: vf, vf+ and com med gr, silty, arg clay, NONE to TR VIS POR, 1-3% por, <0.02 md
145				1-3 to 6 or 8%	<0.02 md	
150				3-6 to pos 8%	0.05-0.5 md	SH, SLT to com argillaceous/silty vf fgr SS, TR CHT PEBBLES, TR FELDSPAR PEBBS, no apert vis por, 1-3 to 6% POR, <0.03 md.
155				3-6 to pos 6-8 or 10%	0.05-0.5 md	SH, SLTST grading to vf fgr & med gr, ang-sb ang sb rdd qtz grs; TR VIS POR, 3-6 to 8% por, 0.05-0.2 md
160				3-6 to pos 8%	0.05-0.3 md	SH, SLTST, com vf, vf+ & com med gr, com cfts w/ abund SID/GLAUC, mod-weakly consolidated, TR-COM VIS POR, 4-8 to pos 8-10% POR, 0.05-0.5 md.
165						SH, com SLTST
170				2-3 to com 6-8%	<0.02 to com 0.05-0.2 md	SS: sil-vf & com f fgr, arg, kao, 3-6% predom micro clay por,
175						SS: sil-vf and com fgr, arg/kao, PYRITIC, tr MICA, tr vis por in part, 2-3 to com 4-8% por, <0.02 to com 0.05-0.2 md.
180						SH, com argillaceous SLTST.
185						SH, silty grading to argillaceous SLTST, tr pyr.
190						SH, mnr argillaceous SLTST.
195						LCM: abund SANDWICK Com SS: vf, vf+ fgr, kao, arg, com clay calcareous, NO VIS POR.
200						SH, mnr SLTST.
205						SH, abundant SLTST
210						SHALE
215						
220						SH, tr argillaceous SLTST.
225						
230						SH, mnr SLTST STRINGERS.
235						
240						SH, sil, silty.
245						
250						SH, sil, silty.
255						
260						SH, com SLTST stringers
265						
270						
275						
280						SH, sil, silty.
285						
290						
295						SH, sil, silty.
300						
305				3-6 to 8%	0.02-0.05 to pos 0.2 md	SH, com SLTST grading to vf gr SS, silty, SIL, tr carb mat, TR VIS POR, 3-6 to 8% por, 0.02-0.05 to pos 0.2 md.
310				3-6 to com 8%	0.02-0.05 md to pos 0.1-0.2 md	SH, com SS as abv, com cfts to vf fgr, ang qtzose, sil, silty, tr carb mat & KAO clay, TR VIS POR, 3-6 to com 8% por, 0.02-0.05 md to pos 0.1-0.2 md.
315				3-6 to pos 8%	0.03-0.05 to 0.2 or 0.3 md	315 SLTST grading to u vf gr SS, tr f fgr, ang-sb ang qtz grs with com-abund silty, com sly PYRITIC/ARG/KAO, rr GLAUC, tr-COM VIS POR, 3-6 to pos 8% por, 0.03-0.05 to 0.2 or 0.3 md.
320						SH, com silty.
325						SH, com silty
330						
335						SH, com silty.
340						
345						SH, com silty and com argillaceous SLTST stringers.
350						SH, com silty and com argillaceous SLTST stringers.
355						
360				3-6%	0.02-0.05 to pos 0.1 md	SS: vf fgr ang clr qtz grs, sil arg in part, tr carb mat, com GLAUC, tr-COM VIS POR, 0.02-0.05 TO POS 0.1 MD CONGLOMERATE: com LOOSE sb rdd-rd CHERT PEBBLES, com conglomeratic SS matrix: f c & vc gr trilaminar qtz and abund dk CHERT grs, com-reland occluding KAO clay, TR VIS POR with DRUSE LINING, tr PYRITIC PLUGGING, 1-3 kao clay plugged to 3-6 to pos 8% por, 0.02-0.05 to streaky 0.1-0.5 to pos 1-2 md ??
365				3-6 to pos 8%	<0.02 md	SH, few ch pels, com SS: vf fgr ang clr qtzose, 1% carb mat, abund pos occluding qtz overhangs, no vis por, com SS: vf+ med and com scattered poorly sorted med gr SS, SIL, KAO, tr chrt and intermed grs with 2% carb grs.
370				1-3%		SH, mnr SLTST.
375						SH
380				5-8 to pos 12-14% por	1-3 md	SH, com SS: vf-predom f c gr, ang-sb ang & com sb rdd clr qtz grs with tr carb mat, occluding qtz overhangs and KAO clay, tr chrt, weakly consolidated due to com-abund KAO clay, TR VIS POR, 5-9% to pos 12% por, 1-3 md.
385				2-4%	<0.05 md	SS: com in silty, silty vf fgr, ang, rr GLAUC, TR VIS POR, 2-4 to pos 6%, <0.05 md.
390				2-3%	<0.02 md	SS: vf-med gr, ang clr qtz grs, sil, carb, tr chrt, kao, NO VIS POR.
395				3-6%	0.05-0.2 md	SS: sil-vf gr, ang clr qtzose, sil, silty, com KAO clay, TR-COM VIS POR, 3-6 TO POS 8%, 0.05-0.2 md.
400				1-2%	<0.02 md	SH, com SS: vf-sil-vf gr, ang clr qtzose, sil, NO VIS POR.
405				5-9% por	0.05-0.5 to pos 1 md	SH, com SS: vf+ fgr, ang-sb ang clr qtzose, mod consol, com qtz overhangs, fair to good grn relief, TR-COM VIS POR, 4-9% por, 0.05-0.5 to pos 1 md.
410						
415				6-9 TO POS 10-1	0.05-0.5 md to streaky 1-3 md	CONGL: abund chert pebbles and com conglomeratic SS matrix: vf-med an c gr, ang clr qtz grs with com and vc gr & trmsl ang-sb ang qtz grs with com-abund dk CHERT gsp/pels, com attached kao clay - com partially consolidated matrix cfts with abund occluding KAO clay, com dk PEBBS WITH MICRODRUSE SFC - INDICATION OF VOIDS and TR VISIBLE POR, INFER 6-9 TO POS 10-12% POR, 0.05-0.5 md to streaky 1-3 md to pos 5-10+ md.
420				5-8 TO POS 10-12 to 14% +	5-10 TO POS 50+ MD	PREDOM DISSAGGREGATED IN SPL CONGL: as abv, increase in com vis por, EX PORPERM, 5-10 TO POS 50+ MD
425						SH, lot bn MUSTONE, com SLTST.
430				5-8 or 9% por	<0.5 md	SS: conglomeratic, fu c clr qtz gr with com dk gy & blk CHT gsp/pels, tr-com u c v gr, ang-sb ang & com sb rdd qtz & chert pels, tr micro disse on gchnt PREDOM DISSAGG in spl, ABUND KAO CLAY - ONLY RR VIS POR OBSERVED in partially consolidated cfts INFER FAIR-POOR RESERVOIR QUALITY (7 DUE TO DISSAGG NATURE OF SPL, 5-8% predom micro por, <0.5 md (?)
435				7-9 to pos 14% +	1-5 to pos 10-100+ md	435 spt: ABUND VARICOL CHERT, PREDOM DK CHT pebbles, predom DISSAGG in spl, COM SS MATRIX: vf-c gr ang clr qtz grs with com clay, com loosely attached to pebble surface with EX PORPERM 7-9 to pos 14%+, 1-5 to pos 10-100+ md.
440						
445				7-9 to pos 14% +	1-5 to pos 10-100+ md	CONGL: abund varicolored LOOSE CHERT PEBBLES with com SS matrix: f med gr to com f c gr, ang-sb ang clr qtz grs, predom DISSAGG in spl, LITTLE CONSOL material with tr KAO CLAY with COM VIS POR, infer 9-12 or 14% por, 1-10 TO POS 10-100 md +, 7 DUE TO DISSAGG NATURE OF SAMPLES
450						CONGL: as abv.
455						
460						INCREASE IN SHALE CONTENT
465						
470						SH, SLTY grading to argillaceous SLTST.
475				3-6% predom micro clay por	<0.03 md	SS: vf+ fgr, com l med gr, clr angular QTZ grs, almost wholly DISSAGG in spl, com partially consolidated cfts with abund occluding KAO clay, INFER POOR PORPERM, 3-6% predom micro clay por, <0.03 md.
480				5-9 %		
485				5-9%	1-5 md	CONGL: appears similar to abv, abund varicol CHERT PEBBLES, COM QTZ gsp/pels, com NON-SUPPORTING SS MATRIX: vf-med an c gr, ang clr qtz grs with com overhangs, TR-COM VIS POR in matrix cm'd to peb sb, INFER GOOD PORPERM, 5-9% por, 1-5 md +
490						
495				3-6%	<0.03 md	490 spt. INCR IN SHALE/SLTSTONE, abund chert pebbles matrix
500				2-3%		SH, com SLTST, com silty-vf gr ss, arg, m-r vis por.
505				1-3%	<0.02 md	SH, com SS: vf fgr, trmsl wh qtz grs with tr carb mat, mica, KAO clay plugged, NO VIS POR.
510				4-8 or 9%	1-3 to pos 5+ md	SH, com SLTST grading to vf gr SS: SIL, SLTY, SIL, CARB, no vis por.
515				5-8 TO POS 12%		CONGL: abund loose varicol chert pebbles with com attached & unattached SS matrix: vf-c & vc gr, com cgr qtz overhangs and cmt with TR-COM VIS POR, 4-8 or 9% por, 1-3 to pos 5+ md ? due to dissagg nature of spl
520				5-9 TO POS 12%	1-3 TO POS 5-50 md	CONGL: predom dissagg in spl, COM consol cty with COM VIS POR, com occluding and partially occluding KAO clay, 5-9 TO POS 12% POR, 1-3 TO POS 5-50 md.
525						
530						SH, abund MUSTONE
535						
540						
545				6-9, pos > 1-2 or 3%	0.5-1 TO POS 1-5 MD +	550 CONGL: abund varicol CHT pebbles with com f c gr SS matrix: vf-med ang clr weakly consol qtz grs with COM VIS POR in few consol cfts, 6-9 TO POS >, 0.5-1 TO POS 1-5 MD + ? DUE TO DISSAGG NATURE OF SPL, com SS: sil-vf gr, carb, kao, NO VIS POR, 1-3% micro clay por, <0.02 md
550				1-2%	<0.02 md	555 SH, com lt gy CLAYST, com SS: sil-vf gr, tr carb mat, v kaolinitic, NO VIS POR.
555				1-3% micro clay por	<0.02 md	560 SH, com SS: vf fgr, trmsl wh qtz grs, rr chert, rr CARB mat, abund occluding KAO clay, NO VIS POR.
560				1-3%	<0.02 md	
565				1-3% micro clay por	<0.02 md	565 SS: as abv, vf+ med gr, gr ang-sb ang clr & fros qtz grs with tr KAO CLAY, com qtz overhangs, occluding KAO clay, NO VIS POR.
570						
575						SH, SLTST, com vf fgr SS, sil, kao, NO VIS POR.
580						SH, com silty/ss as abv.
585						SH, com argillaceous SLTST
590						SH, com argillaceous SLTST.
595						SH, mnr-com argillaceous SLTST.
600						SH, com argillaceous SLTST.
605						SH, com argillaceous SLTST grading to vf fgr SS, sil, tr carb mat, no vis por.