

**McGRATH RESOURCE
CONSULTING LTD.**



**Husky Little Bear N-9
300N0965001216300
Geological Report**

Well Licence Number: 463

Spud Date: 27/01/12 @ 15:30

Prepared For: Wayne Dwyer & Gareth Lewis

Prepared By: Hans J. Papenhoven

WELL SUMMARY

WELL NAME:	Husky Little Bear N-9	UNIQUE WELL ID.:	300N0965001216300
SURFACE LOCATION:	320.392m S & 48.338m E of 6500N12630W	BOTTOM HOLE LOCATION:	Same
OPERATOR:	Husky Oil Operations Limited	PROVINCE:	NWT
COORDINATES:	64 58'55.7072" & 126 31'27.1900"	LICENCE NUMBER:	463
DRILLING CONTRACTOR:	Nabours	FIELD:	
SPUD DATE:	27/01/12 @ 15:30	RIG NUMBER:	23
FINISHED DRILLING:	12/02/12 @ 15:30	POOL:	Slater River
GROUND ELEV (m):	253.5	KB ELEV (m):	258.8
		KB-CF (m):	

HOLE DATA:	Size (mm)	From (m)	To (m)
SURFACE HOLE:	311.0	28.0	639.0
FIRST INTERMEDIATE:			
SECOND INTERMEDIATE:			
FINAL:	222.0	638.0	1868.0

CASING & CEMENTING DATA:

Surface:

Size (mm):	244.5	Weight (kg/m):	53.57	Grade:	J-55
Landed at (m):	639.0	Plug down:	Jan 31, 2012		
Cemented with:	Cement casing with 4.0m ³ preflush water. Mix and pump 47 tonnes (43.1m ³ slurry @ 130% excess) RFC cement + 2.0% CaCl ² +0.2% anti foam (6 basgs of Fed Seal) @ 1740 kg/m ³ .				

First Intermediate:

Size (mm):	Weight (kg/m):	Grade:
Landed at (m):	Plug down:	
Cemented with:		

Second Intermediate:

Size (mm):	Weight (kg/m):	Grade:
Landed @ (m):	Plug down:	
Cemented with:		

Final

Size (mm):	177.8	Weight (kg/m):	34.23	Grade:	OL-80
Landed @ (m):	1868	Plug down:	15-Feb-12		
Cemented with:	Cement casing with 3.0m ³ preflush water. Mix and pump 24.1m ³ of 1400 kg/m ³ Lead cement from 0 to 1300m with 0.2% Antifoam + 1.0% CaCl ² + 1.2% Flac B348. Followed by 11.55m ³ Tail cement Of 1900 kg/m ³ + 0.2% Antifoam + 0.5% Dispersant + 0.4% Fluid loss + 0.2% Retarder. Displaced with 37.9m ³ water + 0.5% Inhibitor, 1.0m ³ contaminated cement returns.				

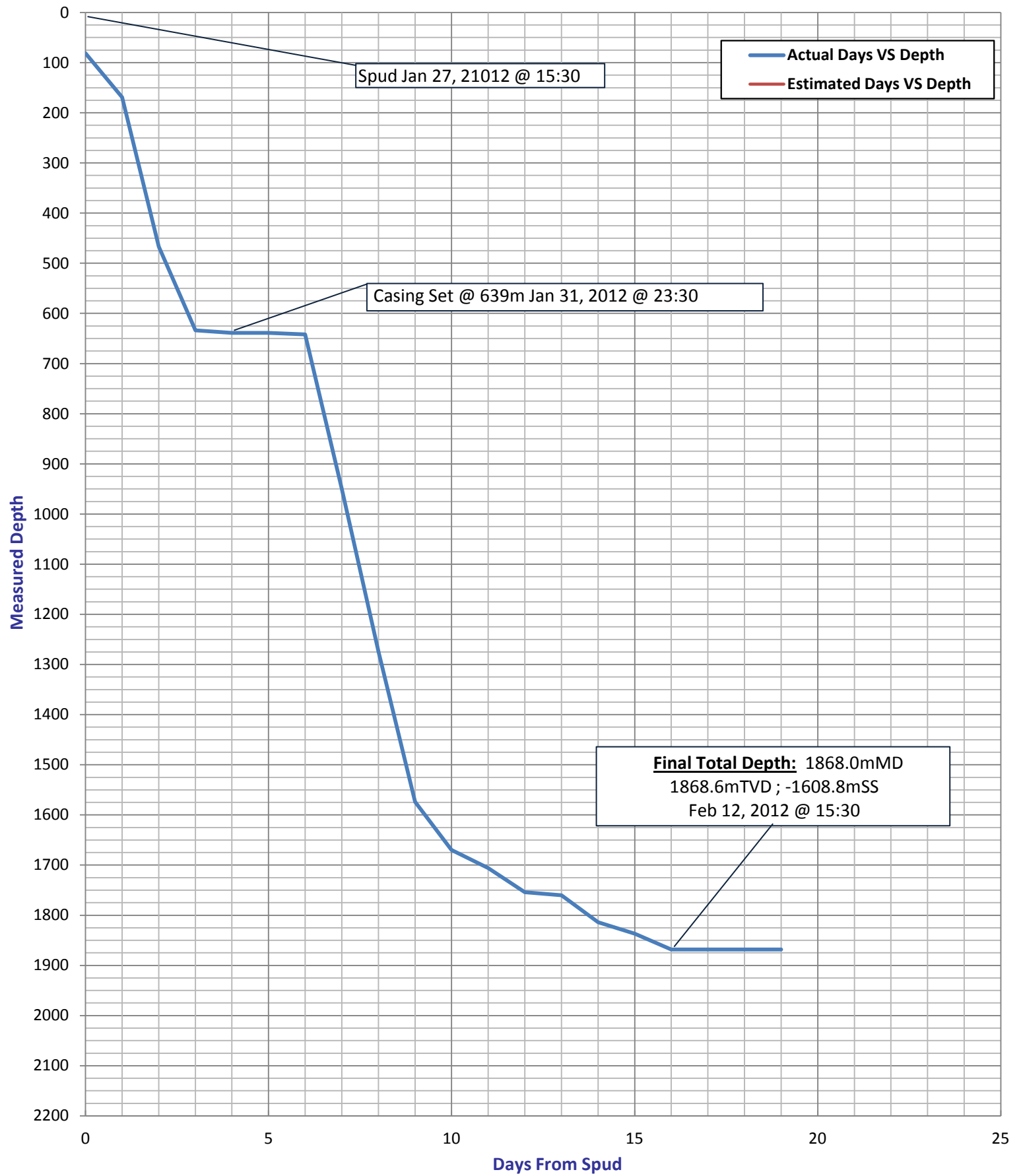
FINAL WELL STATUS:	Cased for Evaluation Well of Canol Formation
FINAL TOTAL ESTIMATED COST:	\$10,440,000.00
AFE #:	US-51822-EX-01-DR-ID

DEVIATION SURVEYS (MWD Surveys)								Grnd (m):	253.50
								KB (m):	258.80
No.	DEPTH	DRIFT	AZIMUTH	TVD	SS DEPTH	N+/S-	E+/W-	SECTION	DOGLEG
1	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2	28.00			28.00	230.80				
3	86.63	0.60	339.80	86.63	172.17	0.29	-0.11	0.29	0.31
4	117.70	0.90	323.10	117.70	141.10	0.64	-0.31	0.64	0.36
5	144.81	1.00	330.30	144.80	114.00	1.01	-0.55	1.01	0.17
6	172.59	1.10	349.10	172.58	86.22	1.48	-0.72	1.48	0.39
7	200.32	1.30	351.70	200.30	58.50	2.06	-0.82	2.06	0.22
8	227.97	1.10	0.50	227.95	30.85	2.63	-0.86	2.63	0.29
9	256.13	1.40	5.00	256.10	2.70	3.25	-0.83	3.25	0.34
10	284.23	1.50	16.20	284.19	-25.39	3.94	-0.70	3.94	0.32
11	312.51	1.70	25.00	312.46	-53.66	4.68	-0.42	4.68	0.34
12	340.17	1.70	42.50	340.11	-81.31	5.35	0.03	5.35	0.56
13	368.32	1.00	27.60	368.25	-109.45	5.88	0.43	5.88	0.83
14	396.44	1.50	28.00	396.36	-137.56	6.42	0.72	6.42	0.53
15	424.13	1.40	44.30	424.04	-165.24	6.98	1.12	6.98	0.46
16	452.28	1.30	34.20	452.19	-193.39	7.49	1.54	7.49	0.27
17	480.00	1.80	35.20	479.90	-221.10	8.11	1.97	8.11	0.54
18	507.68	1.90	48.10	507.56	-248.76	8.77	2.56	8.77	0.46
19	535.36	1.90	48.30	535.23	-276.43	9.38	3.25	9.38	0.01
20	563.57	1.80	38.30	563.42	-304.62	10.04	3.87	10.04	0.36
21	591.47	1.90	32.80	591.31	-332.51	10.77	4.39	10.77	0.22
22	619.36	2.10	43.30	619.18	-360.38	11.53	4.99	11.53	0.45
23	656.86	2.60	45.90	656.65	-397.85	12.62	6.07	12.62	0.41
24	675.14	2.50	48.40	674.91	-416.11	13.18	6.67	13.18	0.25
25	693.57	1.80	58.20	693.33	-434.53	13.60	7.22	13.60	1.28
26	712.01	1.30	65.50	711.76	-452.96	13.84	7.65	13.84	0.87
27	730.31	1.30	72.70	730.06	-471.26	13.98	8.04	13.98	0.27
28	748.67	1.20	74.10	748.41	-489.61	14.10	8.42	14.10	0.17
29	767.28	1.40	74.40	767.02	-508.22	14.21	8.83	14.21	0.32
30	785.50	1.10	75.50	785.23	-526.43	14.32	9.21	14.32	0.50
31	804.43	1.00	80.90	804.16	-545.36	14.39	9.55	14.39	0.22
32	822.69	0.80	104.80	822.42	-563.62	14.38	9.83	14.38	0.69
33	850.33	0.60	155.70	850.06	-591.26	14.20	10.08	14.20	0.68
34	878.10	0.50	97.70	877.82	-619.02	14.05	10.26	14.05	0.58
35	906.16	1.00	73.00	905.88	-647.08	14.11	10.62	14.11	0.62
36	934.26	1.10	83.20	933.98	-675.18	14.21	11.12	14.21	0.23
37	962.08	1.20	79.20	961.79	-702.99	14.30	11.67	14.30	0.14

DEVIATION SURVEYS (MWD Surveys)								Grnd (m):	253.50
								KB (m):	258.80
No.	DEPTH	DRIFT	AZIMUTH	TVD	SS DEPTH	N+/S-	E+/W-	SECTION	DOGLEG
38	989.85	1.20	65.40	989.56	-730.76	14.47	12.22	14.47	0.31
39	1017.52	1.20	67.40	1017.22	-758.42	14.70	12.75	14.70	0.05
40	1035.92	1.40	69.30	1035.61	-776.81	14.86	13.14	14.86	0.33
41	1054.39	1.50	78.30	1054.08	-795.28	14.99	13.59	14.99	0.40
42	1072.83	1.60	83.80	1072.51	-813.71	15.06	14.08	15.06	0.29
43	1082.03	1.60	83.90	1081.71	-822.91	15.09	14.33	15.09	0.01
44	1091.47	1.50	68.70	1091.14	-832.34	15.15	14.58	15.15	1.34
45	1100.69	1.40	67.10	1100.36	-841.56	15.24	14.80	15.24	0.35
46	1109.91	1.10	61.30	1109.58	-850.78	15.32	14.98	15.32	1.06
47	1119.25	0.50	58.40	1118.92	-860.12	15.39	15.09	15.39	1.93
48	1128.66	0.20	58.30	1128.33	-869.53	15.42	15.14	15.42	0.96
49	1137.88	0.30	75.10	1137.55	-878.75	15.43	15.18	15.43	0.40
50	1156.38	0.60	55.10	1156.05	-897.25	15.50	15.30	15.50	0.54
51	1175.29	1.00	63.60	1174.96	-916.16	15.63	15.53	15.63	0.66
52	1184.52	1.20	58.00	1184.18	-925.38	15.72	15.69	15.72	0.74
53	1193.94	1.20	61.00	1193.60	-934.80	15.82	15.86	15.82	0.20
54	1203.14	1.00	66.80	1202.80	-944.00	15.90	16.01	15.90	0.75
55	1212.35	0.90	76.40	1212.01	-953.21	15.94	16.16	15.94	0.61
56	1221.57	1.00	73.90	1221.23	-962.43	15.98	16.31	15.98	0.35
57	1230.90	0.90	73.10	1230.56	-971.76	16.03	16.45	16.03	0.32
58	1240.09	0.80	45.10	1239.75	-980.95	16.09	16.57	16.09	1.38
59	1249.31	0.80	25.20	1248.96	-990.16	16.20	16.64	16.20	0.90
60	1258.51	0.60	14.20	1258.16	-999.36	16.30	16.68	16.30	0.78
61	1267.74	0.30	291.20	1267.39	-1008.59	16.36	16.67	16.36	2.07
62	1277.24	0.70	249.00	1276.89	-1018.09	16.35	16.59	16.35	1.64
63	1295.55	1.10	230.60	1295.20	-1036.40	16.19	16.35	16.19	0.80
64	1304.52	1.00	226.90	1304.17	-1045.37	16.09	16.23	16.09	0.40
65	1313.76	1.00	226.90	1313.41	-1054.61	15.98	16.11	15.98	
66	1322.97	0.90	230.10	1322.62	-1063.82	15.87	16.00	15.87	0.37
67	1341.39	0.50	234.20	1341.04	-1082.24	15.73	15.82	15.73	0.66
68	1350.59	0.30	249.60	1350.24	-1091.44	15.70	15.77	15.70	0.73
69	1359.80	0.20	288.80	1359.45	-1100.65	15.70	15.73	15.70	0.63
70	1378.24	0.30	356.80	1377.89	-1119.09	15.76	15.69	15.76	0.47
71	1397.23	0.50	57.00	1396.87	-1138.07	15.85	15.76	15.85	0.69
72	1415.66	1.00	83.20	1415.30	-1156.50	15.92	15.99	15.92	0.97
73	1425.07	1.30	80.30	1424.71	-1165.91	15.94	16.18	15.94	0.97
74	1434.29	1.50	90.00	1433.93	-1175.13	15.96	16.40	15.96	1.01

LOGGING SUMMARY										
RUN No.:	1		DATE:	Feb 13 - 14, 2012		CONTRACTOR:	Baker Atlas			
RECORDED BY:					WITNESSED BY:	Han Papenhoven				
HOLE SIZE (mm):	222.0		DRILLERS TD:	1868.0		LOGGERS TD:	1868.0			
CASING (Driller):	639.0		CASING (Logger):	738.5		BHT:	72.8°C			
MUD TYPE:	Invert		Density:	1290	Viscosity:	49	Filtrate:		pH:	
Rm=		Rmf=		Rmc=		Rm @ BHT=				
CIRCULATION STOPPED:	12/02/2012 @ 17:30			HOLE CONDITION:	Good					
CHRONOLOGY:										
Loggers Requested Arrival Time:	11/02/2012 0:00				Elapsed Time					
Loggers Actual Arrival Time:	10/02/2012 10:00									
Rig Ready For Loggers:	13/02/2012 1:30									
Start Picking Up Tools (Descent 1):	13/02/2012 2:00									
On Bottom With Logging Tools:	13/02/2012 4:15									
At Surface (Final Descent):	14/02/2012 12:20									
Lost Time:	0.5		Explanation:	44401 Orientation tool failed at surface, rig in first run						
Total Job Time:										
DESCENT No. 1										
LOG TYPE:	HDIL/XMAC/ZDL/CN				SCALES:	1:240 & 1:600				
START IN HOLE:	03:15	ON BOTTOM:	4:15	OUT OF HOLE:	12:00	TOTAL TIME:	12			
COMMENTS:										
DESCENT No. 2										
LOG TYPE:	EI/CBIL/ORIT				SCALES:	1:40				
START IN HOLE:	14:15	ON BOTTOM:	15:15	OUT OF HOLE:	23:00	TOTAL TIME:	11.5			
COMMENTS:										
DESCENT No. 3										
LOG TYPE:	MRE/FLEX/DSL				SCALES:	1:240				
START IN HOLE:	01:50	ON BOTTOM:	2:40	OUT OF HOLE:	12:30	TOTAL TIME:	12.5			
COMMENTS:										
DESCENT No. 4										
LOG TYPE:					SCALES:					
START IN HOLE:		ON BOTTOM:		OUT OF HOLE:		TOTAL TIME:				
COMMENTS:										
REMARKS:										

Days versus Depth



Sample Descriptions

Storage Units: Metric

30.00 to 35.00 (5.00)	90%	Cement off white.
	7%	SHALE medium gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, trace kaolin, soft to firm, grading to Argillaceous Siltstone & Sandstone in part.
	3%	SANDSTONE light to medium gray, slightly salt and pepper, very fine to fine grained, silty in part, moderately well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, trace carbonaceous, trace dark lithic, trace kaolin, fair to good (8 to 12%) intergranular porosity.
35.00 to 40.00 (5.00)	70%	SHALE medium gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, trace kaolin, soft to firm, grading to Argillaceous Siltstone & Sandstone in part.
	15%	CEMENT off white.
	15%	SANDSTONE light to medium gray, slightly salt and pepper, very fine to fine grained, silty in part, moderately well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, trace carbonaceous, trace dark lithic, trace kaolin, fair to good (8 to 12%) intergranular porosity.
40.00 to 45.00 (5.00)	60%	SANDSTONE off white, light gray, very fine to fine grained, silty in part, moderately well sorted, subangular to slightly subrounded, poorly consolidated, clay cement, quartz, trace carbonaceous, trace dark lithic, rare kaolin, fair to good (8 to 12%) intergranular porosity.
	30%	SHALE medium gray, subblocky, as above.
	10%	CEMENT off white.
45.00 to 50.00 (5.00)	80%	SHALE light to medium gray, subblocky, silty & sandy, carbonaceous, trace kaolin, trace mica flakes, soft.
	10%	SANDSTONE off white, light gray, very fine to fine grained, silty in part, as above.
	5%	CEMENT off white.
50.00 to 55.00 (5.00)	85%	SHALE light to medium gray, subblocky, silty & sandy, trace carbonaceous, rare disseminated pyrite, rare kaolin, soft.

Sample Descriptions

Storage Units: Metric

50.00 to 55.00 (5.00)	10%	SANDSTONE off white, very light gray, very fine to fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous, rare dark lithic, rare kaolin, poor to fair (4 to 8%) intergranular porosity.
	5%	CEMENT off white.
55.00 to 60.00 (5.00)	70%	SHALE light to medium gray, subblocky, silty & sandy in part, trace carbonaceous, rare disseminated pyrite, trace disseminated pyrite streaks, soft.
	25%	SANDSTONE medium brown, off white, very fine to medium grained, moderately sorted, subangular to trace rounded, moderately consolidated, sideritic cement, quartz, rare chert grains, rare carbonaceous, rare dark lithic, tight to poor (0 to 5%) intergranular porosity.
	5%	CEMENT off white.
60.00 to 65.00 (5.00)	60%	SANDSTONE light gray, light brown, silt to lower fine grained, moderately well sorted, subangular to subrounded, poorly to moderately consolidated, slightly siliceous, quartz, occasional carbonaceous, trace dark lithic grains, trace kaolin, trace disseminated pyrite, rare green grains, fair to good (5 to 12%) intergranular porosity.
	40%	SHALE medium gray brown, medium brown gray, platy to subblocky, slightly silty & sandy in part, rare carbonaceous, rare disseminated pyrite, soft.
65.00 to 70.00 (5.00)	90%	SHALE light to medium gray, light to medium brown gray, subblocky, silty & sandy, trace to occasional carbonaceous, rare disseminated pyrite, trace Siltstone & Sandstone stringers, soft.
	10%	SANDSTONE light gray, light brown, silt to lower fine grained, moderately well sorted, as above.
70.00 to 75.00 (5.00)	100%	SHALE medium brown gray, subblocky, silty & sandy in part, rare carbonaceous, bentonitic in part, rare disseminated pyrite, rare light chert grains, trace light gray Sandstone stringers, soft.
75.00 to 80.00 (5.00)	80%	SHALE medium brown gray, subblocky, silty & sandy in part, as above.

Sample Descriptions

Storage Units: Metric

75.00 to 80.00 (5.00)	20%	SANDSTONE light gray, light brown, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, slightly siliceous, quartz, trace kaolin, trace to occasional carbonaceous, rare disseminated pyrite, tight to poor (0 to 5%) intergranular porosity.
80.00 to 85.00 (5.00)	80%	SANDSTONE light gray, light brown, silt to very fine grained, well sorted, as above.
	20%	SHALE medium brown gray, subblocky, silty & sandy in part, rare carbonaceous, bentonitic in part, rare disseminated pyrite, rare light chert grains, trace light gray Sandstone stringers, soft.
85.00 to 90.00 (5.00)	95%	SANDSTONE light gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, subangular to subrounded, poorly consolidated, clay cement, moderately consolidated, siliceous cement, quartz, occasional carbonaceous, trace coal streaks, rare mica, trace dark lithic, rare kaolin, rare disseminated pyrite, poor to good (5 to 15%) porosity.
	5%	SHALE medium brown gray, subblocky, silty & sandy in part, as above.
90.00 to 95.00 (5.00)	80%	SILTSTONE light to medium gray, light to medium brown gray, silt to lower very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, carbonaceous, argillaceous, rare kaolin, rare disseminated pyrite, tight to poor (0 to 5%) intergranular porosity.
	30%	SANDSTONE light gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, as above.
95.00 to 100.00 (5.00)	80%	SHALE medium brown gray, subblocky, silty & sandy in part, rare carbonaceous, bentonitic in part, rare disseminated pyrite, rare light chert grains, trace light gray Sandstone stringers, soft.
	20%	SILTSTONE light to medium gray, light to medium brown gray, silt to lower very fine grained, as above.
100.00 to 105.00 (5.00)	100%	SANDSTONE off white, very light brown, slightly salt and pepper, very fine to fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, trace clay cement, very slightly siliceous, quartz, occasional carbonaceous, trace to occasional dark lithic, trace kaolin, rare disseminated pyrite, rare calcareous grains, good (10 to 15%) intercrystalline porosity.

Sample Descriptions

Storage Units: Metric

105.00 to 110.00 (5.00)	100%	SANDSTONE off white, very light brown, slightly salt and pepper, very fine to fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, trace clay cement, very slightly siliceous, rare calcareous cement, quartz, occasional carbonaceous, trace to occasional dark lithic, trace kaolin, rare disseminated pyrite, trace calcareous grains, good (10 to 15%) intercrystalline porosity.
110.00 to 115.00 (5.00)	100%	SANDSTONE very light brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, poorly consolidated, slightly calcareous in part, slightly clayey, quartz, trace to occasional carbonaceous, occasional dark it grains, trace kaolin, rare disseminated pyrite, very rare green grains, slightly argillaceous, fair to good (8 to 12%) intergranular porosity.
115.00 to 120.00 (5.00)	100%	SANDSTONE very light brown, off white, slightly salt and pepper, very fine to lower fine grained, as above.
120.00 to 125.00 (5.00)	100%	SANDSTONE very light gray brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, poorly consolidated, slightly calcareous, sly clayey, quartz, occasional carbonaceous, trace to occasional dark lithic, rare disseminated pyrite, rare mica, trace kaolin, poor to fair (8 to 12%) intergranular porosity.
125.00 to 130.00 (5.00)	100%	SANDSTONE very light gray brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, as above.
130.00 to 135.00 (5.00)	65%	SANDSTONE off white, light & dark chert grains, medium to coarse grained, well sorted, subangular to subrounded, unconsolidated, trace poorly consolidated, slightly siliceous, quartz, light & dark chert grains, rare disseminated pyrite, trace kaolin inclusions, possible grading to Chert Conglomerate with Shale & Siltstone matrix, assumed good (10 to 15%) intergranular porosity.
	25%	SHALE light to medium gray brown, subblocky, slightly silty to silty in part, slightly sandy, trace carbonaceous, trace disseminated pyrite, soft, grading to argillaceous Silt.
	10%	SANDSTONE very light gray brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, as above.
135.00 to 140.00 (5.00)	60%	SANDSTONE very light gray brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, poorly consolidated, slightly calcareous, sly clayey, quartz, occasional carbonaceous, trace to occasional dark lithic, r disseminated pyrite, rare mica, trace kaolin, poor to fair (8 to 12%) intergranular porosity.

Sample Descriptions

Storage Units: Metric

135.00 to 140.00 (5.00)	20%	SHALE light to medium gray brown, subblocky, slightly silty to silty in part, slightly sandy, trace carbonaceous, trace disseminated pyrite, soft, grading to argillaceous Silt.
	20%	SANDSTONE off white, light & dark chert grains, medium to coarse grained, well sorted, as above.
140.00 to 145.00 (5.00)	80%	SANDSTONE off white, very light brown, silt to fine grained, moderately well sorted, subangular to subrounded, poorly consolidated, slightly clayey, slightly calcareous, quartz, occasional carbonaceous, occasional dark lithic, trace mica, trace kaolin, rare green grain supported, fair to good (8 to 12%) intergranular porosity.
	20%	SHALE light to medium gray brown, light to medium brown gray, subblocky, slightly silty sandy, trace carbonaceous, trace disseminated pyrite, trace plant remains, soft.
145.00 to 150.00 (5.00)	100%	SANDSTONE off white, very light brown, slightly salt and pepper, very fine to fine grained, silty in part, subangular to subrounded, unconsolidated, quartz, trace dark chert grains, trace carbonaceous, trace dark lithic, rare green grains, rare disseminated pyrite, rare kaolin, assumed 10 to 15% intergranular porosity.
150.00 to 155.00 (5.00)	90%	SANDSTONE light brown, off white, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, subangular to subrounded, poorly consolidated, slightly clayey, very rare calcite, quartz, trace to occasional carbonaceous, trace to occasional dark chert grains, trace kaolin, rare disseminated pyrite, fair to good (8 to 12%) intergranular porosity.
	10%	SHALE medium brown gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, soft.
155.00 to 160.00 (5.00)	85%	SANDSTONE light gray, light brown, silt to lower fine grained, moderately well sorted, subangular to subrounded, poorly consolidated, slightly clayey, quartz, trace carbonaceous, trace to occasional dark lithic grains, trace light & dark chert grains, trace kaolin, slightly argillaceous in part, rare disseminated pyrite, fair to good (8 to 12%) intergranular porosity.
	15%	SHALE medium brown gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, soft.
160.00 to 165.00 (5.00)	80%	SANDSTONE light gray, light brown, silt to lower fine grained, moderately well sorted, as above.

Sample Descriptions

Storage Units: Metric

160.00 to 165.00 (5.00)	20%	SHALE medium brown gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, soft.
165.00 to 170.00 (5.00)	85%	SANDSTONE off white, very light brown, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, subangular, poorly consolidated, slightly clayey, quartz, occasional carbonaceous, trace light & dark chert grains, rare kaolin, rare disseminated pyrite, very rare green grains, fair to good (10 to 15%) intergranular porosity.
	10%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, slightly calcareous, argillaceous in part, quartz, trace kaolin, rare disseminated pyrite, tight to poor (0 to 5%) intergranular porosity.
	5%	SHALE medium brown gray, subblocky, silty & sandy, trace carbonaceous, trace disseminated pyrite, soft.
170.00 to 175.00 (5.00)	100%	SANDSTONE off white, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, subangular, unconsolidated to poorly consolidated, quartz, occasional carbonaceous, occasional dark lithic grains, trace light & dark chert grains, trace kaolin, rare disseminated pyrite, very rare calcite grains, assumed fair to good (10 to 15%) intergranular porosity.
175.00 to 180.00 (5.00)	100%	SANDSTONE off white, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, as above.
180.00 to 185.00 (5.00)	100%	SANDSTONE off white, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, subangular, unconsolidated to poorly consolidated, quartz, occasional carbonaceous, occasional dark lithic grains, trace light & dark chert grains, trace kaolin, rare disseminated pyrite, very rare calcite grains, trace light brown Siltstone stringers, assumed fair to good (10 to 15%) intergranular porosity.
185.00 to 190.00 (5.00)	100%	SANDSTONE off white, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, as above.
190.00 to 195.00 (5.00)	100%	SANDSTONE off white, very light brown, translucent, slightly salt and pepper, very fine to lower medium grained, moderately well sorted, subangular, unconsolidated to trace poorly consolidated, slightly clayey, quartz, trace carbonaceous, trace dark lithic grains, trace light & dark chert grains, rare kaolin, rare disseminated pyrite, assumed fair to good (8 to 12%) intergranular porosity.
195.00 to 200.00 (5.00)	100%	SANDSTONE off white, very light brown, translucent, slightly salt and pepper, very fine to lower medium grained, as above.

Sample Descriptions

Storage Units: Metric

200.00 to 205.00 (5.00)	100%	SANDSTONE off white, very light brown, translucent, slightly salt and pepper, very fine to lower medium grained, as above.
205.00 to 210.00 (5.00)	100%	SANDSTONE off white, very light brown, slightly salt and pepper, very fine to fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, slightly clayey, quartz, trace carbonaceous, rare plant remains, trace dark lithic grains, rare light & dark chert grains, rare kaolin, rare disseminated pyrite, slightly argillaceous in part, poor to fair (8 to 12%) intergranular porosity.
210.00 to 215.00 (5.00)	100%	SANDSTONE off white, translucent, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, slightly clayey, quartz, trace to occasional carbonaceous, trace to occasional dark lithic grains, rare light & dark chert grains, trace kaolin, rare disseminated pyrite, rare fish scales, trace Siltstone & Shale stringers, fair to good (8 to 12%) intergranular porosity.
215.00 to 220.00 (5.00)	100%	SANDSTONE off white, translucent, slightly salt and pepper, very fine to lower fine grained, silty in part, as above.
220.00 to 225.00 (5.00)	100%	SANDSTONE off white, translucent, slightly salt and pepper, very fine to lower fine grained, silty in part, as above.
225.00 to 230.00 (5.00)	100%	SANDSTONE off white, translucent, very light brown, slightly salt and pepper, very fine to lower fine grained, silty in part, moderately well sorted, subangular, poorly consolidated, slightly clayey, quartz, trace to occasional carbonaceous, trace to occasional dark lithic grains, rare light & dark chert grains, trace kaolin, rare disseminated pyrite, rare fish scales, slightly argillaceous, trace Siltstone & Shale stringers, fair to good (8 to 12%) intergranular porosity.
230.00 to 235.00 (5.00)	70%	SHALE medium gray, light brown, subblocky, earthy, silty & sandy, trace carbonaceous, trace kaolin, grading to argillaceous Siltstone in part, slightly bentonitic, soft.
	30%	SANDSTONE off white, very light brown, very slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous, argillaceous in part, rare dark lithic grains, rare light & dark chert grains, tight to poor (0 to 5%) intergranular porosity.
235.00 to 240.00 (5.00)	70%	SHALE medium brown gray, medium gray, subblocky, platy in part, earthy, silty & sandy in part, rare micro carbonaceous, rare disseminated pyrite, trace Siltstone & Sandstone lenses & stringers, soft to firm.

Sample Descriptions

Storage Units: Metric

235.00 to 240.00 (5.00)	20%	SANDSTONE off white, very light brown, very slightly salt and pepper, silt to very fine grained, moderately well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous, argillaceous in part, rare dark lithic grains, rare light & dark chert grains, tight to poor (0 to 4%) intergranular porosity.
	10%	SILTSTONE medium gray brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, quartz, rare disseminated pyrite, rare to trace carbonaceous, tight.
240.00 to 245.00 (5.00)	75%	SHALE medium brown gray, medium gray, subblocky, platy in part, as above.
	15%	SANDSTONE off white, very light brown, very slightly salt and pepper, silt to very fine grained, as above.
	10%	SILTSTONE medium gray brown, sandy, well sorted, subangular, as above.
245.00 to 250.00 (5.00)	90%	SHALE light to medium gray brown, subblocky, platy in part, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace Siltstone & Sandstone stringers & lenses, soft to firm.
	5%	SILTSTONE medium gray brown, sandy, well sorted, subangular, as above.
	5%	SANDSTONE off white, very light brown, very slightly salt and pepper, silt to very fine grained, as above.
250.00 to 255.00 (5.00)	65%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy in part, trace micro carbonaceous, rare disseminated pyrite, rare kaolin, trace Siltstone & Sandstone stringers, soft to firm.
	25%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, argillaceous, moderately consolidated, slightly siliceous, quartz, trace carbonaceous, trace dark lithic grains, rare kaolin, rare disseminated pyrite, trace light & dark chert grains, tight to poor (0 to 5%) intergranular porosity.
	10%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, quartz, trace micro carbonaceous, tight.

Sample Descriptions

Storage Units: Metric

255.00 to 260.00 (5.00)	65%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy in part, trace micro carbonaceous, rare coal flakes, rare disseminated pyrite, rare kaolin, trace Siltstone & SANDSTONE stringers, grading to argillaceous Siltstone in part, soft to firm.
	30%	SANDSTONE light to medium gray, off white in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, argillaceous, quartz, trace carbonaceous, trace light & dark chert grains, trace kaolin, rare coal flakes, rare disseminated pyrite, tight to poor (0 to 5%) intergranular porosity.
	5%	SILTSTONE light brown, sandy, well sorted, subangular, as above.
260.00 to 265.00 (5.00)	60%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy in part, trace micro carbonaceous, as above.
	40%	SANDSTONE light to medium gray, off white in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, as above.
265.00 to 270.00 (5.00)	80%	SHALE light to medium gray, light to medium brown gray, subblocky, slightly platy, earthy, silty & sandy, slightly bentonitic in part, rare micro carbonaceous, rare disseminated pyrite, rare light chert grains, trace light brown Mudstone, soft to firm.
	20%	SANDSTONE light to medium gray, off white in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, as above.
270.00 to 275.00 (5.00)	85%	SHALE light brown gray, subblocky, slightly platy, earthy, silty & sandy, slightly bentonitic in part, rare micro carbonaceous, rare light chert grains, trace light brown Mudstone grains, soft to firm.
	15%	SANDSTONE light to medium gray, off white in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, as above.
275.00 to 280.00 (5.00)	90%	SHALE light brown gray, subblocky, slightly platy, earthy, silty & sandy, as above.
	10%	SANDSTONE light to medium gray, off white in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, argillaceous, quartz, trace carbonaceous, trace light & dark chert grains, trace kaolin, rare coal flakes, rare disseminated pyrite, tight to poor (0 to 5%) intergranular porosity.

Sample Descriptions

Storage Units: Metric

280.00 to 285.00 (5.00)	80%	SHALE light brown gray, subblocky, slightly platy, earthy, silty & sandy, trace disseminated pyrite blebs, trace light brown Mudstone grains, as above.
	20%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, quartz, rare micro carbonaceous, rare kaolin, trace light & dark chert grains, rare fish scales, grading to argillaceous Siltstone in part, soft to firm.
285.00 to 290.00 (5.00)	85%	SHALE light brown gray, subblocky, slightly platy, earthy, silty & sandy, slightly bentonitic in part, rare micro carbonaceous, rare light chert grains, trace light brown Mudstone grains, soft to firm.
	15%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, as above.
290.00 to 295.00 (5.00)	80%	SHALE light brown gray, subblocky, slightly platy, earthy, as above.
	20%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, as above.
295.00 to 300.00 (5.00)	85%	SHALE light brown gray, subblocky, slightly platy, earthy, as above.
	15%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, quartz, rare micro carbonaceous, rare kaolin, trace light & dark chert grains, rare fish scales, grading to argillaceous Siltstone in part, soft to firm.
300.00 to 305.00 (5.00)	90%	SHALE light to medium gray, subblocky, earthy, silty & sandy, trace carbonaceous to rare coal flakes, rare fish scales, rare light brown Mudstone grains, slightly bentonitic, soft to firm.
	10%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, as above.
305.00 to 310.00 (5.00)	90%	SHALE light to medium gray, subblocky, earthy, silty & sandy, as above.
	10%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, as above.
310.00 to 315.00 (5.00)	95%	SHALE light to medium gray, subblocky, earthy, silty & sandy, trace carbonaceous to rare coal flakes, rare fish scales, rare light brown Mudstone grains, slightly bentonitic, soft to firm.

Sample Descriptions

Storage Units: Metric

310.00 to 315.00 (5.00)	5%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, quartz, rare micro carbonaceous, rare kaolin, trace light & dark chert grains, rare fish scales, grading to argillaceous Siltstone in part, soft to firm.
315.00 to 320.00 (5.00)	95%	SHALE light to medium gray, subblocky, earthy, as above.
	5%	SILTSTONE light brown, sandy, well sorted, subangular, poorly consolidated, argillaceous, as above.
320.00 to 325.00 (5.00)	100%	SHALE medium to dark gray, medium gray brown, subblocky, earthy, silty & sandy, trace carbonaceous, rare light brown Mudstone grains, rare pyritic blebs, trace to occasional Sandstone stringers, soft to firm.
325.00 to 330.00 (5.00)	100%	SHALE light to medium gray brown, subblocky, earthy, silty & sandy, trace carbonaceous, rare light brown Mudstone grains, rare pyritic blebs, trace to occasional Sandstone stringers, soft to firm.
330.00 to 335.00 (5.00)	70%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, trace to occasional carbonaceous to trace coal flakes, trace plant remains, trace light brown Mudstone grains, trace kaolin, rare disseminated pyrite, argillaceous in part, poor to fair (4 to 8%) intergranular porosity.
	20%	SHALE medium gray brown, light to medium brown, subblocky, earthy, trace carbonaceous, rare kaolin, trace light chert grains, grading to argillaceous Siltstone in part, soft.
	10%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, slightly bentonitic, quartz, trace carbonaceous, trace kaolin, rare disseminated pyrite, tight.
335.00 to 340.00 (5.00)	60%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, occasional carbonaceous to trace coal flakes, trace plant remains, trace light brown Mudstone grains, trace kaolin, rare disseminated pyrite, argillaceous in part, poor to fair (4 to 8%) intergranular porosity.
	35%	SHALE medium gray brown, light to medium brown, subblocky, as above.

Sample Descriptions

Storage Units: Metric

335.00 to 340.00 (5.00)	5%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, as above.
340.00 to 345.00 (5.00)	60%	SHALE light gray brown, light brown subblocky, earthy, silty & sandy in part, trace carbonaceous to rare coal flakes, rare disseminated pyrite, rare kaolin, soft.
	35%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, as above.
	5%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, as above.
345.00 to 350.00 (5.00)	80%	SHALE light gray brown, light brown subblocky, earthy, silty & sandy in part, trace carbonaceous to trace coal flakes, rare disseminated pyrite, rare kaolin, trace Sandstone stringers, soft.
	15%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, as above.
	5%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, as above.
350.00 to 360.00 (10.00)	80%	SHALE light gray brown, light brown subblocky, earthy, as above.
	10%	SILTSTONE light to medium brown, sandy, well sorted, subangular, poorly consolidated, slightly bentonitic, quartz, trace carbonaceous, trace kaolin, rare disseminated pyrite, tight.
	10%	SANDSTONE off white, light gray, light brown, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, occasional carbonaceous to trace coal flakes, trace plant remains, trace light brown Mudstone grains, trace kaolin, rare disseminated pyrite, argillaceous in part, poor to fair (4 to 8%) intergranular porosity.
360.00 to 365.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous to rare coal flakes, trace light chert grains, trace Mudstone grains, rare pyritic filled microfractures, rare pyritic blebs, trace to occasional light brown Sandstone stringers, soft.

Sample Descriptions

Storage Units: Metric

365.00 to 370.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous to rare coal flakes, trace light chert grains, trace Mudstone grains, rare pyritic filled microfractures, rare pyritic blebs, trace to trace light brown Sandstone stringers, soft.
370.00 to 375.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, silty & sandy, as above.
375.00 to 380.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, as above.
380.00 to 385.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, silty & sandy, as above.
385.00 to 390.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous to rare coal flakes, trace light chert grains, trace Mudstone grains, rare pyritic filled microfractures, rare pyritic blebs, trace to trace light brown Sandstone stringers, soft.
390.00 to 395.00 (5.00)	90%	SHALE medium gray, medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, trace Mudstone grains, slightly bentonitic, very rare disseminated pyrite, trace Siltstone & Sandstone stringers, soft.
	10%	SANDSTONE light gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, subangular, poorly consolidated, argillaceous, quartz, occasional carbonaceous, trace to occasional dark lithic grains, rare kaolin, very rare glauconite, tight to poor (0 to 5%) intergranular porosity.
395.00 to 400.00 (5.00)	95%	SHALE medium gray, medium gray brown, subblocky, earthy, silty & sandy, as above.
	5%	SANDSTONE light gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, as above.
400.00 to 405.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, earthy, subblocky, earthy, very silty & sandy, rare micro carbonaceous, trace light chert grains, grading to argillaceous Siltstone & Sandstone, soft.
405.00 to 410.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, earthy, as above.
410.00 to 415.00 (5.00)	90%	SHALE light to medium brown, light to medium gray brown, earthy, as above.

Sample Descriptions

Storage Units: Metric

410.00 to 415.00 (5.00)	10%	SANDSTONE light brown, light gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, subangular, poorly consolidated, argillaceous, quartz, occasional carbonaceous, trace to occasional dark lithic grains, rare kaolin, very rare glauconite, tight to poor (0 to 5%) intergranular porosity.
415.00 to 420.00 (5.00)	100%	SHALE light to medium brown, subblocky, earthy, very silty & sandy, rare micro carbonaceous, trace disseminated pyrite blebs, occasional Siltstone & Sandstone stringers, soft.
420.00 to 425.00 (5.00)	100%	SHALE light to medium brown, subblocky, earthy, as above.
425.00 to 430.00 (5.00)	100%	SHALE light to medium brown, subblocky, earthy, very silty & sandy, as above.
430.00 to 435.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, subblocky, earthy, very silty & sandy, rare to trace micro carbonaceous, rare disseminated pyrite blebs, rare to trace disseminated pyrite, trace kaolin, rare light chert grains, trace Mudstone grains, trace light gray Siltstone & Sandstone stringers, soft.
435.00 to 440.00 (5.00)	100%	SHALE light to medium brown, light to medium gray brown, becoming more grey in color, subblocky, earthy, very silty & sandy, rare to trace micro carbonaceous, rare disseminated pyrite blebs, rare to trace disseminated pyrite, trace kaolin, rare light chert grains, trace Mudstone, trace light gray Siltstone & Sandstone stringers, soft.
440.00 to 445.00 (5.00)	100%	SHALE medium brown gray, medium gray, rare dark gray, laminated in part, subblocky, earthy, silty & sandy, trace to occasional micro carbonaceous, trace to occasional disseminated pyrite, rare kaolin, rare light chert grains, trace light gray Sandstone stringers, soft.
445.00 to 450.00 (5.00)	100%	SHALE medium brown gray, medium gray, trace dark gray, laminated in part, subblocky, earthy, silty & sandy, trace to occasional micro carbonaceous, trace to occasional disseminated pyrite, rare kaolin, rare light chert grains, trace light gray Sandstone stringers, soft.
450.00 to 455.00 (5.00)	100%	SHALE medium brown gray, medium gray, rare dark gray, laminated in part, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, rare kaolin, rare light chert grains, rare light gray Sandstone stringers, soft.
455.00 to 460.00 (5.00)	100%	SHALE medium brown gray, medium gray, rare dark gray, laminated in part, subblocky, as above.

Sample Descriptions

Storage Units: Metric

460.00 to 465.00 (5.00)	100%	SHALE medium gray, medium brown, trace dark gray, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace pyritic streaks, trace light gray & light brown Sandstone stringers, trace light chert grains, soft.
465.00 to 470.00 (5.00)	95%	SHALE medium gray, medium brown, trace dark gray, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace pyritic streaks, trace light gray & light brown Sandstone stringers, trace light chert grains, soft.
	5%	SANDSTONE to CHERT CONGLOMERATE light gray, light chert grains, fine to coarse grained, subangular to subrounded, moderately sorted, unconsolidated, quartz, occasional light chert grains, trace disseminated pyrite, trace carbonaceous, trace dark lithic, possible grading to Chert Conglomerate, assumed 5 to 10% porosity.
470.00 to 475.00 (5.00)	65%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, soft.
	30%	MUDSTONE light to brown, subblocky, slightly silty & sandy, trace to occasional micro carbonaceous, rare disseminated pyrite, very rare kaolin, soft.
	5%	SANDSTONE to CHERT CONGLOMERATE light gray, light chert grains, fine to coarse grained, subangular to subrounded, moderately sorted, unconsolidated, quartz, occasional light chert grains with Sandstone matrix; medium brown very fine to fine grained, well sorted, subangular to subrounded, well sorted, moderately consolidated, slightly siliceous, quartz, trace disseminated pyrite, trace carbonaceous, trace dark lithic, argillaceous, assumed poor to fair (5 to 10%) porosity.
Slater River: 476.00 MD, 475.90 TVD, -217.10 SSL		
475.00 to 480.00 (5.00)	98%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, soft.
	2%	SANDSTONE to CHERT CONGLOMERATE light gray, light chert grains, fine to coarse grained, subangular to subrounded, moderately sorted, as above.
480.00 to 485.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, trace loose chert grains, soft.
485.00 to 490.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, soft.

Sample Descriptions

Storage Units: Metric

490.00 to 495.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, soft.
495.00 to 500.00 (5.00)	100%	SHALE medium gray, medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace light chert grains, trace argillaceous Sandstone stringers, soft.
500.00 to 505.00 (5.00)	100%	SHALE medium gray, medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace argillaceous Sandstone stringers, soft.
505.00 to 510.00 (5.00)	95%	SHALE medium gray, medium gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace argillaceous Sandstone stringers, soft.
	5%	SANDSTONE to CHERT CONGLOMERATE light gray, light chert grains, fine to coarse grained, subangular to subrounded, moderately sorted, unconsolidated, quartz, occasional light chert grains with Sandstone matrix; medium brown very fine to fine grained, well sorted, subangular to subrounded, well sorted, moderately consolidated, slightly siliceous, quartz, trace disseminated pyrite, trace carbonaceous, trace dark lithic, argillaceous, assumed poor to fair (5 to 10%) porosity.
510.00 to 515.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, subblocky, slightly subfissile, earthy, slightly silty & sandy, trace micro carbonaceous to rare coal flakes, trace disseminated pyrite, trace light chert grains, soft.
515.00 to 520.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, becoming more brown in color subblocky, slightly subfissile, as above.
520.00 to 525.00 (5.00)	100%	SHALE medium brown gray to medium gray brown, slightly subfissile to subblocky, earthy, trace dark laminations, rare micro carbonaceous, rare to trace disseminated pyrite, rare light chert grains, soft.
525.00 to 530.00 (5.00)	100%	SHALE medium brown gray to medium gray brown, slightly subfissile to subblocky, earthy, trace dark laminations, rare micro carbonaceous, rare to trace disseminated pyrite, rare light chert grains, very rare calcite filled microfractures, soft.
530.00 to 535.00 (5.00)	100%	SHALE medium brown gray to medium gray brown, slightly subfissile to subblocky, earthy, trace dark laminations, rare micro carbonaceous, rare to trace disseminated pyrite, rare light chert grains, very rare calcite filled microfractures, rare fish scales, soft.

Sample Descriptions

Storage Units: Metric

535.00 to 540.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, trace light chert grains, rare light gray Sandstone stringers, soft.
540.00 to 545.00 (5.00)	100%	SHALE medium brown gray, medium gray, occasional medium gray brown, subblocky, earthy, platy in part, silty & sandy, trace micro carbonaceous, trace light chert grains, rare fish scales, rare light brown Sandstone stringers, very rare calcareous filled microfractures, soft to firm.
545.00 to 550.00 (5.00)	100%	SHALE medium brown gray, medium gray, earthy, subblocky, slightly subfissile, silty & sandy, rare to trace micro carbonaceous, rare to trace light chert grains, rare disseminated pyrite, very rare fish scales, soft to firm.
550.00 to 555.00 (5.00)	100%	SHALE medium brown gray, medium gray, earthy, subblocky, slightly subfissile, silty & sandy, rare to trace micro carbonaceous, rare to trace light chert grains, rare disseminated pyrite, very rare fish scales, very rare calcite filled microfractures, soft to firm.
555.00 to 560.00 (5.00)	100%	SHALE medium brown gray, medium gray, earthy, subblocky, slightly subfissile, as above.
560.00 to 565.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, slightly subfissile, earthy, slightly silty & sandy to trace silty & sandy, rare micro carbonaceous, rare fish scales, trace disseminated pyrite, rare light chert grains, rare light brown Sandstone stringers, soft to firm.
565.00 to 570.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, slightly subfissile, earthy, as above.
570.00 to 575.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare light chert grains, rare light gray to light brown Sandstone stringers, soft to firm.
575.00 to 580.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, as above.
580.00 to 585.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, as above.
585.00 to 590.00 (5.00)	100%	SHALE medium gray, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace to occasional light gray to light brown Sandstone stringers, soft to firm, common sawdust & walnut shells.

Sample Descriptions

Storage Units: Metric

590.00 to 595.00 (5.00)	100%	SHALE medium gray, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace to occasional light gray to light brown Sandstone stringers, soft to firm, occasional sawdust & walnut shells.
595.00 to 600.00 (5.00)	85%	SHALE medium gray, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace to occasional light gray to light brown Sandstone stringers, soft to firm.
	15%	SANDSTONE light gray, light brown, silt to very fine grained, well sorted, subangular, poorly consolidated, quartz, occasional micro carbonaceous, trace disseminated pyrite, occasional light chert grains, trace dark lithic, argillaceous in part, tight to poor (0 to 5%) intergranular porosity.
600.00 to 605.00 (5.00)	90%	SHALE medium gray, subblocky, earthy, silty & sandy, as above.
	10%	SANDSTONE light gray, light brown, silt to very fine grained, well sorted, as above.
605.00 to 610.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, slightly silty & sandy, rare to trace micro carbonaceous, trace disseminated pyrite, soft to firm.
610.00 to 615.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, as above.
615.00 to 620.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare light chert grains, soft to firm.
620.00 to 625.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, as above.
625.00 to 630.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, earthy, as above.
630.00 to 635.00 (5.00)	90%	SHALE medium gray, medium brown gray, subblocky to occasional subfissile, earthy, silty & sandy, rare to trace micro carbonaceous, rare to trace disseminated pyrite, trace to occasional Sandstone & Siltstone stringers, soft to firm.
	10%	SANDSTONE light gray, light brown, silt to very fine grained, well sorted, subangular, poorly consolidated, quartz, occasional micro carbonaceous, trace disseminated pyrite, occasional light chert grains, trace dark lithic, argillaceous in part, tight to poor (0 to 5%) intergranular porosity, cavings from wiper.

Sample Descriptions

Storage Units: Metric

635.00 to 639.00 (4.00)	100%	SHALE medium gray, medium brown gray, subblocky to occasional subfissile, earthy, as above.
639.00 to 640.00 (1.00)	99%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, rare micro carbonaceous, trace disseminated pyrite & pyritic streaks, bentonitic, trace light to medium brown Sandstone stringers, soft.
	1%	CEMENT off white.
640.00 to 645.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, as above.
645.00 to 650.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, subfissile in part, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, bentonitic in part, soft.
650.00 to 655.00 (5.00)	100%	SHALE medium gray, medium brown gray, subblocky, subfissile in part, as above.
655.00 to 660.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, bentonitic, soft.
660.00 to 665.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, bentonitic, trace light to medium gray Sandstone stringers, soft.
665.00 to 670.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, as above.
670.00 to 675.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy, as above.
675.00 to 680.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare coal streaks, rare disseminated pyrite, bentonitic, soft.
680.00 to 685.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare coal streaks, rare disseminated pyrite, bentonitic, trace light gray Sandstone stringers, soft.

Sample Descriptions

Storage Units: Metric

685.00 to 690.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare coal streaks, rare disseminated pyrite, bentonitic, rare light gray Sandstone stringers, soft.
690.00 to 695.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, as above.
695.00 to 700.00 (5.00)	95%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, as above.
	5%	SANDSTONE light gray, light brown, slightly salt and pepper, slight to very fine grained, well sorted, subangular to subrounded, moderately consolidated, slightly siliceous, quartz, carbonaceous, occasional dark lithic, occasional light & dark chert grains, trace kaolin, rare disseminated pyrite, tight to poor (0 to 5%) porosity.
700.00 to 705.00 (5.00)	95%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare coal streaks, rare disseminated pyrite, bentonitic, rare white calcite filled microfractures, rare light gray Sandstone stringers, soft.
	5%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to very fine grained, subangular to subrounded, as above.
705.00 to 710.00 (5.00)	95%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous to rare coal flakes, trace micro disseminated pyrite, bentonitic, trace fish scales, trace Sandstone stringers, soft.
	5%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to very fine grained, subangular to subrounded, as above.
710.00 to 715.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, as above.
715.00 to 720.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, as above.
720.00 to 725.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace fish scales, bentonitic, rare Sandstone streaks, soft.

Sample Descriptions

Storage Units: Metric

725.00 to 730.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous to rare coal flakes, trace disseminated pyrite, rare fish scales, bentonitic in part, trace light gray Sandstone stringers, soft.
730.00 to 735.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, as above.
735.00 to 740.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, as above.
740.00 to 745.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, silty & sandstone in part, rare micro carbonaceous to rare coal flakes, trace fish scales, bentonitic in part, trace Sandstone lenses & stringers, soft.
745.00 to 750.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, silty & sandstone in part, rare micro carbonaceous, trace to occasional coal flakes, trace fish scales, bentonitic in part, trace Sandstone lenses & stringers, soft.
750.00 to 755.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, silty & sandstone in part, rare micro carbonaceous, trace coal streaks, bentonitic in part, rare Sandstone lenses & stringers, soft.
755.00 to 760.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, as above.
760.00 to 765.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, slightly silty & sandy, earthy, rare micro carbonaceous, rare to trace coal flakes, trace disseminated pyrite, rare fish scales, bentonitic in part, rare calcareous filled microfractures, soft.
765.00 to 770.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, slightly silty & sandy, earthy, rare micro carbonaceous, rare to trace coal flakes, trace disseminated pyrite, rare fish scales, bentonitic in part, trace calcareous filled microfractures, soft.
770.00 to 775.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, as above.
775.00 to 780.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous to trace coal streaks, trace disseminated pyrite, rare Sandstone stringers, bentonitic in part, soft.
780.00 to 785.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, rare calcite filled microfractures, as above.

Sample Descriptions

Storage Units: Metric

785.00 to 790.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous to trace coal streaks, trace disseminated pyrite, trace calcite filled microfractures, rare Sandstone stringers, bentonitic in part, soft.
790.00 to 795.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, as above.
795.00 to 800.00 (5.00)	100%	SHALE medium to dark gray, subfissile to subblocky, earthy, as above.
800.00 to 805.00 (5.00)	100%	SHALE medium to dark gray brown, subfissile to subblocky, slightly laminated, earthy, slightly silty & sandy, rare micro carbonaceous to trace coal flakes, trace disseminated pyrite, rare calcareous filled microfractures, soft to firm.
805.00 to 810.00 (5.00)	100%	SHALE medium to dark gray brown, subfissile to subblocky, slightly laminated, earthy, slightly silty & sandy, rare micro carbonaceous to trace coal flakes, trace disseminated pyrite, trace calcareous filled microfractures, soft to firm.
810.00 to 815.00 (5.00)	100%	SHALE medium to dark gray brown, subfissile to subblocky, slightly laminated, earthy, slightly silty & sandy, rare micro carbonaceous to trace coal flakes, trace disseminated pyrite, rare calcareous filled microfractures, trace loose calcite crystals, soft to firm.
815.00 to 820.00 (5.00)	100%	SHALE medium to dark gray brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare trace disseminated pyrite, slightly bentonitic, trace calcareous filled microfractures, trace loose calcite crystals, soft to firm,
820.00 to 825.00 (5.00)	100%	SHALE medium to dark gray brown, subfissile to subblocky, earthy, as above.
825.00 to 830.00 (5.00)	95%	SHALE medium to dark gray brown, medium to dark gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace Sandstone lenses & stringers, soft to firm.
	5%	SANDSTONE light gray, light brown, silt to fine grained, moderately sorted, subangular to subrounded, poorly consolidated, slightly calcareous, clay cement, quartz, trace to occasional disseminated pyrite, occasional pyritic cement, rare kaolin, occasional mica flakes, trace carbonaceous, tight.
830.00 to 835.00 (5.00)	100%	SHALE medium to dark gray brown, medium to dark gray, subfissile to subblocky, earthy, as above.

Sample Descriptions

Storage Units: Metric

835.00 to 840.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, subfissile to subblocky, earthy, slightly silty to silty & sandy in part, rare micro carbonaceous, trace disseminated pyrite, trace to occasional light calcareous crystals, trace Sandstone lenses, as above, soft to firm.
840.00 to 845.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, subfissile to subblocky, earthy, as above.
845.00 to 850.00 (5.00)	100%	SHALE medium brown gray, medium gray brown, subfissile to subblocky, earthy, slightly silty to silty & sandy in part, rare micro carbonaceous, trace disseminated pyrite, trace calcareous crystals, rare Sandstone lenses, soft to firm.
850.00 to 855.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, slightly silty & sandy in part, trace disseminated pyrite & pyritic blebs, rare Sandstone stringers, slightly bentonitic, rare loose calcite crystals, soft.
855.00 to 860.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, as above.
860.00 to 865.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, soft to fair.
865.00 to 870.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, as above.
870.00 to 875.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, as above.
875.00 to 880.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, very rare micro carbonaceous, very rare disseminated pyrite, rare light gray Sandstone & Siltstone stringers, soft.
880.00 to 885.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, very rare micro carbonaceous, very rare disseminated pyrite & pyritic blebs, trace loose calcite crystals & quartz sand grains, rare light gray Sandstone & Siltstone stringers, soft.
885.00 to 890.00 (5.00)	90%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy in part, rare to trace micro carbonaceous, rare disseminated pyrite, rare light chert grains, soft to firm.

Sample Descriptions

Storage Units: Metric

885.00 to 890.00 (5.00)	10%	SILTSTONE light gray, silt to lower very fine grained, well sorted, subangular to subrounded, poorly consolidated, clay cement, quartz, trace carbonaceous, trace kaolin, trace dark lithic grains, rare light green grains, tight.
890.00 to 895.00 (5.00)	95%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, as above.
	5%	SILTSTONE light gray, silt to lower very fine grained, well sorted, subangular to subrounded, as above.
895.00 to 900.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy in part, rare to trace micro carbonaceous, rare disseminated pyrite, rare light chert grains, soft to firm.
900.00 to 905.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare to trace micro carbonaceous, rare to trace disseminated pyrite, rare light chert grains, soft.
905.00 to 910.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, rare pyritic streaks, as above.
910.00 to 915.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare to trace micro carbonaceous, rare to trace disseminated pyrite, rare light chert grains, trace loose calcite crystals, rare calcareous filled microfractures, very rare pyritic blebs, soft.
915.00 to 920.00 (5.00)	100%	SHALE medium gray, medium brown gray, subfissile to subblocky, earthy, as above.
920.00 to 925.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, trace to occasional glauconite grains, trace loose sand grains, trace glauconitic Mudstone lenses, soft.

Lower Cretaceous: 925.00 MD, 924.72 TVD, -665.92 SSL

925.00 to 930.00 (5.00)	60%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, as above.
	40%	SANDSTONE light to medium gray, greenish in part, silt to lower fine grained, moderately well sorted, subangular to subrounded, slightly siliceous, quartz, occasional to common glauconite grains, argillaceous, rare micro carbonaceous, trace kaolin, trace dark lithic, rare disseminated pyrite, rare calcareous grains, tight to poor (0 to 5%) porosity.

Sample Descriptions

Storage Units: Metric

930.00 to 935.00 (5.00)	60%	SHALE medium gray, light to medium brown gray, subblocky, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare glauconite grains, trace loose sand grains, rare pyritic streaks, soft.
	40%	SANDSTONE light to medium brown gray, silt to very fine grained, well sorted, subangular to subrounded, poorly to moderately consolidated, slightly argillaceous, quartz, rare to trace glauconite grains, trace kaolin, clayey in part, tight.
935.00 to 940.00 (5.00)	85%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, earthy, sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace to occasional Sandstone stringers, rare pyritic blebs, soft.
	15%	SANDSTONE light to medium brown gray, silt to very fine grained, well sorted, as above.
940.00 to 945.00 (5.00)	90%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, as above.
	10%	SANDSTONE light to medium brown gray, silt to very fine grained, well sorted, as above.
945.00 to 950.00 (5.00)	50%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, earthy, sandy, rare micro carbonaceous to rare coal flakes, rare to trace disseminated pyrite, trace to occasional Sandstone stringers, rare pyritic blebs, soft.
	50%	SANDSTONE light gray, off white, slightly salt and pepper, very fine to medium grained, subangular to subrounded, unconsolidated to poorly consolidated, clay cement, quartz, trace carbonaceous, trace dark lithic, rare kaolin, very rare disseminated pyrite, rare to trace glauconite, rare to trace green grains, tight to poor (0 to 5% intergranular porosity).

Base Cretaceous: 950.00 MD, 949.71 TVD, -690.91 SSL

950.00 to 955.00 (5.00)	100%	SHALE light to medium gray, light green gray, subfissile to subblocky, slightly silty sandy, rare micro carbonaceous, rare loose sand grains, rare disseminated pyrite, trace light green gray Sandstone stringers, soft.
955.00 to 960.00 (5.00)	100%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, as above.
960.00 to 965.00 (5.00)	100%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, earthy, sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace to occasional light gray, light green gray Sandstone stringers, soft.

Sample Descriptions

Storage Units: Metric

965.00 to 970.00 (5.00)	100%	SHALE medium gray brown, medium brown gray, subblocky, subfissile in part, earthy, sandy, rare micro carbonaceous, rare to trace disseminated pyrite, trace to occasional light gray, light green gray Sandstone stringers, soft.
970.00 to 975.00 (5.00)	100%	SHALE light to medium gray, light green gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare loose calcite crystals, trace light green gray Siltstone & Sandstone stringers, soft.
975.00 to 980.00 (5.00)	95%	SHALE light to medium gray, light green gray, subfissile to subblocky, earthy, trace loose calcite crystals, as above.
	5%	SILTSTONE light green gray, light gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous to trace coal flakes, rare kaolin, rare disseminated pyrite, rare dark lithic, tight, grading to silty Sandstone in part.
980.00 to 985.00 (5.00)	90%	SHALE light to medium gray, light green gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare loose calcite crystals, trace light green gray Siltstone & Sandstone stringers, trace medium brown Shale stringers, soft.
	10%	SANDSTONE light green gray, light gray, silt to very fine grained, becoming more very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous to trace coal flakes, rare kaolin, rare disseminated pyrite, rare mica flakes, rare feldspar grains, argillaceous, rare dark lithics, tight, grading to silty Sandstone in part.
985.00 to 990.00 (5.00)	85%	SHALE light to medium gray, light green gray, becoming more gray in color, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare loose calcite crystals, trace light to medium gray, light green gray Siltstone & Sandstone stringers, trace medium brown Shale stringers, soft.
	15%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, as above.
990.00 to 995.00 (5.00)	95%	SHALE medium gray, medium green gray, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare loose calcareous crystals, trace Siltstone & Sandstone lenses & stringers, soft to firm.
	5%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, as above.

Sample Descriptions

Storage Units: Metric

995.00 to 1,000.00 (5.00)	95%	SHALE medium gray, medium green gray, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, rare disseminated pyrite & disseminated pyrite blebs, rare loose calcareous crystals, trace Siltstone & Sandstone lenses & stringers, soft to firm.
	5%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, as above.
1,000.00 to 1,005.00 (5.00)	95%	SHALE medium gray, medium green gray, subfissile to subblocky, earthy, as above.
	5%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous to trace coal flakes, rare kaolin, rare disseminated pyrite, rare mica flakes, rare feldspar grains, argillaceous, rare dark lithics, tight, grading to silty Sandstone in part.
1,005.00 to 1,010.00 (5.00)	90%	SHALE medium gray, medium green gray, subfissile to subblocky, earthy, silty & sandy, trace to occasional micro carbonaceous, trace coal flakes, rare disseminated pyrite & disseminated pyrite blebs, rare loose calcareous crystals, trace Siltstone & Sandstone lenses & stringers, soft to firm.
	5%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, as above.
1,010.00 to 1,015.00 (5.00)	95%	SHALE medium gray, medium green gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace coal flakes, rare disseminated pyrite & disseminated pyrite blebs, rare loose calcareous crystals, trace Siltstone & Sandstone lenses & stringers, soft to firm.
	5%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, as above.
1,015.00 to 1,020.00 (5.00)	100%	SHALE medium gray, medium green gray, becoming more brownish in color, subfissile to subblocky, earthy, silty & sandy, trace to occasional micro carbonaceous, trace coal flakes, rare disseminated pyrite & disseminated pyrite blebs, rare loose calcareous crystals, trace Siltstone & Sandstone lenses & stringers, soft to firm.
	10%	SANDSTONE light green gray, light gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace carbonaceous to trace coal flakes, rare kaolin, rare disseminated pyrite, rare mica flakes, rare feldspar grains, argillaceous, rare dark lithics, tight, grading to silty Sandstone in part.

Sample Descriptions

Storage Units: Metric

- 1,020.00 to 1,025.00 70%
(5.00) **SHALE**
light to medium gray, subfissile to subblocky, earthy, slightly silty & sandy to silty & sandy in part, trace micro carbonaceous to trace coal flakes, rare disseminated pyrite, slightly bentonitic, trace Siltstone & Sandstone stringers, soft to firm.
- 30% **SANDSTONE**
light gray, translucent in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, slightly calcareous, clay cement, moderately consolidated, slightly siliceous, quartz, trace micro carbonaceous to trace coal flakes, trace kaolin, rare dark lithic grains, rare disseminated pyrite, argillaceous in part, tight to very poor (0 to 3%) intergranular porosity.
- 1,025.00 to 1,030.00 65%
(5.00) **SHALE**
light to medium gray, subfissile to subblocky, earthy, slightly silty & sandy to silty & sandy in part, as above.
- 35% **SANDSTONE**
light gray, translucent in part, light green gray in part, slightly salt and pepper, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, slightly calcareous, clay cement, moderately consolidated, slightly siliceous, quartz, trace micro carbonaceous to trace coal flakes, trace kaolin, rare dark lithic grains, rare disseminated pyrite, argillaceous in part, tight to very poor (0 to 3%) intergranular porosity.
- 1,030.00 to 1,035.00 90%
(5.00) **SHALE**
light to medium gray, subfissile to subblocky, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, trace dark gray with brown specks, rare disseminated pyrite, trace Sandstone lenses & stringers, soft to firm.
- 10% **SANDSTONE**
light gray, translucent in part, light green gray in part, slightly salt and pepper, silt to lower fine grained, as above.
- 1,035.00 to 1,040.00 80%
(5.00) **SHALE**
light to medium gray, subfissile to subblocky, slightly silty & sandy, as above.
- 20% **SANDSTONE**
off white, very light to light gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, moderately consolidated, siliceous cement, quartz, trace micro carbonaceous, trace kaolin, rare dark lithic grains, rare mica flakes, rare disseminated pyrite, argillaceous, tight.
- 1,040.00 to 1,045.00 75%
(5.00) **SHALE**
light to medium gray, subfissile to subblocky, slightly silty & sandy, as above.
- 25% **SANDSTONE**
off white, very light to light gray, silt to very fine grained, well sorted, as above.

Sample Descriptions

Storage Units: Metric

1,045.00 to 1,050.00 (5.00)	100%	SHALE medium gray, trace light gray, subfissile to subblocky, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, slightly bentonitic, trace light to medium gray Siltstone & Sandstone stringers, soft to firm.
1,050.00 to 1,055.00 (5.00)	100%	SHALE light gray, light brown gray, subfissile to subblocky, earthy, rare micro carbonaceous, very rare disseminated pyrite, very slightly bentonitic, trace light gray & light brown Siltstone & Sandstone lenses & stringers, soft to firm.
1,055.00 to 1,060.00 (5.00)	100%	SHALE light gray, light brown gray, subfissile to subblocky, earthy, as above.
1,060.00 to 1,065.00 (5.00)	100%	SHALE light gray, light brown gray, subfissile to subblocky, earthy, as above.
1,065.00 to 1,070.00 (5.00)	100%	SHALE light gray, light brown gray, subfissile to subblocky, earthy, rare micro carbonaceous, very rare disseminated pyrite, very slightly bentonitic, trace light gray & light brown Siltstone & Sandstone lenses & stringers, soft to firm.
1,070.00 to 1,075.00 (5.00)	95%	SHALE light gray, light brown gray, subfissile to subblocky, as above.
	5%	SANDSTONE light to occasional medium gray, light to medium green, silt to very fine grained, well sorted, subangular, moldy consolidated, slightly siliceous, poorly consolidated, clay cement, trace micro carbonaceous, trace kaolin, rare dark lithic grains, argillaceous, trace light brown grains, rare feldspar grains, rare glauconite, tight to poor (0 to 4%) intergranular porosity.
1,075.00 to 1,080.00 (5.00)	85%	SHALE light to medium gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare micro disseminated pyrite, slightly bentonitic, trace to occasional light gray to light brown Siltstone & Sandstone lenses & stringers, soft to firm.
	15%	SANDSTONE light to occasional medium gray, light to medium green, silt to very fine grained, well sorted, subangular, moldy consolidated, slightly siliceous, poorly consolidated, clay cement, trace micro carbonaceous, trace kaolin, rare dark lithic grains, argillaceous, trace light brown grains, rare feldspar grains, rare glauconite, tight to poor (0 to 4%) intergranular porosity.
1,080.00 to 1,085.00 (5.00)	75%	SHALE light brown gray, light gray, subfissile to subblocky, earthy, silty & sandy in part, trace micro carbonaceous, rare disseminated pyrite, very slightly bentonitic, grading to argillaceous Siltstone in part, soft to firm.
	25%	SANDSTONE light to occasional medium gray, light to medium green, becoming more green in color, silt to very fine grained, as above.

Sample Descriptions

Storage Units: Metric

1,085.00 to 1,090.00 (5.00)	70%	SHALE light brown gray, light gray, subfissile to subblocky, earthy, as above.
	30%	SANDSTONE light to occasional medium gray, light to medium green, silt to very fine grained, well sorted, as above.
1,090.00 to 1,095.00 (5.00)	70%	SHALE light brown gray, light gray, subfissile to subblocky, earthy, as above.
	35%	SANDSTONE light to occasional medium gray, light to medium green, silt to very fine grained, well sorted, subangular, moldy consolidated, slightly siliceous, poorly consolidated, clay cement, trace micro carbonaceous, trace kaolin, rare dark lithic grains, argillaceous, trace light brown grains, rare feldspar grains, rare glauconite, tight to poor (0 to 4%) intergranular porosity.
1,095.00 to 1,100.00 (5.00)	70%	SHALE light brown gray, light gray, subfissile to subblocky, earthy, silty & sandy in part, trace micro carbonaceous, rare disseminated pyrite, very slightly bentonitic, grading to argillaceous Siltstone in part, soft to firm.
	65%	SANDSTONE light to occasional medium gray, light to medium green, silt to very fine grained, as above.
1,100.00 to 1,105.00 (5.00)	65%	SHALE light gray, light brown, light brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous to trace coal flakes, rare disseminated pyrite, trace Siltstone stringers, soft to firm.
	35%	SANDSTONE light gray, light green gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, subangular, moderately consolidated, silica cement, poorly consolidated, clay cement, quartz, carbonaceous, trace to occasional dark lithic grains, trace kaolin, rare feldspars, rare disseminated pyrite, rare glauconite grains, argillaceous in part, tight to poor (0 to 3%) intergranular porosity.
1,105.00 to 1,110.00 (5.00)	60%	SANDSTONE light gray, light green gray, trace off white, slightly salt and pepper, silt to very fine grained, as above.
	40%	SHALE light gray, light brown, light brown gray, subfissile to subblocky, as above.
1,110.00 to 1,115.00 (5.00)	75%	SHALE light gray, light brown, light brown gray, subfissile to subblocky, earthy, as above.
	25%	SANDSTONE light gray, light green gray, off white, slightly salt and pepper, silt to very fine grained, as above.

Sample Descriptions

Storage Units: Metric

1,115.00 to 1,120.00 (5.00)	70%	SHALE light gray, light brown, light brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous to trace coal flakes, rare disseminated pyrite, trace mica flakes, trace Siltstone stringers, soft to firm.
	30%	SANDSTONE light gray, light green gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, subangular, moderately consolidated, silica cement, poorly consolidated, clay cement, quartz, carbonaceous, trace to occasional dark lithic grains, trace kaolin, rare feldspars, rare disseminated pyrite, rare glauconite grains, argillaceous in part, tight to poor (0 to 3%) intergranular porosity.
1,120.00 to 1,125.00 (5.00)	60%	SHALE light gray, light brown, light brown gray, subfissile to subblocky, earthy, as above.
	40%	SANDSTONE light gray, light green gray, off white, slightly salt and pepper, silt to very fine grained, well sorted, as above.
1,125.00 to 1,130.00 (5.00)	60%	SANDSTONE light gray, very light brown, off white, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, poorly consolidated, quartz, trace to occasional carbonaceous to trace coal flakes, trace kaolin, trace dark lithic, trace light chert grains, rare mica flakes, tight to poor (0 to 4%) intergranular porosity.
	40%	SHALE light gray, light brown, light green gray, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare disseminated pyrite, soft to firm.
1,130.00 to 1,135.00 (5.00)	75%	SANDSTONE light gray, very light brown, off white, silt to very fine grained, well sorted, subangular, as above.
	25%	SHALE light brown, light brown gray, light green gray, subblocky, slightly subfissile, earthy, rare micro carbonaceous, rare disseminated poorly, trace mica flakes, grading to argillaceous Siltstone, soft to firm.
1,135.00 to 1,140.00 (5.00)	80%	SANDSTONE light gray, very light brown, off white, silt to very fine grained, well sorted, subangular, as above.
	20%	SHALE light brown, light brown gray, light green gray, subblocky, slightly subfissile, as above.
1,140.00 to 1,145.00 (5.00)	50%	SHALE light brown, light brown gray, light green gray, subblocky, slightly subfissile, earthy, as above.

Sample Descriptions

Storage Units: Metric

1,140.00 to 1,145.00 (5.00)	50%	SANDSTONE light gray, very light brown, off white, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, poorly consolidated, quartz, trace to occasional carbonaceous to trace coal flakes, trace kaolin, trace dark lithic, trace light chert grains, rare mica flakes, tight to poor (0 to 4%) intergranular porosity.
1,145.00 to 1,150.00 (5.00)	65%	SANDSTONE light gray, very light brown, off white, silt to very fine grained, well sorted, subangular, as above.
	35%	SHALE light brown, light brown gray, light green gray, subblocky, slightly subfissile, earthy, rare micro carbonaceous, rare disseminated poorly, trace mica flakes, grading to argillaceous Siltstone, soft to firm.
1,150.00 to 1,155.00 (5.00)	75%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, moderately consolidated, slightly siliceous, poorly consolidated, clay cement, quartz, trace carbonaceous, trace kaolin, trace dark lithic grains, rare feldspars, trace light chert grains, tight to poor (0 to 4%) intergranular porosity.
	25%	SHALE light brown gray, very light gray brown, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, very rare disseminated pyrite, trace Siltstone stringers, soft to firm.
1,155.00 to 1,160.00 (5.00)	75%	SHALE light brown gray, very light gray brown, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, very rare disseminated pyrite, trace Siltstone stringers, soft to firm.
	25%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, as above.
1,160.00 to 1,165.00 (5.00)	75%	SHALE light brown gray, very light gray brown, subfissile to subblocky, as above.
	25%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, as above.
1,165.00 to 1,170.00 (5.00)	75%	SHALE light brown gray, very light gray brown, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, very rare disseminated pyrite, trace Siltstone stringers, soft to firm.

Sample Descriptions

Storage Units: Metric

1,165.00 to 1,170.00 (5.00)	30%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, moderately consolidated, slightly siliceous, poorly consolidated, clay cement, quartz, trace carbonaceous, trace kaolin, trace dark lithic grains, rare feldspars, trace light chert grains, tight to poor (0 to 4%) intergranular porosity.
1,170.00 to 1,175.00 (5.00)	70%	SHALE light brown gray, very light gray brown, subfissile to subblocky, earthy, as above.
	30%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, as above.
1,175.00 to 1,180.00 (5.00)	75%	SHALE light brown gray, very light gray brown, subfissile to subblocky, as above.
	25%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, moderately consolidated, as above.
1,180.00 to 1,185.00 (5.00)	80%	SHALE light brown gray, very light gray brown, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, very rare disseminated pyrite, trace Siltstone stringers, soft to firm.
	20%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, moderately consolidated, slightly siliceous, poorly consolidated, clay cement, quartz, trace carbonaceous, trace kaolin, trace dark lithic grains, rare feldspars, trace light chert grains, tight to poor (0 to 4%) intergranular porosity.

Middle Imperial Sands: 1,189.00 MD, 1,188.66 TVD, -929.86 SSL

1,185.00 to 1,190.00 (5.00)	70%	SHALE light brown, light brown gray, subfissile to subblocky, silty & sandy, earthy, occasional micro carbonaceous, rare disseminated pyrite, trace dark lithic, grading to argillaceous Siltstone, soft to firm.
	30%	SANDSTONE light gray, light green gray, slightly salt and pepper, silt to very fine grained, as above.
1,190.00 to 1,195.00 (5.00)	80%	SANDSTONE very light brown, very light gray, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, quartz, trace micro carbonaceous rare kaolin, argillaceous, trace dark lithic, rare coal flakes, very rare feldspars, trace light chert grains, tight to poor (0 to 4%) intergranular porosity.

Sample Descriptions

Storage Units: Metric

1,190.00 to 1,195.00 (5.00)	20%	SHALE light brown, light brown gray, subfissile to subblocky, silty & sandy, as above.
1,195.00 to 1,200.00 (5.00)	70%	SHALE light brown, light brown gray, subfissile to subblocky, silty & sandy, as above.
	30%	SANDSTONE very light brown, very light gray, silt to very fine grained, well sorted, subangular, moderately consolidated, as above.
1,200.00 to 1,205.00 (5.00)	90%	SHALE light to medium gray, light to brown gray, subfissile to subblocky, earthy, silty & sandy, trace carbonaceous, rare coal flakes, very rare disseminated pyrite, grading to argillaceous Siltstone, soft to firm.
	10%	SANDSTONE very light brown, very light gray, silt to very fine grained, well sorted, subangular, moderately consolidated, as above.
1,205.00 to 1,210.00 (5.00)	70%	SANDSTONE light gray, trace medium gray, trace off white, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, quartz, trace to occasional micro carbonaceous, trace kaolin, argillaceous, rare dark chert grains, rare light chert grains, tight to poor (0 to 4%) intergranular porosity.
	30%	SHALE light to medium gray, light to brown gray, trace light brown, subfissile to subblocky, earthy, silty & sandy, trace carbonaceous, rare coal flakes, very rare disseminated pyrite, grading to argillaceous Siltstone, soft to firm.
1,210.00 to 1,215.00 (5.00)	60%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, earthy, trace micro carbonaceous, rare disseminated pyrite, very rare feldspars, grading to argillaceous Siltstone, soft to firm.
	40%	SANDSTONE light gray, trace medium gray, trace off white, silt to very fine grained, subangular, moderately consolidated, as above.
1,215.00 to 1,220.00 (5.00)	90%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, as above.
	10%	SANDSTONE light gray, trace medium gray, trace off white, moderately consolidated, as above.
1,220.00 to 1,225.00 (5.00)	50%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, as above.

Sample Descriptions

Storage Units: Metric

1,220.00 to 1,225.00 (5.00)	50%	SANDSTONE light gray, light green gray, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, quartz, trace to occasional micro carbonaceous, trace kaolin, rare dark lithic grains, rare light chert grains, argillaceous, tight to poor (0 to 4%) intergranular porosity.
1,225.00 to 1,230.00 (5.00)	60%	SANDSTONE light gray, light green gray, silt to very fine grained, well sorted, subangular, as above.
	40%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, as above.
1,230.00 to 1,235.00 (5.00)	60%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, earthy, trace micro carbonaceous, rare disseminated pyrite, very rare feldspars, grading to argillaceous Siltstone, soft to firm.
	40%	SANDSTONE light gray, light green gray, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, quartz, trace to occasional micro carbonaceous, trace kaolin, rare dark lithic grains, rare light chert grains, argillaceous, tight to poor (0 to 4%) intergranular porosity.
1,235.00 to 1,240.00 (5.00)	80%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, as above.
	40%	SANDSTONE light gray, light green gray, silt to very fine grained, well sorted, subangular, moderately consolidated, slightly siliceous, quartz, trace to occasional micro carbonaceous, trace kaolin, rare dark lithic grains, rare light chert grains, argillaceous, tight to poor (0 to 4%) intergranular porosity.
1,240.00 to 1,245.00 (5.00)	90%	SHALE light brown, light to medium gray, light to medium brown gray, subfissile to subblocky, earthy, trace micro carbonaceous, rare disseminated pyrite, very rare feldspars, grading to argillaceous Siltstone, soft to firm.
	20%	SANDSTONE light gray, light green gray, silt to very fine grained, well sorted, as above.
1,245.00 to 1,250.00 (5.00)	70%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, slightly silty & sandy to silty & sandy in part, rare to trace micro carbonaceous, very rare disseminated pyrite, rare kaolin, grading to argillaceous Siltstone in part, soft to firm.

Sample Descriptions

Storage Units: Metric

1,245.00 to 1,250.00 (5.00)	30%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to lower very fine grained, subangular, moderately consolidated, slightly siliceous, quartz, argillaceous, trace clayey, trace micro carbonaceous, trace kaolin, rare coal flakes, grading to sandy Siltstone in part, tight.
1,250.00 to 1,255.00 (5.00)	90%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, very silty & sandy in part, rare to trace micro carbonaceous, very rare disseminated pyrite, rare kaolin, grading to argillaceous Siltstone in part, soft to firm.
	10%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to lower very fine grained, as above.
1,255.00 to 1,260.00 (5.00)	75%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, very silty & sandy in part, as above.
	25%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to lower very fine grained, subangular, moderately consolidated, slightly siliceous, quartz, argillaceous, trace clayey, trace micro carbonaceous, trace kaolin, rare coal flakes, grading to sandy Siltstone in part, tight.
1,260.00 to 1,265.00 (5.00)	85%	SANDSTONE light gray, light brown gray, light green gray, slightly salt and pepper, silt to very fine grained, subangular, moderately consolidated, slightly siliceous, quartz, argillaceous, trace clayey, trace micro carbonaceous, trace kaolin, rare coal flakes, tight to poor (0 to 4%) intergranular porosity.
	15%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
1,265.00 to 1,270.00 (5.00)	90%	SANDSTONE light gray, light brown, slightly salt and pepper, silt to lower very fine grained, subangular, moderately consolidated, slightly siliceous, quartz, argillaceous, trace clayey, trace micro carbonaceous, trace kaolin, rare coal flakes, grading to sandy Siltstone in part, tight.
	10%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
1,270.00 to 1,275.00 (5.00)	90%	SANDSTONE light to medium gray, slightly salt and pepper, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace micro carbonaceous, trace light chert grains, trace kaolin, trace dark lithic, argillaceous, tight to poor (0 to 3%) intergranular porosity.

Sample Descriptions

Storage Units: Metric

1,270.00 to 1,275.00 (5.00)	10%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, slightly silty & sandy to silty & sandy in part, rare to trace micro carbonaceous, very rare disseminated pyrite, rare kaolin, grading to argillaceous Siltstone in part, soft to firm.
1,275.00 to 1,280.00 (5.00)	90%	SANDSTONE light to medium gray, trace light green gray in part, slightly salt and pepper, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace micro carbonaceous, trace light chert grains, trace kaolin, trace dark lithic, argillaceous, grading to sandy Siltstone, tight to poor (0 to 3%) intergranular porosity.
	10%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
1,280.00 to 1,285.00 (5.00)	90%	SILTSTONE light brown, light gray, silt to lower very fine grained, well sorted, subangular, poorly consolidated, clay matrix, quartz, trace micro carbonaceous, rare light chert grains, grading to silty Sandstone, tight.
	10%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
1,285.00 to 1,290.00 (5.00)	90%	SANDSTONE light to medium brown, light gray brown, slightly salt and pepper, silt to lower very fine grained, subangular, poorly consolidated, clay cement, quartz, trace micro carbonaceous to trace coal flakes, trace dark lithic, rare kaolin, rare light chert grains, grading to sandy Siltstone in part,
	10%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
1,290.00 to 1,295.00 (5.00)	50%	SILTSTONE light brown, light gray, silt to lower very fine grained, well sorted, subangular, as above.
	30%	SHALE light brown, light gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare kaolin grading to argillaceous Siltstone in part, soft.
	20%	SANDSTONE light to medium brown, light gray brown, slightly salt and pepper, silt to lower very fine grained, as above.
1,295.00 to 1,300.00 (5.00)	60%	SILTSTONE light brown, light gray, silt to lower very fine grained, well sorted, subangular, poorly consolidated, clay matrix, quartz, trace micro carbonaceous, rare light chert grains, grading to silty Sandstone, tight.
	20%	SANDSTONE light to medium brown, light gray brown, slightly salt and pepper, silt to lower very fine grained, as above.

Sample Descriptions

Storage Units: Metric

1,295.00 to 1,300.00 (5.00)	20%	SHALE light brown, light gray brown, subblocky, earthy, as above.
1,300.00 to 1,305.00 (5.00)	70%	SILTSTONE light brown, light gray brown, sandy, well sorted, subangular, poorly consolidated, clay matrix, quartz, rare micro carbonaceous, rare mica flakes, argillaceous, tight.
	20%	SHALE light brown, light gray brown, subblocky, earthy, as above.
	10%	SANDSTONE light to medium brown, light gray brown, slightly salt and pepper, silt to lower very fine grained, subangular, poorly consolidated, clay cement, quartz, trace micro carbonaceous to trace coal flakes, trace dark lithic, rare kaolin, rare light chert grains, grading to sandy Siltstone in part,
1,305.00 to 1,310.00 (5.00)	80%	SANDSTONE light gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay matrix, quartz, trace micro carbonaceous, trace kaolin, trace dark lithic grains, rare light chert grains, tight.
	15%	SILTSTONE light brown, light gray brown, sandy, well sorted, subangular, as above.
	5%	SHALE light brown, light gray brown, subblocky, earthy, as above.
1,310.00 to 1,315.00 (5.00)	65%	SILTSTONE light brown, light gray brown, sandy, well sorted, subangular, poorly consolidated, clay matrix, quartz, rare micro carbonaceous, rare mica flakes, argillaceous, tight.
	25%	SANDSTONE light gray, silt to very fine grained, well sorted, subangular, as above.
	10%	SHALE light brown, light gray brown, subblocky, earthy, as above.
1,315.00 to 1,320.00 (5.00)	60%	SANDSTONE very light gray, very light brown, silt to very fine grained, subangular to subrounded, poorly consolidated, clay matrix, quartz, rare micro carbonaceous, trace kaolin, rare light chert grains, trace dark lithic, argillaceous, tight.
	20%	SHALE light brown, light gray brown, subblocky, earthy, as above.
	20%	SILTSTONE light brown, light gray brown, sandy, well sorted, subangular, as above.

Sample Descriptions

Storage Units: Metric

1,320.00 to 1,325.00 (5.00)	80%	SANDSTONE very light gray, very light brown, light green gray in part, silt to very fine grained, subangular to subrounded, poorly consolidated, clay matrix, quartz, rare micro carbonaceous, trace kaolin, rare light chert grains, trace dark lithic, argillaceous, tight.
	10%	SILTSTONE light brown, light gray brown, sandy, well sorted, subangular, as above.
	10%	SHALE light brown, light gray brown, subblocky, earthy, silty & sandy, rare micro carbonaceous, rare kaolin grading to argillaceous Siltstone in part, soft.
1,325.00 to 1,330.00 (5.00)	90%	SANDSTONE very light gray, very light brown, light green gray in part, silt to very fine grained, as above.
	10%	SHALE light brown, light gray brown, subblocky, earthy, as above.
1,330.00 to 1,335.00 (5.00)	90%	SANDSTONE light gray, occasional medium gray, silt to very fine grained, well sorted, subangular, poorly consolidated, clay matrix, quartz, trace micro carbonaceous, rare light chert grains, trace kaolin, rare dark lithic grains, grading to sandy Siltstone, tight.
	10%	SHALE medium gray, light to medium gray brown, subfissile to subblocky, earthy, silty & sandy, rare to trace micro carbonaceous, rare disseminated pyrite, grading to argillaceous Siltstone, soft.
1,335.00 to 1,340.00 (5.00)	60%	SANDSTONE light gray, occasional medium gray, silt to very fine grained, well sorted, as above.
	30%	SILTSTONE light gray, sandy, well sorted, subangular, poorly consolidated, clay matrix, quartz, rare to trace micro carbonaceous, trace kaolin, rare light chert grains, argillaceous, grading to silty Sandstone, tight.
	10%	SHALE medium gray, light to medium gray brown, subfissile to subblocky, as above.
1,340.00 to 1,345.00 (5.00)	60%	SANDSTONE light gray, occasional medium gray, silt to very fine grained, well sorted, as above.
	20%	SILTSTONE light gray, sandy, well sorted, subangular, poorly consolidated, clay matrix, as above.
	20%	SHALE medium gray, light to medium gray brown, subfissile to subblocky, as above.

Sample Descriptions

Storage Units: Metric

1,345.00 to 1,350.00 (5.00)	50%	SHALE light brown, light gray brown, subblocky, occasional subfissile, earthy, rare micro carbonaceous, rare mica flakes, rare disseminated pyrite, grade to argillaceous Siltstone lenses, soft to firm.
	40%	SANDSTONE light gray, occasional medium gray, silt to very fine grained, well sorted, as above.
	10%	SILTSTONE light gray, sandy, well sorted, subangular, poorly consolidated, as above.
1,350.00 to 1,355.00 (5.00)	65%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous to trace coal flakes, bentonitic in part, grading to argillaceous Siltstone in part, soft to firm.
	35%	SANDSTONE light gray, occasional medium gray, slightly salt and pepper, silt to very fine grained, well sorted, subangular, poorly consolidated, clay cement, quartz, trace micro carbonaceous to trace coal flakes, argillaceous, trace kaolin, rare light chert grains, rare disseminated pyrite, grading to sandy Siltstone, tight.
1,355.00 to 1,360.00 (5.00)	80%	SHALE light brown, light gray brown, subfissile to subblocky, earthy, as above.
	20%	SANDSTONE light gray, occasional medium gray, slightly salt and pepper, silt to very fine grained, well sorted, as above.
1,360.00 to 1,365.00 (5.00)	95%	SHALE very light to light brown, light to medium gray, subfissile to subblocky, occasional silty & sandy in part, rare kaolin, bentonitic in part, grading to argillaceous Siltstone in part, soft to firm.
	5%	SANDSTONE light gray, occasional medium gray, slightly salt and pepper, silt to very fine grained, as above.
1,365.00 to 1,370.00 (5.00)	100%	SHALE very light to light brown, light to medium gray, subfissile to subblocky, occasional silty & sandy in part, rare to trace micro carbonaceous, rare kaolin, bentonitic in part, grading to argillaceous Siltstone in part, increasing from above, soft to firm.
1,370.00 to 1,375.00 (5.00)	100%	SHALE light to medium gray, light brown, light gray brown, subfissile to subblocky, earthy, occasional silty & sandy, rare to trace micro carbonaceous, rare kaolin, rare light chert grains, grading to argillaceous Siltstone stringers, soft to firm.

Sample Descriptions

Storage Units: Metric

1,375.00 to 1,380.00 (5.00)	100%	SHALE light to medium brown gray, light gray brown, subfissile to subblocky, earthy, silty & sandy, rare to trace micro carbonaceous, rare mica flakes, bentonitic in part, grading to argillaceous Siltstone stringers, soft to firm.
1,380.00 to 1,385.00 (5.00)	100%	SHALE light to medium brown gray, light gray brown, subfissile to subblocky, earthy, as above.
1,385.00 to 1,390.00 (5.00)	100%	SHALE light to medium brown gray, light gray brown, subfissile to subblocky, earthy, silty & sandy, rare to trace micro carbonaceous, rare mica flakes, bentonitic in part, trace Siltstone & Sandstone stringers, soft to firm.
1,390.00 to 1,395.00 (5.00)	100%	SHALE light to medium brown gray, light gray brown, subfissile to subblocky, earthy, silty & sandy, rare to trace micro carbonaceous, rare mica flakes, bentonitic in part, soft to firm.
1,395.00 to 1,400.00 (5.00)	100%	SHALE light to medium brown gray, light gray brown, subfissile to subblocky, earthy, silty & sandy, rare to trace micro carbonaceous, rare mica flakes, bentonitic in part, trace argillaceous Siltstone lenses, soft to firm.
1,400.00 to 1,405.00 (5.00)	100%	SHALE medium gray, subfissile to subblocky, earthy, trace silty & sandy, trace micro carbonaceous to trace coal flakes, rare disseminated pyrite, bentonitic in part, trace Siltstone & Sandstone lenses, soft to firm.
1,405.00 to 1,410.00 (5.00)	100%	SHALE light to medium gray, light brown gray, subfissile to subblocky, earthy, trace silty & sandy, trace micro carbonaceous to trace coal flakes, rare disseminated pyrite, bentonitic in part, trace to occasional Siltstone & Sandstone lenses, soft to firm.
1,410.00 to 1,415.00 (5.00)	100%	SHALE light to occasional medium gray, light gray brown, subfissile to subblocky, earthy, trace to occasional silty & sandy, trace micro carbonaceous to trace coal flakes, very rare disseminated pyrite, rare kaolin, slightly bentonitic, trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,415.00 to 1,420.00 (5.00)	100%	SHALE light to occasional medium gray, light gray brown, subfissile to subblocky, earthy, as above.
1,420.00 to 1,425.00 (5.00)	100%	SHALE light to occasional medium gray, light gray brown, subfissile to subblocky, earthy, as above.
1,425.00 to 1,430.00 (5.00)	100%	SHALE light gray, light gray brown, subfissile to subblocky, earthy, occasional silty & sandy, rare micro carbonaceous to rare coal flakes, trace mica flakes, rare to trace Siltstone & Sandstone lens & stringers, soft to firm.

Sample Descriptions

Storage Units: Metric

1,430.00 to 1,435.00 (5.00)	100%	SHALE light gray, light gray brown, subfissile to subblocky, earthy, as above.
1,435.00 to 1,440.00 (5.00)	100%	SHALE light gray, light gray brown, subfissile to subblocky, as above.
1,440.00 to 1,445.00 (5.00)	100%	SHALE light gray, light gray brown, subfissile to subblocky, earthy, occasional silty & sandy, rare micro carbonaceous to rare coal flakes, trace mica flakes, rare to trace Siltstone & Sandstone lens & stringers, soft to firm.
1,445.00 to 1,450.00 (5.00)	100%	SHALE light gray, light gray brown, subfissile to subblocky, earthy, as above.
1,450.00 to 1,455.00 (5.00)	100%	SHALE light gray, light brown gray, subfissile to subblocky, earthy, trace to occasional silty & sandy, rare to trace micro carbonaceous to trace coal flakes, very rare disseminated pyrite, r light chert grains, rare kaolin, trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,455.00 to 1,460.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare to trace micro carbonaceous to rare coal flakes, rare disseminated pyrite, rare to trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,460.00 to 1,465.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.
1,465.00 to 1,470.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare to trace micro carbonaceous to rare coal flakes, decreasing from above, rare disseminated pyrite, rare to trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,470.00 to 1,475.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous to rare coal flakes, rare disseminated pyrite, rare to trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,475.00 to 1,480.00 (5.00)	100%	SHALE medium gray, medium brown gray, rare light brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, very rare disseminated pyrite, rare mica flakes, rare Siltstone & Sandstone lenses & stringers, soft to firm.
1,480.00 to 1,485.00 (5.00)	100%	NO SAMPLE sample not caught.

Sample Descriptions

Storage Units: Metric

1,485.00 to 1,490.00 (5.00)	100%	SHALE medium gray, medium brown gray, rare light brown, subfissile to subblocky, earthy, as above.
1,490.00 to 1,495.00 (5.00)	100%	SHALE medium gray, medium brown gray, rare light brown, subfissile to subblocky, as above.
1,495.00 to 1,500.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare Siltstone lenses, soft to firm.
1,500.00 to 1,505.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, as above.
1,505.00 to 1,510.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, as above.
1,510.00 to 1,515.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, rare Siltstone lenses, soft to firm.
1,515.00 to 1,520.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, as above.
1,520.00 to 1,525.00 (5.00)	100%	SHALE light to medium gray, light medium to brown gray, very rare light brown, subfissile to subblocky, as above.
1,525.00 to 1,530.00 (5.00)	100%	SHALE light gray, light to medium brown gray, very rare light brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, very rare mica flakes, trace light gray Siltstone & Sandstone lenses, soft to firm.
1,530.00 to 1,535.00 (5.00)	100%	SHALE light gray, light to medium brown gray, very rare light brown, subfissile to subblocky, as above.
1,535.00 to 1,540.00 (5.00)	100%	SHALE light gray, light to medium brown gray, very rare light brown, subfissile to subblocky, as above.
1,540.00 to 1,545.00 (5.00)	100%	SHALE light gray, light to medium brown gray, very rare light brown, subfissile to subblocky, earthy, slightly silty & sandy, rare micro carbonaceous, rare disseminated pyrite, very rare mica flakes, rare light gray Siltstone & Sandstone lenses, soft to firm.

Sample Descriptions

Storage Units: Metric

1,545.00 to 1,550.00 (5.00)	100%	SHALE light gray, light to medium brown gray, very rare light brown, subfissile to subblocky, as above.
1,550.00 to 1,555.00 (5.00)	100%	SHALE light to medium gray, light brown gray, very rare light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous, rare coal flakes, rare to trace light gray Siltstone & Sandstone lenses, more carbonaceous than Shale, soft to firm.
1,555.00 to 1,560.00 (5.00)	100%	SHALE light to medium gray, light brown gray, very rare light brown, subfissile to subblocky, earthy, as above.
1,560.00 to 1,565.00 (5.00)	100%	SHALE light to medium gray, light brown gray, very rare light brown, subfissile to subblocky, earthy, as above.
1,565.00 to 1,570.00 (5.00)	100%	SHALE light to medium gray, light brown gray, very rare light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous, rare coal flakes, rare to trace light gray Siltstone & Sandstone lenses, more carbonaceous than Shale, soft to firm.
1,570.00 to 1,575.00 (5.00)	100%	SHALE light to medium gray, light brown gray, very rare light brown, subfissile to subblocky, earthy, as above.
1,575.00 to 1,580.00 (5.00)	100%	SHALE light to medium gray, very rare light brown, subfissile to subblocky, earthy, trace to occasional silty & sandy, rare micro carbonaceous, very rare disseminated pyrite, very rare mica flakes, rare to trace Siltstone & Sandstone lenses & stringers, soft to firm.
1,580.00 to 1,585.00 (5.00)	100%	SHALE light to medium gray, very rare light brown, subfissile to subblocky, as above.
1,585.00 to 1,590.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace to occasional silty & sandy, rare micro carbonaceous, rare coal flakes, very rare disseminated pyrite, rare Siltstone lenses, soft to firm.
1,590.00 to 1,595.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.
1,595.00 to 1,600.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.
1,600.00 to 1,605.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.

Sample Descriptions

Storage Units: Metric

1,605.00 to 1,610.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous, rare coal flakes, very rare disseminated pyrite, rare Siltstone lenses, soft to firm.
1,610.00 to 1,615.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, as above.
1,615.00 to 1,620.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.
1,620.00 to 1,625.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous, rare coal flakes, very rare disseminated pyrite, rare Siltstone lenses, soft to firm.
1,625.00 to 1,630.00 (5.00)	100%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, as above.
1,630.00 to 1,635.00 (5.00)	90%	SHALE light to medium gray, trace light brown, subfissile to subblocky, earthy, trace silty & sandy, rare micro carbonaceous, rare coal flakes, very rare disseminated pyrite, rare Siltstone lenses, soft to firm.
	10%	SANDSTONE light gray, trace medium gray, light brown in part, silt to lower fine grained, moderately well sorted, subangular, poorly consolidated, clay cement, quartz, rare micro carbonaceous, trace light chert grains, trace disseminated pyrite, rare dark lithic, tight.
1,635.00 to 1,640.00 (5.00)	100%	SHALE m- dark gray brown, trace dark gray, subfissile to subblocky, earthy, slightly to occasional silty & sandy in part, rare micro carbonaceous, rare coal flakes, trace disseminated pyrite, soft to firm.
1,640.00 to 1,645.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy, very rare micro carbonaceous, trace disseminated pyrite, rare light chert grains, soft.
1,645.00 to 1,650.00 (5.00)	100%	SHALE medium to dark gray, medium brown gray, subfissile to subblocky, earthy, silty & sandy, very rare micro carbonaceous, trace to occasional disseminated pyrite, rare light chert grains, soft.
1,650.00 to 1,655.00 (5.00)	100%	SHALE medium to dark gray. subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace to occasional micro disseminated pyrite, rare calcareous filled microfractures, rare pyrite possible filling fractures, soft.

Sample Descriptions

Storage Units: Metric

Upper Canol: 1,657.00 MD, 1,656.56 TVD, -1,397.76 SSL

- 1,655.00 to 1,660.00 100% **SHALE**
(5.00) medium to dark gray, darker than above, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, trace to occasional micro disseminated pyrite, trace to occasional disseminated pyrite, soft.
- 1,660.00 to 1,665.00 100% **SHALE**
(5.00) medium to dark gray, slightly darker than above, subfissile to subblocky, earthy, silty & sandy in part, rare micro carbonaceous, trace to occasional micro disseminated pyrite, soft.
- 1,665.00 to 1,670.00 100% **SHALE**
(5.00) medium to dark gray, black in part, becoming darker than above, subfissile to subblocky, silty & sandy, trace micro carbonaceous, trace to occasional disseminated pyrite, soft to firm in part.

Middle Canol: 1,672.00 MD, 1,671.55 TVD, -1,412.75 SSL

- 1,670.00 to 1,675.00 100% **NO SAMPLE**
(5.00) sample not caught.
- 1,675.00 to 1,680.00 100% **SHALE**
(5.00) medium to dark brown gray, rare black, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace micro disseminated pyrite, trace pyrite spots & streaks, trace light chert grains, soft to firm.
- 1,680.00 to 1,685.00 100% **SHALE**
(5.00) medium to dark brown gray, rare black, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, rare pyritic spots, trace light chert grains, soft to firm.
- 1,685.00 to 1,690.00 100% **SHALE**
(5.00) medium to dark brown gray, rare black, subfissile to subblocky, as above.
- 1,690.00 to 1,695.00 100% **SHALE**
(5.00) medium to dark brown gray, trace black, becoming darker than above, subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, rare pyritic spots, trace light chert grains, soft to firm.

Lower Canol: 1,696.00 MD, 1,695.55 TVD, -1,436.75 SSL

- 1,695.00 to 1,700.00 100% **SHALE**
(5.00) dark gray to black, subfissile to subblocky, earthy, silty & sandy, carbonaceous, trace to occasional disseminated pyrite, very soft, no fluorescence, slow bright yellow blooming cut, faster than above Shale, very soft.
- 1,700.00 to 1,705.00 100% **SHALE**
(5.00) dark gray to black, subfissile to subblocky, earthy, silty & sandy, carbonaceous, trace disseminated pyrite, rare pyritic blebs, very soft, no fluorescence, slow bright yellow blooming cut, faster than above Shale, very soft.

Sample Descriptions

Storage Units: Metric

1,705.00 to 1,710.00 (5.00)	100%	SHALE dark gray to black, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, rare light chert grains, trace disseminated pyrite, soft to firm.
1,710.00 to 1,715.00 (5.00)	100%	NO SAMPLE
1,715.00 to 1,720.00 (5.00)	100%	SHALE black, dark gray, darker than above, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, rare light chert grains, trace disseminated pyrite, soft to firm.
1,720.00 to 1,725.00 (5.00)	100%	SHALE black, dark gray, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace disseminated pyrite, light chert grains, soft to firm.
1,725.00 to 1,730.00 (5.00)	100%	SHALE black, dark gray, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace disseminated pyrite, trace calcareous filled voids, rare calcite crystals, soft to firm.
1,730.00 to 1,735.00 (5.00)	100%	SHALE dark gray, black, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace disseminated pyrite, rare pyrite streaks, rare light chert grains, soft to firm.
1,735.00 to 1,740.00 (5.00)	100%	SHALE dark gray, black, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace to occasional disseminated pyrite, very rare pyrite streaks & rare filled voids, rare light chert grains, soft to firm.
1,740.00 to 1,745.00 (5.00)	100%	SHALE dark gray, black, subfissile to subblocky, earthy, as above.
1,745.00 to 1,750.00 (5.00)	100%	SHALE dark gray to black, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace disseminated pyrite, soft.
1,750.00 to 1,755.00 (5.00)	100%	SHALE dark gray to black, subfissile to subblocky, earthy, silty & sandy, carbonaceous, occasional disseminated pyrite, trace to occasional dark chert grains, soft to firm.
1,755.00 to 1,760.00 (5.00)	100%	SHALE dark gray to black, subfissile to subblocky, earthy, trace pyritic blebs, as above.
1,760.00 to 1,765.00 (5.00)	100%	SHALE blackish, dark gray, dark brown, subfissile to subblocky, earthy, carbonaceous, common coal flakes, trace disseminated pyrite, rare pyritic blebs, slickenside, fractures, trace mica flakes, very soft to soft, no fluorescence, fairly quick milky yellow streaming & blooming cut, oil cut medium brown oil residue.

Sample Descriptions

Storage Units: Metric

- 1,765.00 to 1,770.00 100% **SHALE**
(5.00) blackish, dark gray, dark brown, subfissile to subblocky, as above.
- 1,770.00 to 1,775.00 100% **SHALE**
(5.00) blackish, dark gray, dark brown, subfissile to subblocky, earthy, carbonaceous, common coal flakes, trace disseminated pyrite, rare pyritic blebs, occasional slickenside, fractures, trace mica flakes, very soft to soft, no fluorescence, fairly quick milky yellow streaming & blooming cut, medium brown oil residue.
- 1,775.00 to 1,780.00 100% **SHALE**
(5.00) blackish, dark gray, dark brown, subfissile to subblocky, earthy, carbonaceous, common coal flakes, trace disseminated pyrite, trace pyritic streaks, occasional slickenside, fractures, trace mica flakes, rare calcareous streaks, very soft to soft, no fluorescence, fairly quick milky yellow streaming & blooming cut, medium brown oil residue.

Hare Indian: 1,780.00 MD, 1,779.52 TVD, -1,520.72 SSL

- 1,780.00 to 1,785.00 100% **SHALE**
(5.00) blackish, dark gray, dark brown, subfissile to subblocky, as above.
- 1,785.00 to 1,790.00 100% **SHALE**
(5.00) blackish, dark gray, dark brown, subfissile to subblocky, earthy, carbonaceous, common coal flakes, trace disseminated pyrite, trace pyritic streaks, occasional slickenside, fractures, trace mica flakes, trace calcareous streaks, very soft to soft, no fluorescence, fairly quick milky yellow streaming & blooming cut, medium brown oil residue.
- 1,790.00 to 1,795.00 100% **SHALE**
(5.00) dark brown, dark gray, blackish, subfissile to subblocky, earthy, carbonaceous, coal flakes, trace disseminated pyrite, trace pyritic streaks possible fractures, trace calcareous, streaks, very soft to soft, no fluorescence, fairly fast milky yellow streaming & blooming cut, medium brown oil residue.
- 1,795.00 to 1,800.00 100% **SHALE**
(5.00) dark brown, dark gray, blackish, subfissile to subblocky, earthy, as above.

Bluefish: 1,802.75 MD, 1,802.26 TVD, -1,543.46 SSL

- 1,800.00 to 1,805.00 100% **SHALE**
(5.00) dark brown, dark gray, occasional blackish, subfissile to subblocky, earthy, carbonaceous, coal flakes, trace disseminated pyrite, trace pyrite filled fractures, trace calcareous streaks, slightly calcareous, very soft to soft, no fluorescence, fairly fast milky yellow streaming & blooming cut, medium brown oil residue.
- 1,805.00 to 1,810.00 100% **SHALE**
(5.00) dark gray to black, subfissile, earthy, carbonaceous, trace coal flakes, to bituminous, trace disseminated pyrite, rare calcareous streaks, soft to firm.

Sample Descriptions

Storage Units: Metric

1,810.00 to 1,815.00 100% **SHALE**
(5.00) dark brown, dark gray, occasional blackish, subfissile to subblocky, earthy, carbonaceous, coal flakes, bituminous, trace disseminated pyrite, trace pyrite filled fractures, trace calcareous streaks, slightly calcareous, very soft to soft, no fluorescence, slower than above, milky yellow streaming & blooming cut, less than above, medium brown oil residue.

1,815.00 to 1,820.00 85% **SHALE**
(5.00) dark brown, dark gray, occasional blackish, subfissile to subblocky, as above.

15% **LIMESTONE**
brownish, off white in part, mottled, laminated, microcrystalline to very fine crystalline, very argillaceous, rare disseminated pyrite, fossil, very soft, tight to poor (0 to 4%) intercrystalline porosity, interbedded with Shale.

1,820.00 to 1,825.00 70% **SHALE**
(5.00) dark brown, dark gray, occasional blackish, subfissile to subblocky, as above.

40% **LIMESTONE**
brownish, off white in part, mottled, laminated, microcrystalline to very fine crystalline, very argillaceous, rare disseminated pyrite, fossil, very soft, tight to poor (0 to 4%) intercrystalline porosity, interbedded with Shale.

Hume: 1,828.00 MD, 1,827.50 TVD, -1,568.70 SSL

1,825.00 to 1,830.00 70% **LIMESTONE**
(5.00) light brown, off white, slightly mottled, micritic, chalky, argillaceous, occasional fossil fragments, rare disseminated pyrite, rare coal flakes to bituminous, tight to poor (0- 4%) intercrystalline porosity.

20% **SHALE**
dark brown, dark gray, occasional blackish, subfissile to subblocky, as above.

10% **LIMESTONE**
brownish, white in part, mottled, microcrystalline to very fine crystalline, as above.

1,830.00 to 1,835.00 100% **LIMESTONE**
(5.00) light brown, off white, lighter than above, slightly mottled, micritic, chalky, argillaceous, occasional fossil fragments, rare disseminated pyrite, rare coal flakes to bituminous, tight to poor (0- 4%) intercrystalline porosity.

10% **SHALE**
dark brown, dark gray, occasional blackish, subfissile to subblocky, as above.

1,835.00 to 1,840.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, slightly argillaceous, rare dark Shale streaks, rare anhydrite crystals, rare anhydrite filled microfractures, rare coal flakes, very rare bituminous material, tight.

1,840.00 to 1,845.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, as above.

Sample Descriptions

Storage Units: Metric

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- 1,845.00 to 1,850.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, slightly argillaceous, rare dark Shale streaks, rare anhydrite crystals, trace carbonaceous to trace coal flakes, rare bituminous material, tight.
- 1,850.00 to 1,855.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, slightly argillaceous, rare dark Shale streaks, trace anhydrite crystals, trace carbonaceous to trace coal flakes, rare bituminous material, tight.
- 1,855.00 to 1,860.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, slightly argillaceous, trace carbonaceous to trace coal flakes, trace bituminous, trace loose anhydrite crystals, slightly dolomitic, tight.
- 1,860.00 to 1,865.00 100% **LIMESTONE**
(5.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, slightly argillaceous, trace carbonaceous to trace coal flakes, trace bituminous, increasing from above, trace loose anhydrite crystals, slightly dolomitic, tight.
- 1,865.00 to 1,868.00 100% **LIMESTONE**
(3.00) light brown, slightly mottled, cryptocrystalline to microcrystalline, chalky, as above.

Core Descriptions

Storage Units: Metric

1,670.00 to 1,670.00 (0.00)	SHALE medium to dark gray, medium to dark brown gray, slightly subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, firm.
1,671.50 to 1,671.50 (0.00)	SHALE dark gray, dark brown gray, slightly subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, trace disseminated pyrite, trace pyritic spots, trace light chert grains, soft to firm.
1,673.00 to 1,673.00 (0.00)	SHALE dark gray, dark brown gray, darker than above, as above.
1,674.50 to 1,674.50 (0.00)	SHALE dark gray, dark brown gray, slightly subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, trace disseminated pyrite, trace pyritic spots, trace light chert grains, soft to firm.
1,676.00 to 1,676.00 (0.00)	SHALE dark gray, dark brown gray, slightly subfissile to subblocky, as above.
1,677.50 to 1,677.50 (0.00)	SHALE dark gray, dark brown gray, slightly subfissile to subblocky, earthy, silty & sandy, rare micro carbonaceous, trace disseminated pyrite, trace disseminated pyrite, common pyritic spots, trace light chert grains, soft to firm.
1,678.00 to 1,678.00 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace light chert grains, trace disseminated pyrite, trace pyritic spots, soft to firm.
1,679.50 to 1,679.50 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, as above.
1,681.00 to 1,681.00 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace to occasional light chert grains, trace disseminated pyrite, trace pyritic spots, soft to firm.
1,682.50 to 1,682.50 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace light chert grains, trace disseminated pyrite, trace pyritic spots, soft to firm.
1,684.00 to 1,684.00 (0.00)	SHALE dark gray, dark brown gray, becoming darker than above, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace to occasional light chert grains, trace disseminated pyrite, trace pyritic spots, soft to firm.
1,685.50 to 1,685.50 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, as above.

Core Descriptions

Storage Units: Metric

1,686.00 to 1,686.00 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, as above.
1,687.15 to 1,687.15 (0.00)	SHALE dark gray, dark brown gray, subfissile to subblocky, earthy, as above.
1,688.65 to 1,688.65 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, rare light chert grains, soft to firm.
1,690.15 to 1,690.15 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, silty & sandy, trace micro carbonaceous, trace disseminated pyrite, trace pyritic nodules, soft to firm.
1,691.65 to 1,691.65 (0.00)	SHALE dark brown, blackish, subfissile -- subblocky, slightly silty & sandy, rare micro carbonaceous, rare coal flakes, slightly bituminous, rare disseminated pyrite, soft to firm.
1,693.15 to 1,693.15 (0.00)	SHALE dark brown, blackish, subfissile -- subblocky, earthy, as above.
1,695.65 to 1,695.65 (0.00)	SHALE dark gray, blackish, subfissile to subblocky, earthy, as above.
1,696.30 to 1,696.30 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, slightly silty & sandy, trace micro carbonaceous to trace coal flakes, bituminous in part, trace disseminated pyrite, soft to firm.
1,697.80 to 1,697.80 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, as above.
1,700.80 to 1,700.80 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, slightly silty & sandy, trace micro carbonaceous to trace coal flakes, bituminous, trace disseminated pyrite, soft to firm.
1,702.30 to 1,702.30 (0.00)	SHALE dark gray to black, subfissile to subblocky, earthy, slightly silty & sandy, carbonaceous, trace disseminated pyrite & rare pyritic streaks, bituminous in part, soft to firm, no fluorescence, slow bright yellow blooming & streaming cut
1,703.80 to 1,703.80 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, as above.
1,704.80 to 1,704.80 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, slightly silty & sandy, trace micro carbonaceous to trace to occasional coal flakes, bituminous, trace disseminated pyrite, soft to firm.

Core Descriptions

Storage Units: Metric

1,705.80 to 1,705.80 (0.00)	SHALE dark gray, dark brown, blackish, subfissile to subblocky, earthy, slightly silty & sandy, trace micro carbonaceous to trace coal flakes, bituminous, trace disseminated pyrite, soft to firm.
1,706.00 to 1,706.00 (0.00)	SHALE dark gray to black, slightly hockey pucks, slightly subfissile, carbonaceous, rare disseminated pyrite, firm.
1,707.50 to 1,707.50 (0.00)	SHALE dark gray to black, slightly hockey pucks, slightly subfissile, carbonaceous, trace coal flakes, bituminous in part, occasional disseminated pyrite & pyritic blebs, soft to firm.
1,709.00 to 1,709.00 (0.00)	SHALE dark gray to black, slightly hockey pucks, as above.
1,710.50 to 1,710.50 (0.00)	SHALE dark to gray to black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous in part, trace to occasional disseminated pyrite, soft to firm.
1,712.00 to 1,712.00 (0.00)	SHALE dark gray to black, slightly hockey pucks, as above.
1,713.50 to 1,713.50 (0.00)	SHALE dark gray, slightly hockey pucks, slightly subfissile, earthy, carbonaceous, trace to occasional coal flakes, bituminous, trace disseminated pyrite, firm.
1,714.75 to 1,714.25 (-0.50)	SHALE dark gray, slightly hockey pucks, as above.
1,715.75 to 1,715.75 (0.00)	SHALE dark gray, slightly hockey pucks, as above.
1,717.25 to 1,717.25 (0.00)	SHALE dark gray, slightly hockey pucks, slightly subfissile, earthy, carbonaceous, occasional to common coal flakes, very bituminous, trace disseminated pyrite, firm.
1,720.25 to 1,720.25 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, trace coal flakes, bituminous, trace to occasional disseminated pyrite, soft to firm,
1,721.75 to 1,721.75 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, trace coal flakes, bituminous, trace disseminated pyrite, soft to firm,
1,722.75 to 1,722.75 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,

Core Descriptions

Storage Units: Metric

1,723.75 to 1,723.75 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,725.20 to 1,725.20 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, trace coal flakes, bituminous, trace to occasional disseminated pyrite, soft to firm,
1,726.70 to 1,726.70 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,728.20 to 1,728.20 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional coal flakes, occasional bituminous, trace to occasional disseminated pyrite, soft to firm,
1,729.70 to 1,729.70 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,
1,731.20 to 1,731.20 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,732.90 to 1,732.90 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,734.40 to 1,734.40 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, trace to occasional coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,
1,735.90 to 1,735.90 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,737.40 to 1,737.40 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,
1,741.40 to 1,741.40 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,
1,742.10 to 1,742.10 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,743.60 to 1,743.60 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,

Core Descriptions

Storage Units: Metric

1,745.10 to 1,745.10 (0.00)	SHALE dark gray, black, slightly hockey pucks, slightly subfissile, carbonaceous, common coal flakes, very bituminous, trace disseminated pyrite, soft to firm,
1,746.60 to 1,746.60 (0.00)	SHALE dark gray, black, slightly hockey pucks, as above.
1,748.10 to 1,748.10 (0.00)	SHALE black, dark gray, slightly hockey pucks, slightly subfissile, carbonaceous, occasional to common coal flakes, very bituminous, trace to occasional disseminated pyrite, soft to firm,
1,749.60 to 1,749.60 (0.00)	SHALE black, dark gray, slightly hockey pucks, as above.
1,750.60 to 1,750.60 (0.00)	SHALE black, dark gray, as above.
1,751.30 to 1,751.30 (0.00)	SHALE black, dark gray, slightly subfissile, as above.
1,752.80 to 1,752.80 (0.00)	SHALE black, dark gray, subfissile, slightly hockey pucks, carbonaceous, very coaly, very bituminous, trace disseminated pyrite, soft to firm.
1,754.30 to 1,754.30 (0.00)	SHALE black, dark gray, subfissile, as above.
1,755.80 to 1,755.80 (0.00)	SHALE black, dark gray, subfissile, as above.
1,757.30 to 1,757.30 (0.00)	SHALE black, dark gray, subfissile, as above.
1,758.80 to 1,758.80 (0.00)	SHALE black, dark gray, subfissile, slightly hockey pucks, carbonaceous, very coaly, very bituminous, trace disseminated pyrite, soft to firm.
1,759.80 to 1,759.80 (0.00)	SHALE black, dark gray, subfissile, as above.
1,760.00 to 1,760.00 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, trace disseminated pyrite, bituminous, firm.
1,761.50 to 1,761.50 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, trace disseminated pyrite & pyritic needles, slightly bituminous, firm.
1,763.00 to 1,763.00 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, as above.

Core Descriptions

Storage Units: Metric

1,764.50 to 1,764.50 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, trace to occasional disseminated pyrite & pyritic needles, slightly bituminous, firm.
1,766.00 to 1,766.00 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, as above.
1,767.50 to 1,767.50 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional disseminated pyrite, rare pyritic needles, slightly bituminous, firm, no fluorescence, slow milky yellow streaming & blooming cut.
1,768.50 to 1,768.50 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, as above.
1,768.95 to 1,768.95 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional disseminated pyrite, rare pyritic needles, slightly bituminous, firm, no fluorescence, slow milky yellow streaming & blooming cut.
1,770.45 to 1,770.45 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, as above.
1,771.95 to 1,771.95 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, trace disseminated pyrite, common coal flakes, bituminous, firm, no fluorescence, milky yellow streaming & blooming cut.
1,773.45 to 1,773.45 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, as above.
1,774.95 to 1,774.95 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, rare to trace disseminated pyrite, common coal flakes, bituminous, firm, no fluorescence, milky yellow streaming & blooming cut.
1,776.45 to 1,776.45 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, common coal flakes, very bituminous, trace disseminated pyrite, slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,777.45 to 1,777.45 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, common coal flakes, very bituminous, trace disseminated pyrite, becoming more calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,778.20 to 1,778.20 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, common coal flakes, very bituminous, trace disseminated pyrite, calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.

Core Descriptions

Storage Units: Metric

1,779.70 to 1,779.70 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional coal flakes, common bituminous, slightly calcareous, soft to firm, no fluorescence, fairly fast bright milky yellow blooming & streaming cut.
1,781.20 to 1,781.20 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, common coal flakes, very bituminous, very slightly calcareous, soft to firm, no fluorescence, fairly fast bright milky yellow blooming & streaming cut.
1,782.70 to 1,782.70 (0.00)	SHALE dark gray, black, slightly mottled, slightly subfissile, carbonaceous, common coal flakes, very bituminous, rare to trace disseminated pyrite, soft to firm, no fluorescence, fairly fast milky yellow streaming & blooming cut.
1,784.20 to 1,784.20 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, common coal flakes, very bituminous, occasional disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,787.55 to 1,787.55 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, rare disseminated pyrite, common coal flakes, slightly calcareous, bituminous, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,787.70 to 1,787.70 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace coal flakes, very bituminous, trace disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,789.05 to 1,789.05 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, occasional coal flakes, very bituminous, trace disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,790.55 to 1,790.55 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, as above.
1,792.05 to 1,792.05 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, common coal flakes, very bituminous, very pyritic in part, pyritic streaks, soft to firm,
1,793.55 to 1,793.55 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, cab, abundant coal flakes, very bituminous, rare disseminated pyrite, very slightly calcareous, soft to firm.
1,795.05 to 1,795.05 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, cab, occasional to common coal flakes, very bituminous, rare disseminated pyrite, very slightly calcareous, soft to firm.

Core Descriptions

Storage Units: Metric

1,796.05 to 1,796.05 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, cab, occasional coal flakes, very bituminous, trace disseminated pyrite, very slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,798.25 to 1,798.25 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional coal flakes, very bituminous, trace disseminated pyrite, very slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,799.75 to 1,799.25 (-0.50)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, common coal flakes, very bituminous, trace disseminated pyrite, very slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,801.25 to 1,801.25 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional coal flakes, very bituminous, rare to trace disseminated pyrite, very slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,802.76 to 1,802.75 (-0.01)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, as above.
1,804.25 to 1,804.25 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, as above.
1,805.95 to 1,805.95 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, as above.
1,807.45 to 1,807.45 (0.00)	SHALE dark gray to black, slightly subfissile, earthy, carbonaceous, occasional coal flakes, very bituminous, rare to trace disseminated pyrite, very slightly calcareous, soft to firm, no fluorescence, fairly fast milky yellow blooming & streaming cut.
1,808.95 to 1,808.95 (0.00)	SHALE dark brown, dark gray to black, slightly mottled, slightly subfissile, earthy, trace to occasional light chert grains, trace coal flakes, bituminous in part, trace to occasional disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,810.45 to 1,810.45 (0.00)	SHALE dark brown, dark gray to black, slightly mottled, slightly subfissile, earthy, occasional light chert grains, trace coal flakes, bituminous in part, trace disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,811.95 to 1,811.95 (0.00)	SHALE dark brown, dark gray, blackish, slightly mottled, subfissile, earthy, trace disseminated pyrite, trace coal flakes, bituminous in part, trace to occasional disseminated pyrite, soft to firm, no fluorescence, fairly fast bright milky streaming & blooming cut.

Core Descriptions

Storage Units: Metric

1,813.45 to 1,813.45 (0.00)	SHALE dark brown, dark gray, blackish, slightly mottled, subfissile, as above.
1,814.35 to 1,814.35 (0.00)	SHALE dark brown, dark gray, blackish, subfissile, earthy, abundant coal flakes, very bituminous, trace disseminated pyrite, trace light chert grains, soft to firm, no fluorescence, fairly fast bright milky yellow streaming & blooming cut.
1,815.50 to 1,815.50 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, rare to trace disseminated pyrite, trace pyrite nodules, very slightly calcareous, soft to firm.
1,817.00 to 1,817.00 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, trace disseminated pyrite, trace pyrite nodules, very slightly calcareous, soft to firm.
1,817.25 to 1,718.25 (-99.00)	SHALE dark gray, slightly hockey pucks, as above.
1,818.50 to 1,818.50 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, trace disseminated pyrite, trace pyritic fossil fragments, trace pyrite nodules, very slightly calcareous, soft to firm.
1,819.15 to 1,819.15 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, trace disseminated pyrite, trace pyritic fossil fragments, trace pyrite nodules, very slightly calcareous, soft to firm.
1,820.65 to 1,820.65 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, trace disseminated pyrite, rare pyritic fossil fragments, very slightly calcareous, soft to firm.
1,822.15 to 1,822.15 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, as above.
1,823.65 to 1,823.65 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, trace disseminated pyrite, trace pyritic fossil fragments, very slightly calcareous, soft to firm.
1,826.65 to 1,826.65 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, trace to occasional coal flakes to bituminous, as above.
1,827.65 to 1,827.65 (0.00)	SHALE dark gray to black, subfissile, earthy, carbonaceous, as above.

Core Descriptions

Storage Units: Metric

1,828.00 to 1,828.00 (0.00)	LIMESTONE medium to dark brown, cryptocrystalline, slightly argillaceous, occasional coal flakes to bituminous, common fossil fragments, rare micro fractures, tight.
1,830.00 to 1,830.00 (0.00)	LIMESTONE medium to dark brown, cryptocrystalline, slightly argillaceous, occasional coal flakes to bituminous, common fossil fragments, pyritic fossil fragments, rare micro fractures, tight.
1,831.50 to 1,831.50 (0.00)	LIMESTONE medium to dark brown, cryptocrystalline, slightly argillaceous, as above.
1,833.00 to 1,833.00 (0.00)	LIMESTONE medium brown, cryptocrystalline, massive dense, slightly argillaceous, occasional coal flakes to bituminous, common fossil fragments, pyritic fossil fragments, trace dolomitic filled microfractures, dolomitic in part, grading t to Dolomitic Limestone, tight.
1,834.50 to 1,834.50 (0.00)	LIMESTONE medium brown, cryptocrystalline, massive dense, slightly argillaceous, occasional coal flakes to bituminous, common fossil fragments, pyritic fossil fragments, trace dolomitic filled microfractures, dolomitic in part, grading t to Dolomitic Limestone, tight.
1,836.00 to 1,836.00 (0.00)	LIMESTONE medium brown, cryptocrystalline, massive dense, slightly argillaceous, as above.
1,837.15 to 1,837.15 (0.00)	LIMESTONE medium brown, cryptocrystalline, massive dense, slightly argillaceous, occasional coal flakes to bituminous, common fossil fragments, pyritic fossil fragments, trace dolomitic filled microfractures, dolomitic in part, grading t to Dolomitic Limestone, tight.