APPENDIX B

MW-26 BORING/WELL CONSTRUCTION LOG AND MP CASING CONSTRUCTION DETAILS



Project Project Geolog Drilling Driller: Review	Loca #: G ist: [Cont Albe ved by	cation: JPL-MW-26 titon: NASA Jet Propulsion Lab 486111-T3 David Conner ractor: WDC Exploration & Wells rto Vega y: David Clexton R.G. #7350	Sampler Type: Grab San Boring Diameter: 12 1 Drilling Method: Mud I Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12 Total Depth: 313.0' bgs	d Rotary Borehole Abandoned: Monitoring Device In 50K Borehole Abandoned: Monitoring Device In ing Hammer Yes No /12/04 Method: Type: Westbay Multi ogs Monitoring System					y: 6,511,824.030 y Device Installed: No stbay Multi-Port	
Depth (feet bgs)	USCS symbols	Sample description		Comments				W	-	
Depth (feet bgs) 0 - 5 - 10 - 10 - - 10 - - - - - - - - - - - - -	SM	Sample descri Asphalt Surface (4 inches thick) Gravet base for pavement SILTY SAND: olive brown, 80% f some coarse-grained, slightly dar As above. Increase in coarse-grained, some 2" to 3" long, some rock. Cobbles and rock granodioritic in Silty SAND: yellow brown, 85% fi 15% coarse-grained, some cobbl COBBLES with silty SAND: orang black and gray, 60% fine gravel (granodioritic composition), 20% f SAND, 20% coarse-grained SAN Very rocky. COBBLES. COBBLES with silty SAND: 75% medium- to coarse-grained, 10% As above. As above. Silty SAND: orange yellow brown grained, 20% coarse-grained. Si color.	ption ine- to medium-grained, mp. a gravel up to composition. ine- to medium-grained, les and gravel. ge brown with some quartz and feldspar - ine- to medium-grained D. fine-gravel, 15% fine-grained.	Con	nments				/ell Completion Surface seal: 0-3' Concrete Bentonite Seal: 1:1 granular bentonite to sance mixture 3' - 127' - 4" Diameter Low-Carbon Steel Casing	
- 60 -							1.25			



Project Lo Project #: Geologist: Drilling Co Driller: Alt Reviewed	ocation: JPL-MW-26 cation: NASA Jet Propulsion Lab G486111-T3 David Conner ntractor: WDC Exploration & Wells perto Vega by: David Clexton R.G. #7350	Sampler Type: Grab Sam Boring Diameter: 12 1. Drilling Method: Mud F Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12 Total Depth: 313.0' bgs	Rotary)K g Hammer 2/04	Coordinates (NAD 8: Surface Elevation: 10 Borehole Abandoned Yes No X Method:	059.0	08 M Ye Ty	Eastin onitorin es <u>X</u> /pe: We	ng: 1,887,624.430 ig: 6,511,824.030 ig Device Installed: No estbay Multi-Port ig System
Depth ທີ່ (feet bgs) ທີ່	Sample descri	ption	Cor	nments	Lithology		١	Well Completion
	M Silty SAND: orange yellow brown grained, 20% coarse-grained. S color. Sporadic cobbles at 60' bo	ilt orange yellow in				いないない		Bentonite Seal: 1:1 granular — bentonite to sand
- 70 - GI	COBBLES with silty SAND: yello fine gravel, 25% coarse-grained, gravel angular to subangular. COBBLES.	w orange brown, 60% 15% fine-grained,	Heavy rig chatter.			影響家	が設設	mixture 3' - 127'
	As above.				<u>, 0, 0, 0, 0, 0, 0, 0</u>	が必須が必須		4" Diameter Low-Carbon Steel Casing
	As above.							
90	As above.		Very heavy rig cha	itter		影響家	が必須	
	As above.		voly houvy ng one			家庭家	になってい	
	As above.				0 0 0 0 0 0 0 0			
-110 	As above.				0 0 0 0 0 0			
	Increase in cobbles.		Increased rig chatt	er.		認識派	が必須	



Project Project Geolog Drilling Driller: Review	Loca #: G ist: I Con Albe red b	ocation: JPL-MW-26 ation: NASA Jet Propulsion Lab 486111-T3 David Conner tractor: WDC Exploration & Wells rto Vega y: David Clexton R.G. #7350	Sampler Type: Grab Sam Boring Diameter: 12 1 Drilling Method: Mud H Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12 Total Depth: 313.0' bgs	Rotary DK g Hammer 2/04	Coordinates (NAD 8 Surface Elevation: 1 Borehole Abandoned Yes No X Method:	059.	.08 M Y T	Eastin Ionitorin es <u>X</u> ype: We	ng: 1,887,624.430 g: 6,511,824.030 g Device Installed: No sstbay Multi-Port g System
Depth (feet bgs)	USCS symbols	Sample descri	ption	Cor	nments	Lithology		١	Well Completion
-120 - 125 	GM	COBBLES with silty SAND: yello fine gravel, 25% coarse-grained, gravel angular to subangular. As above.	w orange brown, 60% 15% fine-grained,			<u>) 0 0 0 0 0 0 0</u>		深深深深	Bentonite Seal: 1:1 granular — bentonite to sand mixture 3' - 127'
 130 		As above.		Hoovy rig chatter		<u>000000000</u>			Well Screen #1: 130' - 140', 4" Diameter — 0.010-inch slot, wire-wrapped stainless-steel
-135- - 140- 		Increase in cobbles. Decrease in cobbles.		Heavy rig chatter. Low rig chatter and smoother drilling 1 144' bgs.		0 0 0 0 0 0 0			screen, 10' long _ Filter Pack: Lonestar No. 2/16 sand: 127' - 145'
 145 		COBBLES with silty SAND: yello gravel, 15% fine- to medium grai grained, angular to subangular. Silty SAND: light brown, fine-grai	ned, 10% coarse-						4" Diameter Low-Carbon Steel Casing
-155-	3141	As above.	neu, wen soneu, nace					深深深深	Bentonite Seal: 1:1 granular
 160 		As above.							— bentonite to sand mixture 145' - 206'
 165 		As above.						家家家家	
-170- - 175-		As above. As above.						が次次が次	
 180							談談	家家	



/ells Drilling Method: Mud Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12	Rotary 0K g Hammer 2/04	Surface Elevation: 10	059.08 1:	Eastin Monitorin Yes <u>X</u> Type: We	g: 6,511,824.030 g Device Installed: No estbay Multi-Port
escription	Cor	nments	Lithology	v	Well Completion
-grained, well sorted, trace medium- to coarse-grained, r. Cobbles and gravel at fine- to medium-grained, sorted, trace fine gravel.	Increased rig chatt	ter.			Well Completion Bentonite Seal: 1:1 granular bentonite to sand mixture 145' - 206' 4" Diameter Low-Carbon Steel Casing Well Screen #1: 210'-220', 4" Diameter 0.010-inch slot, wire-wrapped stainless-steel screen, 10' long Filter Pack: Lonestar No. 2/16 sand: 206' - 225' 4" Diameter Low-Carbon steel Casing
and (40%).				國	Bentonite Seal: 1:1 granular
ilty SAND: 60% fine- to grained, trace fine gravel.	Moderate rig chatte	er.			mixture 225' - 313'
	Vells Vells Drilling Method: Mud Drill Rig: Speedsta 50 Hammer Type: Casing Date: 04/07/05 - 04/1 Total Depth: 313.0' bg: Vellscription -grained, well sorted, trace medium- to coarse-grained, r. Cobbles and gravel at of fine- to medium-grained, sorted, trace fine gravel.	Image: Problem in the image: proble	brilling Method: Mud Rotary Drilling: Speedstar 50K Date: 04/07/05 - 04/12/04 Borehole Abandoned Yes Date: 04/07/05 - 04/12/04 Total Depth: 313.0' bgs Borehole Abandoned Yes lescription Comments -grained, well sorted, trace medium- to coarse-grained, r. Cobbles and gravel at offine- to medium-grained, sorted, trace fine gravel. Increased rig chatter. d, 30% coarse-grained, 20% h), angular to subangular. Moderate rig chatter. he- to medium-grained, silt content, moderate and (40%). Moderate rig chatter.	Initiang Method: Wall Rotary Drill Rig: Speedstare Sok Hammer Type: Casing Hammer Date: 04/07/05 - 04/12/04 Total Depth: 313.0' bgs Borehole Abandoned: Yes No X Method: escription Comments Image: Comments -grained, well sorted, trace medium-to coarse-grained, r. Cobbles and gravel at fine- to medium-grained, sorted, trace fine gravel. Increased rig chatter. 4, 30% coarse-grained, n, angular to subangular. Moderate rig chatter. Image: Comment in the subangular. h. angular to subangular. Moderate rig chatter. Image: Comment in the subangular. d, 20% coarse-grained, silt content, moderate and (40%). Moderate rig chatter. Image: Comment in the subangular.	Ideal Splitting Wethod: Moderate rig chatter. Borehole Abandoned: Yes No X Total Depth: 313.0' bgs Monitorin Yes X, Type: We Monitorin tescription Comments Image: Speadstar Splitting Spl



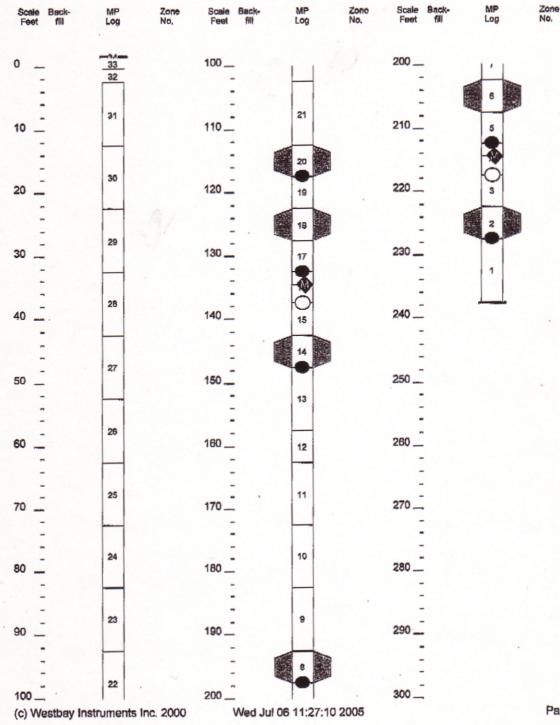
Project L Project # Geologis Drilling O Driller: A Reviewe	Loca #: G st: E Cont Albe ed by	y: David Clexton R.G. #7350	Sampler Type: Grab San Boring Diameter: 12 1 Drilling Method: Mud Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12 Total Depth: 313.0' bgs	0K g Hammer 2/04	Coordinates (NAD 8: Surface Elevation: 10 Borehole Abandoned Yes No X Method:	059.0	08 Easting Monitoring Yes X	g: 6,511,824.030 g Device Installed: No stbay Multi-Port	
Depth feet bgs)	USCS symbols	Sample descri	ption	Cor	nments	Lithology	v	Well Completion	
240 1	GM	Boulders and Cobbles with silty S medium-grained, 40% coarse-gra As above.	GAND: 60% fine- to ained, trace fine gravel.	Increase in rig cha	tter.			Bentonite Seal: 1:1 granular — bentonite to sand	
-250-		Bedrock:buff to tannish pink, mec grained SAND, angular, some gra (light colored with biotite). As above.	lium- to coarse- anodiorite grains	Lower rig chatter. Very dense materia drilling; approx. 12" minutes.	II. Slow and steady of depth every 10			mixture 206' - 313'	
 		As above. As above.							
-270-		As above.							
 - 275- 		As above. As above.							
-285-		As above.							
 _290 		As above.							
		As above.							
_ ₃₀₀		As above.				22			



Project Project Geolog Drilling	Loca #: G jist: I Con	cation: JPL-MW-26 ation: NASA Jet Propulsion Lab 486111-T3 David Conner tractor: WDC Exploration & Wells rto Vega y: David Clexton R.G. #7350	Sampler Type: Grab Sam Boring Diameter: 12 1 Drilling Method: Mud I Drill Rig: Speedstar 50 Hammer Type: Casing Date: 04/07/05 - 04/12 Total Depth: 313.0' bgs	/4" Rotary 0K g Hammer 2/04	Coordinates (NAD 8 Surface Elevation: 1 Borehole Abandone Yes No X Method:	1059.0	08 Eastin Monitorin Yes <u>X</u>	g: 6,511,824.030 g Device Installed: No stbay Multi-Port	
Depth (feet bgs)	USCS symbols	Sample descri	Cor	nments	Lithology	Well Completion			
300 	0	Leucocratic Grandodiorite (gl): pla potassium-feldspar, 5% to 15%; o biotite, 2% to 10%, and a trace of	quartz, 10% to 15%;		94mm core barrel.				
 305		Interbedded Biotite-hornblende D to dark gray, medium grained dio		Bedrock matches of adjacent to Devils	Gate Damn.	1272 1272 1272 1272 1272			
 		Leucocratic Grandodiorite (gl): pla potassium-feldspar, 5% to 15%; c biotite, 2% to 10%, and a trace of	quartz, 10% to 15%;					Bentonite Seal: 1:1 granular — bentonite to sand mixture	
 310		As above.						206' - 313'	
		Total Depth=313'				1212	<u> Recence</u>		
 315	1								
-320-	}								
	1								
-325-									
330-									
]								
-335-	1								
340-	1								
- 345-									
-350-									
-355—	-								
	1								
-360]								
								JPL-MW-26.CDF	

Summary Casing Log WDC Exploration Inc.

Job No: 650 Well: MW 26



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