Alluvium Drill Cuttings Logging Form - Nye County Nuclear Waste Repository Project Office

Borehole ID: **NC-EWDP- 29P** (Phase 4) Driller/Drilling Company: Greg Secrist/Eklund Drilling Co. Drilling Method: Reverse Circulation Air Rotary & Select Drive Core Alluvium Depth (ft bgs): 0 to 320 Start Date: 6/26/2003 End Date: 6/28/2003

Date Logged	Logged By (Initials)	Date Checked	Checked By (Initials)	Sample Number	Depth Interval (feet bgs)		Drilling Data					Sample Density Measurements			Munsell Color Symbol	Moisture Content			Particle Size Distribution (%)					Gra-ding		Estimated Plasticity				USCS Group Symbol	Gravel/Sand GrainShape				Cementation				HCL Reaction			Major Rock Type (%)		
					From	To	Liquid Drilling Fluid Injection Rate (gpm)	Drilling Rate (feet/min)	Water Production (gpm)	Sample Recovery (gallons)	Borehole Diameter (inches)	Tare Weight (kg) (gal)	Sample Plus Tare Weight (kg)	Sample Weight (kg) (gal)		DRY	MOIST	WET	Gravel	Sand	Silt	Clay	Fines (Silt plus Clay)	WELL	POORLY	NONE	LOW	MODERATE	HIGH		ANGULAR	SUBANGULAR	SUBROUNDED	ROUNDED	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	STRONG	VOLCANICS	CARBONATES	OTHER
6/25/2003	BW	11/25/2003	JSW	29P-0-2.5	0.00	2.50	0.0	4.0	0.0	2.0	6.3				5YR 5/6	☑	☐	☐					30	■	■	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-2.5-5.0	2.50	5.00	0.0	4.0	0.0	1.0	6.3				5YR 5/6	☑	☐	☐					20	■	■	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-5.0-7.5	5.00	7.50	0.0	4.0	0.0	1.0	6.3				5YR 4/4	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-7.5-10.0	7.50	10.00	0.0	4.0	0.0	1.0	6.3				5YR 4/4	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-10.0-12.5	10.00	12.50	0.0	4.0	0.0	2.5	6.3				5YR 4/4	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-12.5-15.0	12.50	15.00	0.0	4.0	0.0	2.0	6.3				5YR 4/4	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-15.0-17.5	15.00	17.50	0.0	4.0	0.0	3.0	6.3				5YR 4/4	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-17.5-20.0	17.50	20.00	0.0	4.0	0.0	4.0	6.3				5YR 4/4	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-20.0-22.5	20.00	22.50	0.0	1.5	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-22.5-25.0	22.50	25.00	0.0	1.5	0.0	0.5	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-25.0-27.5	25.00	27.50	0.0	1.5	0.0	2.0	6.3				5YR 4/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☑	100		
6/25/2003	BW	11/25/2003	JSW	29P-27.5-30.0	27.50	30.00	0.0	1.5	0.0	2.5	6.3				5YR 5/6	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-30.0-32.5	30.00	32.50	0.0	1.5	0.0	2.0	6.3				5YR 5/3	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-32.5-35.0	32.50	35.00	0.0	1.5	0.0	3.0	6.3				5YR 5/3	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-35.0-37.5	35.00	37.50	0.0	1.5	0.0	2.5	6.3				5YR 4/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-37.5-40.0	37.50	40.00	0.0	1.5	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-40.0-42.5	40.00	42.50	0.0	1.7	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-42.5-45.0	42.50	45.00	0.0	1.7	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-45.0-47.5	45.00	47.50	0.0	1.7	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-47.5- 50.0	47.50	50.00	0.0	1.7	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-50.0-52.5	50.00	52.50	0.0	1.7	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-52.5-55.0	52.50	55.00	0.0	1.7	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-55.0-57.5	55.00	57.50	0.0	1.7	0.0	5.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-57.5-60.0	57.50	60.00	0.0	1.7	0.0	5.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/25/2003	BW	11/25/2003	JSW	29P-60.0-62.5	60.00	62.50	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-62.5-65.0	62.50	65.00	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		

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Borehole ID: **NC-EWDP- 29P** (Phase 4) Driller/Drilling Company: Greg Secrist/Eklund Drilling Co. Drilling Method: Reverse Circulation Air Rotary & Select Drive Core Alluvium Depth (ft bgs): 0 to 320 Start Date: 6/26/2003 End Date: 6/28/2003

Date Logged	Logged By (Initials)	Date Checked	Checked By (Initials)	Sample Number	Depth Interval (feet bgs)		Drilling Data					Sample Density Measurements			Munsell Color Symbol	Moisture Content			Particle Size Distribution (%)					Gra-ding		Estimated Plasticity				USCS Group Symbol	Gravel/Sand GrainShape				Cementation				HCL Reaction			Major Rock Type (%)		
					From	To	Liquid Drilling Fluid Injection Rate (gpm)	Drilling Rate (feet/min)	Water Production (gpm)	Sample Recovery (gallons)	Borehole Diameter (inches)	Tare Weight (kg) (gal)	Sample Plus Tare Weight (kg)	Sample Weight (kg) (gal)		DRY	MOIST	WET	Gravel	Sand	Silt	Clay	Fines (Silt plus Clay)	WELL	POORLY	NONE	LOW	MODERATE	HIGH		ANGULAR	SUBANGULAR	SUBROUNDED	ROUNDED	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	STRONG	VOLCANICS	CARBONATES	OTHER
6/26/2003	BW	11/25/2003	JSW	29P-65.0-67.5	65.00	67.50	0.0	1.3	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-67.5-70.0	67.50	70.00	0.0	1.3	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-70.0-72.5	70.00	72.50	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-72.5-75.0	72.50	75.00	0.0	1.3	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-75.0-77.5	75.00	77.50	0.0	1.3	0.0	2.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-77.5-80.0	77.50	80.00	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-80.0-82.5	80.00	82.50	0.0	1.3	0.0	0.5	6.3				5YR 5/2	☑	☐	☐					1	☐	☑	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-82.5-85.0	82.50	85.00	0.0	1.3	0.0	3.0	6.3				7.5YR 4/2	☑	☐	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-85.0-87.5	85.00	87.50	0.0	1.3	0.0	5.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-87.5-90.0	87.50	90.00	0.0	1.3	0.0	4.0	6.3				5YR 5/6	☑	☐	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-90.0-92.5	90.00	92.50	0.0	1.3	0.0	4.0	6.3				5YR 5/6	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-92.5-95.0	92.50	95.00	0.0	1.3	0.0	3.5	6.3				5YR 5/6	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-95.0-97.5	95.00	97.50	0.0	1.3	0.0	4.0	6.3				5YR 5/6	☑	☐	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/26/2003	BW	11/25/2003	JSW	29P-97.5-100	97.50	100.00	0.0	1.3	0.0	3.0	6.3				5YR 5/6	☑	☐	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-100.00-102.5	100.00	102.50	0.0	1.3	0.0	0.5	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-102.5-105.0	102.50	105.00	0.0	1.3	0.0	2.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-105.0-107.5	105.00	107.50	0.0	1.3	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-107.5-110.0	107.50	110.00	0.0	1.3	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-110.0-112.5	110.00	112.50	0.0	1.3	0.0	1.5	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-112.5-115.0	112.50	115.00	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-115.0-117.5	115.00	117.50	0.0	1.3	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-117.5-120.0	117.50	120.00	0.0	1.3	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					5	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-120.0-122.5	120.00	122.50	0.0	1.8	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-122.5-125.0	122.50	125.00	0.0	1.8	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-125.0-127.5	125.00	127.50	0.0	1.8	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-127.5-130.0	127.50	130.00	0.0	1.8	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		

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					From	To	Liquid Drilling Fluid Injection Rate (gpm)	Drilling Rate (feet/min)	Water Production (gpm)	Sample Recovery (gallons)	Borehole Diameter (inches)	Tare Weight (kg) (gal)	Sample Plus Tare Weight (kg)	Sample Weight (kg) (gal)		DRY	MOIST	WET	Gravel	Sand	Silt	Clay	Fines (Silt plus Clay)	WELL	POORLY	NONE	LOW	MODERATE	HIGH		ANGULAR	SUBANGULAR	SUBROUNDED	ROUNDED	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	STRONG	VOLCANICS	CARBONATES	OTHER
6/27/2003	BW	11/25/2003	JSW	29P-130.0-132.5	130.00	132.50	0.0	1.8	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-132.5-135.0	132.50	135.00	0.0	1.8	0.0	3.5	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-135.0-137.5	135.00	137.50	0.0	1.8	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-137.5- 140.0	137.50	140.00	0.0	1.8	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-140.0-142.5	140.00	142.50	0.0	2.9	0.0	4.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-142.5-145.0	142.50	145.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-145.0-147.5	145.00	147.50	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-147.5-150.0	147.50	150.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☑	☐	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-150.0-152.5	150.00	152.50	0.0	2.9	0.0	3.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-152.5-155.0	152.50	155.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-155.0-157.5	155.00	157.50	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-157.5-160.0	157.50	160.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☐	☑		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-160.0-162.5	160.00	162.50	0.0	2.2	0.0	1.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-162.5-165.0	162.50	165.00	0.0	2.2	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-165.0-167.5	165.00	167.50	0.0	2.2	0.0	2.5	6.3				5YR 5/6	☑	☐	☐					20	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-167.5-170.0	167.50	170.00	0.0	2.2	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					20	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-170.0-172.5	170.00	172.50	0.0	2.2	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-172.5-175.0	172.50	175.00	0.0	2.2	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-175.0-177.5	175.00	177.50	0.0	2.2	0.0	3.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/27/2003	BW	11/25/2003	JSW	29P-177.5-180.0	177.50	180.00	0.0	2.2	0.0	4.0	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-180.0-182.5	180.00	182.50	0.0	1.0	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-182.5-185.0	182.50	185.00	0.0	1.0	0.0	5.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-185.0-187.5	185.00	187.50	0.0	1.0	0.0	5.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-187.5-190.0	187.50	190.00	0.0	1.0	0.0	2.0	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-190.0-192.5	190.00	192.50	0.0	1.0	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-192.5-195.0	192.50	195.00	0.0	1.0	0.0	1.0	6.3				7.5YR 5/3	☐	☑	☐					15	■	■	☐	☐	☐	☑		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		

Alluvium Drill Cuttings Logging Form - Nye County Nuclear Waste Repository Project Office

Borehole ID: **NC-EWDP-29P** (Phase 4) Driller/Drilling Company: Greg Secrist/Eklund Drilling Co. Drilling Method: Reverse Circulation Air Rotary & Select Drive Core Alluvium Depth (ft bgs): 0 to 320 Start Date: 6/26/2003 End Date: 6/28/2003

Date Logged	Logged By (Initials)	Date Checked	Checked By (Initials)	Sample Number	Depth Interval (feet bgs)		Drilling Data					Sample Density Measurements			Munsell Color Symbol	Moisture Content			Particle Size Distribution (%)					Gra-ding		Estimated Plasticity				USCS Group Symbol	Gravel/Sand GrainShape				Cementation				HCL Reaction			Major Rock Type (%)		
					From	To	Liquid Drilling Fluid Injection Rate (gpm)	Drilling Rate (feet/min)	Water Production (gpm)	Sample Recovery (gallons)	Borehole Diameter (inches)	Tare Weight (kg) (gal)	Sample Plus Tare Weight (kg)	Sample Weight (kg) (gal)		DRY	MOIST	WET	Gravel	Sand	Silt	Clay	Fines (Silt plus Clay)	WELL	POORLY	NONE	LOW	MODERATE	HIGH		ANGULAR	SUBANGULAR	SUBROUNDED	ROUNDED	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	STRONG	VOLCANICS	CARBONATES	OTHER
6/28/2003	BW	11/25/2003	JSW	29P-195.0-197.5	195.00	197.50	0.0	1.0	0.0	4.0	6.3				7.5YR 5/3	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-197.5-200.0	197.50	200.00	0.0	1.0	0.0	3.0	6.3				7.5YR 5/3	☐	☑	☐					15	■	■	☐	☐	☑	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-200.0-202.5	200.00	202.50	0.0	2.9	0.0	3.0	6.3				7.5YR 5/3	☐	☑	☐					10	☑	☐	☐	☐	☑	☐		☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-202.5-205.0	202.50	205.00	0.0	2.9	0.0	5.0	6.3				7.5YR 5/3	☐	☑	☐					5	☑	☐	☑	☐	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-205.0-207.5	205.00	207.50	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					20	■	■	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-207.5-210.0	207.50	210.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-210.0-212.5	210.00	212.50	0.0	2.9	0.0	4.0	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-212.5-215.0	212.50	215.00	0.0	2.9	0.0	3.5	6.3				5YR 5/2	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-215.0-217.5	215.00	217.50	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-217.5-220.0	217.50	220.00	0.0	2.9	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-220.0-222.5	220.00	222.50	0.0	2.5	0.0	3.5	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-222.5-225.0	222.50	225.00	0.0	2.5	0.0	2.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-225.0-227.5	225.00	227.50	0.0	2.5	0.0	2.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-227.5-230.0	227.50	230.00	0.0	2.5	0.0	2.5	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-230.0-232.5	230.00	232.50	0.0	2.5	0.0	3.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-232.5-235.0	232.50	235.00	0.0	2.5	0.0	3.0	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-235.0-237.5	235.00	237.50	0.0	2.5	0.0	3.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-237.5-240.0	237.50	240.00	0.0	2.5	0.0	3.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-240.0-242.5	240.00	242.50	0.0	1.5	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-242.5-245.0	242.50	245.00	0.0	1.5	0.0	3.0	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-245.0-247.5	245.00	247.50	0.0	1.5	0.0	1.5	6.3				5YR 5/2	☐	☐	☑					5	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-247.5-250.0	247.50	250.00	0.0	1.5	0.0	2.5	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☐	☐	☑	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-250.0-252.5	250.00	252.50	0.0	1.5	0.0	3.0	6.3				5YR 5/6	☐	☑	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-252.5-255.0	252.50	255.00	0.0	1.5	0.0	3.0	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-255.0-257.5	255.00	257.50	0.0	1.5	0.0	3.0	6.3				5YR 5/6	☐	☑	☐					15	■	■	☐	☐	☑	☐		☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-257.5-260.0	257.50	260.00	0.0	1.5	0.0	3.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		

Alluvium Drill Cuttings Logging Form - Nye County Nuclear Waste Repository Project Office

Borehole ID: **NC-EWDP-29P** (Phase 4) Driller/Drilling Company: Greg Secrist/Eklund Drilling Co. Drilling Method: Reverse Circulation Air Rotary & Select Drive Core Alluvium Depth (ft bgs): 0 to 320 Start Date: 6/26/2003 End Date: 6/28/2003

Date Logged	Logged By (Initials)	Date Checked	Checked By (Initials)	Sample Number	Depth Interval (feet bgs)		Drilling Data					Sample Density Measurements			Munsell Color Symbol	Moisture Content			Particle Size Distribution (%)					Gra-ding		Estimated Plasticity				USCS Group Symbol	Gravel/Sand GrainShape				Cementation				HCL Reaction			Major Rock Type (%)		
					From	To	Liquid Drilling Fluid Injection Rate (gpm)	Drilling Rate (feet/min)	Water Production (gpm)	Sample Recovery (gallons)	Borehole Diameter (inches)	Tare Weight (kg) (gal)	Sample Plus Tare Weight (kg)	Sample Weight (kg) (gal)		DRY	MOIST	WET	Gravel	Sand	Silt	Clay	Fines (Silt plus Clay)	WELL	POORLY	NONE	LOW	MODERATE	HIGH		ANGULAR	SUBANGULAR	SUBROUNDED	ROUNDED	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	STRONG	VOLCANICS	CARBONATES	OTHER
6/28/2003	BW	11/25/2003	JSW	29P-260.0-262.5	260.00	262.50	0.0	1.4	0.0	2.5	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-262.5-265.0	262.50	265.00	0.0	1.4	0.0	2.5	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-265.0-267.5	265.00	267.50	0.0	1.4	0.0	2.5	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-267.5-270.0	267.50	270.00	0.0	1.4	0.0	2.5	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-270.0-272.5	270.00	272.50	0.0	1.4	0.0	2.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-272.5-275.0	272.50	275.00	0.0	1.4	0.0	2.5	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-275.0-277.5	275.00	277.50	0.0	1.4	0.0	2.5	6.3				5YR 5/2	☑	☐	☐					10	☑	☐	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/28/2003	BW	11/25/2003	JSW	29P-277.5-280.0	277.50	280.00	0.0	1.4	0.0	2.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-280.0-282.5	280.00	282.50	0.0	0.8	0.0	2.5	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-282.5-285.0	282.50	285.00	0.0	0.8	0.0	3.5	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-285.0-287.5	285.00	287.50	0.0	0.8	0.0	5.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-287.5-290.0	287.50	290.00	0.0	0.8	0.0	5.0	6.3				5YR 5/2	☐	☑	☐					10	☑	☐	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-290.0-292.5	290.00	292.50	0.0	0.8	0.0	4.0	6.3				5YR 5/2	☐	☑	☐					15	■	■	☐	☑	☐	☐		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-292.5-295.0	292.50	295.00	0.0	0.8	0.0	1.5	6.3				5YR 5/6	☐	☑	☐					30	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-295.0-297.5	295.00	297.50	0.0	0.8	0.0	3.5	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-297.5-300.0	297.50	300.00	0.0	0.8	0.0	2.0	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-300.0-302.5	300.00	302.50	0.0	1.9	0.0	2.0	6.3				5YR 5/6	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-302.5-305.0	302.50	305.00	0.0	1.9	0.0	2.0	6.3				5YR 5/3	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☑	☐	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-305.0-307.5	305.00	307.50	0.0	1.9	0.0	2.0	6.3				5YR 5/3	☐	☑	☐					20	■	■	☐	☐	☑	☐		☐	☑	☐	☐	☑	☐	☐	☐	☐	☑	☐	100		
6/29/2003	BW	11/25/2003	JSW	29P-307.5-310.0	307.50	310.00	0.0	1.9	0.0	2.0	6.3				5YR 5/3	☐	☑	☐					20	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☑	100		
6/29/2003	BW	11/25/2003	JSW	29P-310.0-312.5	310.00	312.50	0.0	1.9	0.0	4.0	6.3				7.5YR 6/4	☐	☑	☐					30	■	■	☐	☐	☐	☑		☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☑	100		
6/29/2003	BW	11/25/2003	JSW	29P-312.5-315.0	312.50	315.00	0.0	1.9	0.0	3.0	6.3				7.5YR 6/4	☐	☑	☐					30	■	■	☐	☐	☐	☑		☑	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	100		
6/29/2003	BW	11/25/2003	JSW	29P-315.0-317.5	315.00	317.50	0.0	1.9	0.0	3.0	6.3				7.5YR 6/4	☐	☑	☐					30	■	■	☐	☐	☐	☑		☑	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	100		
6/29/2003	BW	11/25/2003	JSW	29P-317.5-320.0	317.50	320.00	0.0	1.9	0.0	1.5	6.3				7.5YR 6/4	☐	☑	☐					30	■	■	☐	☐	☐	☑		☑	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	100		