SECTION

10 OF 20

APPENDIX G.

SOIL LINER TESTING RESULTS

Pre-Construction Testing

Base Soil

ENVIROTECH
ENGINEERING & CONSULTING INC.
2500 N. 11th Street I Enid, OK 73701
(580) 234-8780 I Fax (580) 237-4302

Base Soil Pre-Construction Test Pad

Test Number	Sieve Analysis								Soil Classification	Passing Test
	3/4"	3/8"	#4	#10	#40	#200	0.05	0.01		
Specs	-		-	-	-	> 20%	-	-		
BS-01	100.0	96.4	93.4	85.3	52.7	21.0	14.7		SM -Silty Sand	Passes Specifications
BS-02	100.0	100.0	99.7	98.3	86.0	32.9	25.1		SM -Silty Sand	Passes Specifications
BS-03	100.0	96.4	93.4	85.3	52.7	21.4	15.9		SM -Silty Sand	Passes Specifications
BS-04	100.0	99.6	98.2	94.8	77.8	36.8	24.2		SM -Silty Sand	Passes Specifications
BS-05	100.0	96.5	93.4	83.7	58.4	26.7	22.0		SM -Silty Sand	Passes Specifications
BS-06	100.0	99.3	97.9	94.9	82.0	23.7	18.6		SM -Silty Sand	Passes Specifications
BS-07	100.0	99.7	99.4	98.4	90.4	25.7	17.3		SM -Silty Sand	Passes Specifications
BS-08	100.0	99.7	98.8	96.2	80.6	34.2	25.8		SM -Silty Sand	Passes Specifications
BS-09	100.0	100.0	99.7	99.4	89.4	21.0	10.7		SM -Silty Sand	Passes Specifications
BS-10	100.0	99.1	97.5	94.2	86.2	43.5	35.7		SM -Silty Sand	Passes Specifications

Pre-Construction Testing

Admix Testing

ENVIROTECH
ENGINEERING & CONSULTING INC
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Compacted Clay Liner Summary

Test Number	Proctor		Natural Moist (%)	Atterberg Limits			Sieve	Classification	Recom-pacted Perm-eability	Test Results
	Dry Density lb/cuft	Moist Content (%)		Liquid Limit	Plastic Limit	PI	Passing -200%			
Specs	-	-		>30	-	>15	>30%		< 1.0E-7	
AM-01	117	13.5	14.8	50	19	31	36.9%	CH - Sandy Fat Clay	1.66E-08	Pass
AM-02	118.2	14.0	14.6	52	16	36	33.3%	CH - Sandy Fat Clay	1.13E-08	Pass
AM-03	-	-	19.0	56	17	39	36.2%	CH - Sandy Fat Clay	-	Pass
AM-04	-	-	17.1	56	13	43	36.5%	CH - Sandy Fat Clay	-	Pass
AM-05	116.1	13.0	17.9	52	13	39	37.8%	CH - Sandy Fat Clay	1.90E-08	Pass
AM-06	-	-	18.7	52	17	35	37.8%	CH - Sandy Fat Clay	-	Pass
AM-07	-	-	18.4	50	12	38	37.1%	CH - Sandy Fat Clay	-	Pass
AM-08	-	-	15.4	47	13	34	38.4%	CL - Sandy Lean Clay	-	Pass
AM-09	116.7	13.3	18.7	55	11	44	38.8%	CH - Sandy Fat Clay	1.75E-08	Pass
AM-10	-	-	17.5	50	17	33	38.3%	CH - Sandy Fat Clay	-	Pass
AM-11	-	-	17.3	46	14	32	33.2%	CL - Sandy Lean Clay	-	Pass
AM-12	-	-	18.2	50	18	32	35.5%	CH - Sandy Fat Clay	-	Pass
AM-13	115	13.5	18.8	53	16	37	36.6%	CH - Sandy Fat Clay	1.08E-08	Pass
AM-14	-	-	20.0	48	18	30	36.3%	CL - Sandy Lean Clay	-	Pass
AM-15	-	-	15.7	48	17	31	33.8%	CL - Sandy Lean Clay	-	Pass
AM-16	-	-	20.3	56	17	39	36.3%	CH - Sandy Fat Clay	-	Pass
AM-17	117	15.1	15.7	56	10	46	32.1%	CH - Sandy Fat Clay	1.76E-08	Pass
AM-18	-	-	19.5	51	18	33	34.0%	CH - Sandy Fat Clay	-	Pass
AM-19	-	-	17.7	46	17	29	35.7%	CL - Sandy Lean Clay	-	Pass
AM-20	-	-	16.8	47	18	29	34.8%	CL - Sandy Lean Clay	-	Pass
AM-21	117.8	14.5	14.3	47	17	30	30.7%	CL - Sandy Lean Clay	1.94E-08	Pass
AM-22	-	-	15.9	47	17	30	30.2%	CL - Sandy Lean Clay	-	Pass
AM-23	-	-	16.7	58	18	40	33.1%	CH - Sandy Fat Clay	-	Pass
AM-24	-	-	19.1	44	18	26	37.8%	CL - Sandy Lean Clay	-	Pass

Pre-Construction Testing
Admix Testing

ENVIROTECH
ENGINEERING & CONSULTING INC
2500 N. 11th Street I Enid, OK 73701
(580) 234-8780 I Fax (580) 237-4302

Compacted Clay Liner Summary

Test Number	Proctor		Natural Moist (%)	Atterberg Limits			Sieve	Classification	Recom-pacted Perm-eability	Test Results
	Dry Density lb/cuft	Moist Content (%)		Liquid Limit	Plastic Limit	PI	Passing -200%			
Specs	-	-		>30	-	>15	>30%		< 1.0E-7	
AM-25	-	-	16.7	49	18	31	39.7%	CL - Sandy Lean Clay	1.95E-08	Pass
AM-26	-	-	14.8	44	18	26	36.3%	CL - Sandy Lean Clay	-	Pass
AM-27	116.8	15.4	18.6	46	18	28	35.1%	CL - Sandy Lean Clay	-	Pass
AM-28	-	-	17.0	49	17	32	32.0%	CL - Sandy Lean Clay	-	Pass
AM-29	116.8	15.1	17.1	47	16	31	35.2%	CL - Sandy Lean Clay	2.77E-08	Pass
AM-30	-	-	17.6	43	17	26	32.9%	CL - Sandy Lean Clay	-	Pass
AM-31	-	-	18.6	49	17	32	32.1%	CL - Sandy Lean Clay	-	Pass
AM-32	-	-	16.9	42	17	25	31.7%	CL - Sandy Lean Clay	-	Pass
AM-33	116.5	13.0	19.8	46	17	29	33.9%	CL - Sandy Lean Clay	2.47E-08	Pass
AM-34	-	-	18.3	44	18	26	31.7%	CL - Sandy Lean Clay	-	Pass
Totals		10.0							10.0	

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-01	9	1	113	16.8%	0.491	N/A	92.0%	M3			63	Pass
SL-02	9	1	113	16.4%	0.495	N/A	89.0%	M2			63	Pass
SL-03	9	1	114	17.1%	0.496	N/A	93.0%	M1			63	Pass
SL-04	9	2	113	17.1%	0.488	16.8%	95.0%	M3	113.8		63	Pass
SL-05	9	2	113	16.7%	0.497	N/A	91.0%	M2			63	Pass
SL-06	9	2	115	15.2%	0.474	N/A	87.0%	M1			63	Pass
SL-07	9	1	115.4	15.0%	0.461	N/A	88.0%	N3			64	Pass
SL-08	9	1	112.5	17.1%	0.499	N/A	93.0%	O3			64	Pass
SL-09	9	1	107.9	17.4%	0.562	N/A	84.0%	P3			64	Fail
SL-09A	9	2	109.5	18.3%	0.584	N/A	85.0%	P3			64	Fail
SL-09B	9	2	113.6	17.9%	0.545	N/A	89.0%	P3			64	Pass
SL-010	9	1	112.3	16.6%	0.501	N/A	89.0%	N2			65	Pass
SL-011	9	1	111.8	18.3%	0.508	N/A	97.0%	O2			65	Pass
SL-012	9	1	114.4	17.4%	0.503	N/A	93.0%	P2			65	Pass
SL-013	9	1	112.4	17.8%	0.499	N/A	96.0%	N4			65	Pass
SL-014	9	1	113.3	15.4%	0.487	N/A	85.0%	O4			65	Pass
SL-015	9	1	112.0	16.5%	0.505	N/A	88.0%	P4			65	Pass
SL-016	9	1	113.5	15.5%	0.490	N/A	85.0%	P1			65	Pass
SL-017	9	1	115.7	14.6%	0.457	N/A	86.0%	O1			65	Pass
SL-018	9	1	112.2	16.1%	0.502	N/A	87.0%	N1			65	Pass
SL-019	9	2	111.7	17.0%	0.513	N/A	89.0%	P4			65	Pass
SL-020	9	2	111.9	17.3%	0.507	N/A	92.0%	O4			65	Pass
SL-021	9	2	111.8	17.9%	0.511	N/A	95.0%	N4			65	Pass
SL-022	9	1	113.2	16.9%	0.489	16.0%	93.0%	I1	114.0		65	Pass
SL-023	9	1	112.2	17.8%	0.539	N/A	89.0%	J1			65	Pass
SL-024	9	1	114.4	15.5%	0.474	N/A	88.0%	K1			65	Pass
SL-25	9	2	114.1	16.8%	0.477	N/A	95.0%	N3			66	Pass
SL-26	9	2	111.8	16.6%	0.509	N/A	88.0%	O3			66	Pass
SL-27	9	2	111.7	17.2%	0.512	N/A	91.0%	P3			66	Pass
SL-28	9	2	112.1	17.4%	0.504	N/A	93.0%	P2			66	Pass
SL-29	9	2	113.6	17.4%	0.484	N/A	97.0%	O2			66	Pass
SL-30	9	2	112.8	17.4%	0.494	N/A	95.0%	N2			66	Pass
SL-31	9	3	113.2	17.2%	0.489	N/A	95.0%	M1		2.05E-08	66	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC.

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-32	9	3	111.3	19.3%	0.524	N/A	99.0%	M2			66	Fail
SL-33	9	3	115.8	14.7%	0.462	N/A	86.0%	M3			66	Pass
SL-34	9	2	116.7	14.5%	0.444	N/A	88.0%	N1			66	Pass
SL-35	9	2	117.4	15.3%	0.436	N/A	95.0%	O1			66	Pass
SL-36	9	2	115.3	16.7%	0.462	N/A	98.0%	P1			66	Pass
SL-32A	9	3	113.0	17.7%	0.497	17.2%	96.0%	M2	113.5		66	Pass
SL-37	9	3	113.3	16.2%	0.488	N/A	90.0%	N4			66	Pass
SL-38	9	3	117.1	14.6%	0.440	N/A	90.0%	O4			66	Pass
SL-39	9	3	114.3	16.2%	0.474	N/A	92.0%	P4			66	Pass
SL-40	9	3	114.8	16.3%	0.468	N/A	94.0%	P3			66	Pass
SL-41	9	3	112.1	17.9%	0.521	N/A	93.0%	O3			66	Pass
SL-42	9	3	112.9	16.1%	0.477	N/A	91.0%	N3			66	Pass
SL-43	9	3	111.7	18.1%	0.510	N/A	96.0%	N2			66	Pass
SL-44	9	3	116.4	15.5%	0.448	N/A	93.0%	O2			66	Pass
SL-45	9	3	115.5	14.8%	0.459	N/A	87.0%	P2			66	Pass
SL-46	9	3	115.7	15.2%	0.457	N/A	90.0%	P1			66	Pass
SL-47	9	3	119.8	13.4%	0.407	N/A	89.0%	O1			66	Pass
SL-48	9	3	111.8	18.1%	0.509	N/A	96.0%	N1			66	Pass
SL-49	9	4	115.1	15.4%	0.464	N/A	90.0%	M1			66	Pass
SL-50	9	4	115.7	15.5%	0.457	N/A	92.0%	M2			66	Pass
SL-51	9	4	114.2	15.1%	0.475	N/A	86.0%	M3			66	Pass
SL-52	9	4	117.0	15.2%	0.440	N/A	93.0%	M4			66	Pass
SL-53	9	4	113.8	16.9%	0.482	N/A	95.0%	N4			67	Pass
SL-54	9	4	113.3	17.2%	0.488	N/A	95.0%	O4			67	Pass
SL-55	9	4	112.7	17.1%	0.470	N/A	98.0%	P4			67	Pass
SL-56	9	4	111.7	18.7%	0.510	N/A	99.0%	P3			67	Pass
SL-57	9	4	111.5	16.6%	0.513	N/A	87.0%	O3			67	Pass
SL-58	9	4	112.1	16.5%	0.503	N/A	89.0%	N3			67	Pass
SL-59	9	4	111.8	16.2%	0.510	N/A	86.0%	N2			67	Pass
SL-60	9	4	113.0	15.9%	0.493	N/A	87.0%	O2		1.26E-08	67	Pass
SL-61	9	4	112.9	17.3%	0.493	N/A	95.0%	P2			67	Pass
SL-62	9	4	112.9	16.2%	0.493	N/A	89.0%	P1			67	Pass
SL-63	9	4	114.6	14.9%	0.471	N/A	85.0%	O1			67	Pass
SL-64	9	4	113.6	15.9%	0.484	N/A	89.0%	N1			67	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-65	9	5	112.7	16.6%	0.495	17.6%	91.0%	M1	121.4		67	Pass
SL-66	9	5	111.5	16.4%	0.512	N/A	86.0%	M2			67	Pass
SL-67	9	5	112.5	16.6%	0.498	18.7%	90.0%	M3	114.5		68	Pass
SL-68	9	5	114.9	15.2%	0.467	N/A	88.0%	M4			68	Pass
SL-69	9	2	116.2	14.6%	0.451	N/A	87.0%	L1			68	Pass
SL-70	9	2	112.3	16.5%	0.501	N/A	89.0%	K1			68	Pass
SL-71	9	2	115.5	14.9%	0.460	N/A	87.0%	J1			68	Pass
SL-72	9	5	113.7	15.6%	0.482	N/A	87.0%	N4			68	Pass
SL-73	9	5	112.0	16.2%	0.506	N/A	86.0%	O4			68	Pass
SL-74	9	5	114.9	15.4%	0.461	N/A	90.0%	P4			68	Pass
SL-75	9	5	114.6	15.8%	0.471	N/A	91.0%	P3			68	Pass
SL-76	9	5	113.4	15.9%	0.487	N/A	88.0%	O3			68	Pass
SL-77	9	5	111.6	17.1%	0.517	N/A	89.0%	N3			68	Pass
SL-78	9	5	112.9	16.8%	0.493	N/A	92.0%	N2			68	Pass
SL-79	9	5	112.5	15.9%	0.501	N/A	86.0%	O2			68	Pass
SL-80	9	5	112.8	16.3%	0.495	N/A	89.0%	P2			68	Pass
SL-81	9	5	114.6	15.5%	0.470	N/A	89.0%	P1			68	Pass
SL-82	9	5	113.3	16.0%	0.488	N/A	89.0%	O1			68	Pass
SL-83	9	5	120.0	13.6%	0.405	N/A	91.0%	N1			68	Pass
SL-84	9	6	113.7	16.2%	0.483	N/A	91.0%	M4			68	Pass
SL-85	9	6	115.7	15.4%	0.457	N/A	91.0%	M3			68	Pass
SL-86	9	6	113.2	16.2%	0.490	N/A	89.0%	M2			68	Pass
SL-87	9	6	113.3	17.0%	0.488	N/A	94.0%	M1			68	Pass
SL-88	9	3	112.8	17.1%	0.491	N/A	94.0%	J1			68	Pass
SL-89	9	3	114.5	15.1%	0.472	N/A	86.0%	K1			68	Pass
SL-90	9	3	114.6	15.2%	0.471	N/A	87.0%	L1			68	Pass
SL-91	9	6	114.7	15.4%	0.469	N/A	89.0%	N4			68	Pass
SL-92	9	6	115.9	14.4%	0.455	N/A	85.0%	O4			68	Pass
SL-93	9	6	116.7	14.2%	0.445	N/A	86.0%	P4			68	Pass
SL-94	9	6	113.8	15.4%	0.482	N/A	86.0%	N3			69	Pass
SL-95	9	6	115.1	15.3%	0.465	N/A	89.0%	O3			69	Pass
SL-96	9	6	116.5	14.5%	0.447	N/A	88.0%	P3			69	Pass
SL-97	9	6	117.4	14.6%	0.436	N/A	90.0%	P2			69	Pass
SL-98	9	6	113.6	15.5%	0.484	N/A	86.0%	O2			69	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-99	9	6	114.1	16.9%	0.478	N/A	95.0%	N2			69	Pass
SL-100	9	6	113.1	17.7%	0.490	TBD	98.0%	P1		1.59E-08	69	Pass
SL-101	9	6	112.9	16.5%	0.493	N/A	90.0%	O1			69	Pass
SL-102	9	6	114.6	16.6%	0.471	TBD	95.0%	N1		1.65E-08	69	Pass
SL-103	9	4	113.2	16.4%	0.489	17.7%	91.0%	L1	113.8		69	Pass
SL-104	9	4	112.3	17.7%	0.501	N/A	95.0%	K1			69	Pass
SL-105	9	4	110.7	17.9%	0.523	N/A	92.0%	J1			69	Fail
SL-105A	9	4	113.1	17.3%	0.490	N/A	95.0%	J1			69	Pass
SL-106	9	1	116.0	16.2%	0.453	N/A	97.0%	L4			69	Pass
SL-107	9	1	111.8	17.7%	0.512	N/A	93.0%	L3			69	Pass
SL-108	9	1	112.9	16.6%	0.493	N/A	91.0%	L2			69	Pass
SL-109	9	1	111.7	16.8%	0.513	N/A	88.0%	M5			71	Pass
SL-110	9	1	114.4	16.4%	0.473	N/A	94.0%	L5			71	Pass
SL-111	9	2	111.5	17.9%	0.514	N/A	94.0%	L4			71	Pass
SL-112	9	2	112.9	17.6%	0.493	N/A	96.0%	L3			71	Pass
SL-113	9	2	113.9	16.4%	0.480	N/A	92.0%	L2			71	Pass
SL-114	9	5	111.5	17.4%	0.514	N/A	91.0%	L1			71	Pass
SL-115	9	5	112.2	16.9%	0.503	N/A	91.0%	K1			71	Pass
SL-116	9	5	113.0	16.4%	0.492	N/A	90.0%	J1			71	Pass
SL-117	9	1	111.7	17.3%	0.508	N/A	92.0%	K2			71	Pass
SL-118	9	1	112.0	16.2%	0.504	N/A	87.0%	J2			71	Pass
SL-119	9	2	108.2	18.3%	0.557	N/A	89.0%	M5			71	Fail
SL-119A	9	2	110.3	18.0%	0.529	N/A	92.0%	M5			71	Fail
SL-120	9	2	111.4	16.6%	0.515	N/A	87.0%	L5			71	Pass
SL-119B	9	2	113.2	17.1%	0.489	N/A	94.0%	M5			71	Pass
SL-121	9	3	112.3	18.1%	0.501	N/A	98.0%	L4			71	Pass
SL-122	9	3	112.0	17.5%	0.505	N/A	94.0%	L3			71	Pass
SL-123	9	3	112.3	17.3%	0.501	N/A	93.0%	L2			71	Pass
SL-124	9	2	111.6	17.0%	0.510	N/A	90.0%	K2			71	Pass
SL-125	9	2	112.2	16.1%	0.502	N/A	87.0%	J2			71	Pass
SL-126	9	1	118.8	14.2%	0.419	N/A	92.0%	N5			71	Pass
SL-127	9	1	112.1	17.3%	0.504	N/A	93.0%	O5			71	Pass
SL-128	9	1	113.1	16.7%	0.490	N/A	92.0%	P5			71	Pass
SL-129	9	2	113.3	16.7%	0.487	N/A	93.0%	M5			71	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-130	9	2	111.6	17.4%	0.516	18.3%	91.0%	L5	119.9		71	Pass
SL-131	9	3	112.1	17.2%	0.504	N/A	92.0%	K2			72	Pass
SL-132	9	3	112.1	16.5%	0.504	N/A	88.0%	J2			72	Pass
SL-133	9	4	108.0	20.0%	0.561	N/A	96.0%	L4			72	Fail
SL-134	9	4	111.5	17.8%	0.516	N/A	93.0%	M5			72	Pass
SL-135	9	4	111.9	17.5%	0.507	N/A	93.0%	L5			72	Pass
SL-133A	9	4	112.0	17.6%	0.505	17.9%	94.0%	L4	122.3		72	Pass
SL-136	9	4	113.8	16.3%	0.482	N/A	91.0%	L3			72	Pass
SL-137	9	4	113.7	17.0%	0.482	N/A	95.0%	L2			72	Pass
SL-138	9	4	112.8	16.1%	0.494	N/A	88.0%	K2			72	Pass
SL-139	9	4	111.5	17.8%	0.512	N/A	94.0%	J2			72	Pass
SL-140	9	1	113.7	17.4%	0.483	N/A	97.0%	I1			72	Pass
SL-141	9	5	111.8	16.5%	0.507	N/A	88.0%	M5			72	Pass
SL-142	9	5	111.8	16.7%	0.507	N/A	89.0%	L5			72	Pass
SL-143	9	5	112.0	16.2%	0.505	N/A	87.0%	L4			72	Pass
SL-144	9	5	112.1	17.5%	0.503	N/A	94.0%	L3			72	Pass
SL-145	9	5	111.4	16.6%	0.510	N/A	88.0%	L2			72	Pass
SL-146	9	5	118.0	13.7%	0.429	N/A	86.0%	K2			73	Pass
SL-147	9	5	114.6	16.5%	0.471	N/A	95.0%	J2			73	Pass
SL-148	9	2	113.1	16.5%	0.490	16.3%	91.0%	I1	117.8		73	Pass
SL-149	9	6	112.5	17.4%	0.498	N/A	94.0%	J1			73	Pass
SL-150	9	6	114.7	15.8%	0.470	N/A	91.0%	K1			73	Pass
SL-151	9	6	117.5	14.0%	0.435	N/A	87.0%	L1			73	Pass
SL-152	9	6	112.6	16.9%	0.497	N/A	92.0%	L2			73	Pass
SL-153	9	6	112.5	16.9%	0.498	N/A	92.0%	K2			73	Pass
SL-154	9	6	113.7	16.1%	0.482	N/A	90.0%	J2			73	Pass
SL-155	9	6	113.5	16.6%	0.485	N/A	92.0%	L3			74	Pass
SL-156	9	6	112.9	16.0%	0.494	N/A	87.0%	L4			74	Pass
SL-157	9	6	114.1	15.5%	0.478	14.7%	88.0%	M5	116.0		74	Pass
SL-158	9	6	111.5	17.2%	0.514	N/A	90.0%	L5			74	Pass
SL-159	9	1	111.5	17.9%	0.512	N/A	94.0%	K5			74	Pass
SL-160	9	1	112.9	15.9%	0.493	N/A	87.0%	K4			74	Pass
SL-161	9	1	111.8	19.5%	0.547	N/A	96.0%	K3			74	Fail
SL-161A	9	1	108.9	19.0%	0.547	N/A	94.0%	K3			74	Fail

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-162	9	1	112.2	16.0%	0.503	N/A	86.0%	J3			74	Pass
SL-163	9	1	112.8	17.1%	0.494	N/A	93.0%	J4			74	Pass
SL-164	9	1	112.4	16.8%	0.500	N/A	91.0%	J5			74	Pass
SL-165	9	3	111.6	17.1%	0.511	N/A	90.0%	I1			74	Pass
SL-161B	9	1	114.0	15.5%	0.489	N/A	86.0%	K3			74	Pass
SL-166	9	2	113.7	17.2%	0.483	N/A	96.0%	N5			74	Pass
SL-167	9	2	116.9	15.9%	0.441	N/A	97.0%	O5			74	Pass
SL-168	9	2	111.3	18.2%	0.538	N/A	91.0%	P5			74	Pass
SL-169	9	2	111.7	17.6%	0.509	16.6%	93.0%	K5	113.4		75	Pass
SL-170	9	2	114.5	16.8%	0.472	N/A	96.0%	K4			75	Pass
SL-171	9	2	114.2	17.1%	0.476	N/A	97.0%	K3			75	Pass
SL-172	9	2	115.1	16.3%	0.465	N/A	95.0%	J3			75	Pass
SL-173	9	2	114.1	15.4%	0.478	N/A	87.0%	J4			75	Pass
SL-174	9	2	112.8	17.2%	0.494	TBD	94.0%	J5		1.78E-08	75	Pass
SL-175	9	1	116.6	15.6%	0.445	N/A	95.0%	I2			75	Pass
SL-176	9	4	118.4	14.1%	0.424	TBD	90.0%	I1		1.35E-08	75	Pass
SL-177	9	3	114.5	16.1%	0.473	TBD	92.0%	P5		1.56E-08	75	Pass
SL-178	9	3	113.7	16.2%	0.483	N/A	91.0%	O5			75	Pass
SL-179	9	3	113.2	16.3%	0.489	N/A	90.0%	N5			75	Pass
SL-180	9	3	114.6	15.8%	0.471	N/A	89.0%	J3			75	Pass
SL-181	9	3	114.1	16.0%	0.477	N/A	91.0%	J4			75	Pass
SL-182	9	3	117.3	13.2%	0.436	N/A	82.0%	J5			75	Fail
SL-182A	9	3	115.5	15.0%	0.459	N/A	88.0%	J5			75	Pass
SL-183	9	3	112.4	16.5%	0.500	N/A	89.0%	K5			75	Pass
SL-184	9	3	112.7	16.3%	0.495	N/A	89.0%	K4			75	Pass
SL-185	9	3	117.8	13.8%	0.431	N/A	86.0%	K3			75	Pass
SL-186	9	3	120.8	12.6%	0.396	N/A	86.0%	I2			75	Pass
SL-187	9	5	115.1	15.3%	0.465	N/A	89.0%	I1			75	Pass
SL-188	9	4	113.6	16.1%	0.484	N/A	90.0%	P5			75	Pass
SL-189	9	4	111.6	16.9%	0.513	N/A	89.0%	O5			75	Pass
SL-190	9	4	115.0	15.7%	0.465	N/A	91.0%	N5			75	Pass
SL-191	9	1	114.4	16.1%	0.473	16.2%	92.0%	H1			77	Pass
SL-192	9	1	112.0	16.8%	0.505	N/A	90.0%	G1			77	Pass
SL-193	9	1	114.3	15.5%	0.474	N/A	88.0%	G2			77	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-194	9	1	112.8	16.3%	0.495	16.9%	89.0%	H2			77	Pass
SL-195	9	6	116.4	14.5%	0.448	N/A	87.0%	I1			79	Pass
SL-196	9	3	111.8	16.4%	0.507	N/A	87.0%	I2			79	Pass
SL-197	9	2	112.6	15.9%	0.497	N/A	86.0%	H1			79	Pass
SL-198	9	2	113.6	16.5%	0.484	N/A	92.0%	H2			79	Pass
SL-199	9	2	113.1	15.7%	0.490	N/A	87.0%	G1			79	Pass
SL-200	9	2	114.0	15.2%	0.478	N/A	86.0%	G2			79	Pass
SL-201	9	4	112.4	17.3%	0.499	N/A	94.0%	K5			79	Pass
SL-202	9	4	118.0	13.6%	0.430	N/A	85.0%	K4			79	Pass
SL-203	9	4	118.5	14.5%	0.445	N/A	88.0%	K3			79	Pass
SL-204	9	4	113.1	15.7%	0.490	N/A	87.0%	J3			79	Pass
SL-205	9	4	121.2	12.7%	0.389	N/A	88.0%	J4			79	Pass
SL-206	9	4	120.0	13.0%	0.407	13.2%	86.0%	J5	118.4		79	Pass
SL-207	9	5	114.6	15.3%	0.471	N/A	88.0%	P5			79	Pass
SL-208	9	5	115.2	15.8%	0.464	N/A	92.0%	O5			79	Pass
SL-209	9	5	112.4	18.1%	0.500	N/A	98.0%	N5		1.19E-08	79	Pass
SL-210	9	5	114.2	16.0%	0.477	N/A	91.0%	K5			79	Pass
SL-211	9	5	111.9	17.1%	0.507	N/A	91.0%	K4			79	Pass
SL-212	9	5	119.7	13.0%	0.408	N/A	86.0%	K3			79	Pass
SL-213	9	5	112.2	17.1%	0.503	N/A	92.0%	J3			79	Pass
SL-214	9	5	115.9	14.7%	0.456	N/A	87.0%	J4			79	Pass
SL-215	9	5	116.8	15.1%	0.443	N/A	92.0%	J5			79	Pass
SL-216	9	6	112.2	16.1%	0.502	N/A	87.0%	N5			79	Pass
SL-217	9	6	112.7	17.2%	0.493	N/A	94.0%	O5			79	Pass
SL-218	9	6	113.7	15.3%	0.482	N/A	86.0%	P5			79	Pass
SL-219	9	1	111.7	17.0%	0.509	N/A	90.0%	J3			81	Pass
SL-220	9	1	112.8	16.9%	0.494	N/A	92.0%	J4			81	Pass
SL-221	9	1	111.5	16.6%	0.512	17.7%	88.0%	J5	113.7		81	Pass
SL-222	9	2	112.1	16.6%	0.504	N/A	89.0%	J3			81	Pass
SL-223	9	2	112.2	17.1%	0.503	N/A	92.0%	J4			81	Pass
SL-224	9	2	111.3	17.1%	0.514	N/A	90.0%	J5			81	Pass
SL-225	9	1	112.0	18.0%	0.506	N/A	96.0%	F2			81	Pass
SL-226	9	1	117.6	14.3%	0.434	N/A	89.0%	F1			81	Pass
SL-227	9	1	112.9	15.8%	0.493	N/A	87.0%	E1			81	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-228	9	1	113.2	15.9%	0.489	N/A	88.0%	E2			81	Pass
SL-229	9	3	111.1	16.9%	0.519	N/A	88.0%	J5			81	Pass
SL-230	9	3	112.3	16.2%	0.502	N/A	87.0%	J4			81	Pass
SL-231	9	3	111.8	16.8%	0.508	N/A	89.0%	J3			81	Pass
SL-232	9	4	115.4	15.0%	0.461	N/A	88.0%	J2			81	Pass
SL-233	9	4	118.5	14.9%	0.423	N/A	95.0%	I2			81	Pass
SL-234	9	3	112.0	16.9%	0.505	N/A	90.0%	H1			81	Pass
SL-235	9	3	112.3	17.2%	0.500	N/A	93.0%	H2			81	Pass
SL-236	9	4	113.5	15.9%	0.485	N/A	89.0%	H1			81	Pass
SL-237	9	3	114.2	15.8%	0.476	N/A	90.0%	G1			81	Pass
SL-238	9	3	116.4	15.2%	0.448	N/A	92.0%	G2			81	Pass
SL-239	9	4	114.4	15.2%	0.474	N/A	87.0%	H2			81	Pass
SL-240	9	2	115.9	16.3%	0.454	N/A	97.0%	F2			81	Pass
SL-241	9	2	111.4	17.4%	0.514	N/A	91.0%	F1			81	Pass
SL-242	9	2	113.9	15.5%	0.480	N/A	87.0%	E1			81	Pass
SL-243	9	2	113.3	15.8%	0.488	N/A	87.0%	E2			81	Pass
SL-244	9	1	112.7	16.5%	0.495	N/A	90.0%	D1			81	Pass
SL-245	9	1	113.0	15.9%	0.491	N/A	87.0%	D2			81	Pass
SL-246	9	4	112.5	16.9%	0.498	N/A	92.0%	J5			81	Pass
SL-247	9	2	112.2	17.9%	0.502	N/A	96.0%	D2			83	Pass
SL-248	9	2	113.2	15.8%	0.488	N/A	87.0%	D1			83	Pass
SL-249	9	4	114.8	15.9%	0.481	N/A	89.0%	J4			83	Pass
SL-250	9	4	111.1	17.5%	0.519	N/A	91.0%	J3			83	Pass
SL-251	9	5	109.4	18.7%	0.541	N/A	93.0%	J2			83	Fail
SL-252	9	5	111.1	17.9%	0.517	N/A	93.0%	I2			83	Pass
SL-253	9	5	111.9	16.8%	0.507	N/A	89.0%	H2			83	Pass
SL-254	9	5	109.8	16.9%	0.535	N/A	85.0%	H1			83	Fail
SL-255	9	4	109.4	18.7%	0.541	N/A	93.0%	G2			83	Fail
SL-254A	9	5	112.2	16.0%	0.499	N/A	87.0%	H1			83	Pass
SL-256	9	4	109.2	17.5%	0.544	N/A	87.0%	G1			83	Fail
SL-256A	9	4	113.0	17.0%	0.492	N/A	93.0%	G1			83	Pass
SL-255A	9	4	112.4	16.3%	0.499	17.3%	88.0%	G2	118.6		83	Pass
SL-257	9	3	112.1	16.9%	0.504	N/A	91.0%	F2			83	Pass
SL-258	9	3	114.0	16.6%	0.478	N/A	94.0%	F1			83	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC.

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-259	9	3	114.1	15.6%	0.477	N/A	88.0%	E1			83	Pass
SL-260	9	3	114.6	15.5%	0.472	N/A	89.0%	E2			83	Pass
SL-261	9	3	111.5	16.8%	0.511	N/A	89.0%	D2			83	Pass
SL-262	9	3	111.9	16.7%	0.506	N/A	89.0%	D1			83	Pass
SL-251A	9	5	112.4	16.0%	0.499	N/A	87.0%	J2			83	Pass
SL-263	9	5	111.3	16.6%	0.515	N/A	87.0%	J3			83	Pass
SL-264	9	5	114.1	15.8%	0.478	N/A	89.0%	J4			83	Pass
SL-265	9	5	112.6	16.8%	0.497	N/A	91.0%	J5			83	Pass
SL-266	9	6	112.2	18.4%	0.503	N/A	99.0%	J2			83	Pass
SL-267	9	6	111.8	17.2%	0.507	N/A	92.0%	I2			83	Pass
SL-268	9	6	115.0	15.6%	0.466	N/A	90.0%	H2			83	Pass
SL-269	9	6	113.2	16.4%	0.489	N/A	91.0%	H1			83	Pass
SL-270	9	6	118.6	14.6%	0.422	N/A	93.0%	K5			84	Pass
SL-271	9	6	115.8	15.4%	0.455	N/A	91.0%	K4			84	Pass
SL-272	9	6	122.2	13.6%	0.379	N/A	97.0%	K3			84	Pass
SL-273	9	5	112.0	16.8%	0.505	N/A	90.0%	G2			84	Pass
SL-274	9	5	116.2	15.1%	0.464	N/A	88.0%	G1			84	Pass
SL-275	9	6	112.1	17.0%	0.504	N/A	91.0%	I2			84	Pass
SL-276	9	6	114.0	15.8%	0.479	16.6%	89.0%	J2	115.8		84	Pass
SL-277	9	6	114.1	16.2%	0.477	N/A	92.0%	J3			84	Pass
SL-278	9	6	113.9	15.2%	0.480	N/A	86.0%	J4			84	Pass
SL-279	9	6	112.0	16.2%	0.505	N/A	87.0%	J5			84	Pass
SL-280	9	4	114.8	16.0%	0.468	N/A	92.0%	G1			84	Pass
SL-281	9	4	113.8	15.4%	0.481	N/A	86.0%	G1			84	Pass
SL-282	9	4	113.7	16.1%	0.483	N/A	90.0%	G2			84	Pass
SL-283	9	4	114.3	15.0%	0.474	N/A	85.0%	F2			84	Pass
SL-284	9	4	111.1	17.0%	0.517	N/A	89.0%	F1			84	Pass
SL-285	9	4	111.3	17.2%	0.515	N/A	90.0%	E1			84	Pass
SL-286	9	1	107.6	18.7%	0.567	N/A	89.0%	H3			85	Fail
SL-287	9	1	115.9	16.1%	0.455	N/A	96.0%	I3			85	Pass
SL-288	9	1	109.5	17.6%	0.539	N/A	88.0%	H4			85	Fail
SL-289	9	1	115.6	15.2%	0.458	N/A	90.0%	I4			85	Pass
SL-290	9	1	112.1	17.2%	0.503	N/A	92.0%	H5			85	Pass
SL-291	9	1	112.2	17.2%	0.503	18.2%	92.0%	I5	110.8		85	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-292	9	5	110.8	16.1%	0.522	N/A	83.0%	F2			85	Fail
SL-293	9	5	112.6	15.7%	0.498	N/A	85.0%	F1			85	Pass
SL-294	9	5	115.7	15.2%	0.457	N/A	90.0%	E1			85	Pass
SL-295	9	5	113.0	16.8%	0.491	N/A	92.0%	E2			85	Pass
SL-296	9	5	111.8	17.3%	0.507	N/A	92.0%	D1			85	Pass
SL-286A	9	1	115.6	14.7%	0.459	N/A	86.0%	H3			85	Pass
SL-288A	9	1	117.2	14.5%	0.438	N/A	89.0%	H4			85	Pass
SL-292A	9	5	117.2	15.1%	0.438	N/A	93.0%	F2			86	Pass
SL-297	9	5	117.1	13.9%	0.439	N/A	85.0%	D2		1.32E-08	86	Pass
SL-298	9	2	112.2	16.0%	0.503	N/A	86.0%	H3			86	Pass
SL-299	9	2	114.0	15.3%	0.479	N/A	86.0%	H4			86	Pass
SL-300	9	2	115.7	14.8%	0.457	N/A	87.0%	H5			86	Pass
SL-301	9	2	120.4	12.9%	0.400	N/A	87.0%	I3			86	Pass
SL-302	9	2	116.5	14.3%	0.447	N/A	86.0%	I4			86	Pass
SL-303	9	2	117.3	13.9%	0.437	N/A	86.0%	I5			86	Pass
SL-304	9	6	114.5	15.6%	0.473	N/A	89.0%	G1			86	Pass
SL-305	9	6	118.3	13.8%	0.425	N/A	88.0%	G2			86	Pass
SL-306	9	6	115.1	15.2%	0.465	N/A	88.0%	F1			86	Pass
SL-307	9	6	114.4	16.2%	0.473	N/A	92.0%	F2			86	Pass
SL-308	9	6	112.1	15.9%	0.504	N/A	85.0%	E2			86	Pass
SL-309	9	6	113.9	15.2%	0.480	16.8%	86.0%	E1	108.2		86	Pass
SL-310	9	6	114.9	15.8%	0.466	N/A	92.0%	D1			86	Pass
SL-311	9	6	112.4	15.8%	0.500	N/A	85.0%	D2			86	Pass
SL-312	10	1	113.0	17.4%	0.491	N/A	96.0%	M6			86	Pass
SL-313	10	1	116.8	15.4%	0.444	N/A	94.0%	M6			86	Pass
SL-314	10	1	112.4	16.4%	0.500	N/A	89.0%	L6			86	Pass
SL-315	10	1	113.4	15.3%	0.469	N/A	88.0%	L6			86	Pass
SL-316	10	1	114.8	15.8%	0.469	N/A	91.0%	K6			86	Pass
SL-317	10	1	114.7	16.8%	0.469	N/A	97.0%	K6			86	Pass
SL-318	10	1	112.7	15.7%	0.496	N/A	85.0%	J6			86	Pass
SL-319	10	1	115.8	15.3%	0.456	N/A	91.0%	J6			86	Pass
SL-320	9	3	113.1	16.3%	0.490	N/A	90.0%	H3			86	Pass
SL-321	9	3	119.2	13.5%	0.414	N/A	88.0%	I3			86	Pass
SL-322	9	3	117.0	14.4%	0.440	N/A	88.0%	H4			86	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-323	9	3	114.8	16.9%	0.468	N/A	98.0%	I4			86	Pass
SL-324	9	3	119.2	13.6%	0.424	N/A	87.0%	H5			86	Pass
SL-325	9	3	116.2	15.4%	0.450	N/A	92.0%	I5			86	Pass
SL-326	10	2	114.5	16.2%	0.473	N/A	92.0%	J6			86	Pass
SL-327	10	2	116.9	14.7%	0.442	N/A	90.0%	K6			86	Pass
SL-328	10	2	114.6	16.0%	0.471	N/A	92.0%	L6			86	Pass
SL-329	10	2	112.7	16.7%	0.496	N/A	91.0%	M6			86	Pass
SL-330	9	4	117.9	14.0%	0.430	N/A	88.0%	H3			87	Pass
SL-331	9	4	116.8	14.6%	0.443	15.3%	89.0%	I3	114.5		87	Pass
SL-332	9	4	113.2	15.8%	0.483	N/A	88.0%	H4			87	Pass
SL-333	9	4	112.8	15.8%	0.494	N/A	86.0%	I4			87	Pass
SL-334	9	4	113.0	15.6%	0.491	N/A	86.0%	H5			87	Pass
SL-335	9	4	118.8	13.7%	0.419	N/A	88.0%	I5			87	Pass
SL-336	9	5	112.0	16.2%	0.505	N/A	87.0%	H3			87	Pass
SL-337	9	5	116.0	15.2%	0.453	N/A	91.0%	I3			87	Pass
SL-338	9	5	112.5	17.0%	0.498	N/A	92.0%	H4			87	Pass
SL-339	9	5	114.0	16.8%	0.479	N/A	95.0%	I4			87	Pass
SL-340	9	5	111.3	17.6%	0.515	N/A	92.0%	H5			87	Pass
SL-341	9	5	116.1	15.1%	0.452	N/A	90.0%	I5			87	Pass
SL-342	9	6	112.0	17.5%	0.505	N/A	94.0%	I3			87	Pass
SL-343	9	6	113.3	15.7%	0.488	N/A	87.0%	H3			87	Pass
SL-344	9	6	115.4	14.9%	0.461	N/A	87.0%	H4			87	Pass
SL-345	9	6	114.5	15.6%	0.473	N/A	89.0%	I4			87	Pass
SL-346	9	6	113.5	17.0%	0.485	N/A	95.0%	I5			87	Pass
SL-347	9	6	112.7	15.8%	0.495	N/A	86.0%	H5			87	Pass
SL-348	9	1	111.9	17.1%	0.507	N/A	91.0%	G3			88	Pass
SL-349	9	1	113.1	16.6%	0.490	N/A	91.0%	F3			88	Pass
SL-350	9	2	113.0	16.3%	0.491	N/A	90.0%	G3			88	Pass
SL-351	9	2	113.2	16.0%	0.489	16.0%	88.0%	F3	113.3		88	Pass
SL-352	9	3	112.4	16.2%	0.499	N/A	88.0%	G3			88	Pass
SL-353	9	3	111.0	16.9%	0.518	N/A	88.0%	F3			88	Pass
SL-354	9	4	115.3	15.4%	0.461	N/A	90.0%	G3		8.99E-09	89	Pass
SL-355	9	4	111.6	17.2%	0.511	17.6%	91.0%	F3	108.5		89	Pass
SL-356	9	1	108.6	18.1%	0.552	N/A	89.0%	G5-S			89	Fail

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-357	9	1	108.3	18.0%	0.556	N/A	87.0%	G4-S			89	Fail
SL-358	9	5	111.2	16.5%	0.515	N/A	87.0%	G3			89	Pass
SL-359	9	5	112.4	16.4%	0.500	N/A	89.0%	F3			89	Pass
SL-356A	9	1	111.5	16.3%	0.511	N/A	86.0%	G5-S			89	Pass
SL-357A	9	1	111.2	17.1%	0.515	N/A	90.0%	G4-S			89	Pass
SL-360	9	6	111.9	16.8%	0.507	N/A	89.0%	G3			89	Pass
SL-361	9	6	112.1	15.9%	0.503	N/A	85.0%	G3			89	Pass
SL-362	9	1	113.0	16.0%	0.492	N/A	88.0%	G4-N			89	Pass
SL-363	9	1	112.3	16.0%	0.501	N/A	86.0%	G5-N			89	Pass
SL-364	9	2	116.0	13.2%	0.453	N/A	79.0%	G4			90	Fail
SL-365	9	2	114.2	15.4%	0.476	N/A	87.0%	G5			90	Pass
SL-364A	9	2	113.1	15.5%	0.491	N/A	85.0%	G4			90	Pass
SL-366	9	1	111.9	16.4%	0.507	17.7%	87.0%	F4	109.0		90	Pass
SL-367	9	1	111.5	16.3%	0.512	N/A	86.0%	F5			90	Pass
SL-368	9	3	114.2	15.1%	0.476	N/A	86.0%	G4			90	Pass
SL-369	9	3	112.1	16.0%	0.504	N/A	86.0%	G5			90	Pass
SL-370	9	2	110.9	16.0%	0.520	N/A	83.0%	F4			90	Fail
SL-371	9	2	112.6	16.5%	0.497	N/A	90.0%	F5			90	Pass
SL-370A	9	2	112.0	16.1%	0.505	N/A	86.0%	F4			90	Pass
SL-372	9	4	113.7	15.4%	0.482	N/A	86.0%	G4			90	Pass
SL-373	9	4	107.6	18.2%	0.567	N/A	87.0%	G5			90	Fail
SL-374	9	3	111.1	16.6%	0.518	N/A	87.0%	F4			90	Pass
SL-375	9	3	114.7	14.5%	0.470	N/A	83.0%	F5			90	Fail
SL-373A	9	4	108.3	18.7%	0.556	N/A	91.0%	G5			90	Fail
SL-375A	9	3	111.6	16.7%	0.510	N/A	88.0%	F5			90	Pass
SL-373B	9	4	111.6	16.7%	0.511	N/A	88.0%	G5			90	Pass
SL-376	9	5	113.3	16.2%	0.488	N/A	90.0%	G4			91	Pass
SL-377	9	5	112.2	16.6%	0.503	N/A	89.0%	G5			91	Pass
SL-378	9	4	111.4	16.3%	0.514	N/A	86.0%	G4			91	Pass
SL-379	9	4	112.6	15.6%	0.498	17.8%	86.0%	F4	110.7		91	Pass
SL-380	9	6	114.2	15.3%	0.476	N/A	87.0%	F5			91	Pass
SL-381	9	6	112.6	15.2%	0.494	N/A	83.0%	G4			91	Fail
SL-381A	9	6	112.7	15.9%	0.496	N/A	87.0%	G5			91	Pass
SL-382	9	5	111.8	16.6%	0.508	N/A	88.0%	F4			91	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-383	9	5	113.1	15.6%	0.490	N/A	86.0%	F5			91	Pass
SL-384	9	6	110.8	16.5%	0.521	N/A	86.0%	F4			91	Fail
SL-384A	9	6	112.8	16.5%	0.497	N/A	90.0%	F5			92	Pass
SL-385	9	6	112.3	16.0%	0.501	18.5%	86.0%	F4			92	Pass
SL-386	9	1	112.8	14.4%	0.495	N/A	79.0%	A1			92	Fail
SL-387	9	1	111.6	16.2%	0.510	N/A	86.0%	A2			92	Pass
SL-388	9	1	113.0	16.0%	0.491	N/A	88.0%	B2			92	Pass
SL-389	9	1	111.8	16.2%	0.508	N/A	86.0%	C2			92	Pass
SL-390	9	1	110.8	14.9%	0.521	N/A	77.0%	C1			92	Fail
SL-391	9	1	112.8	16.1%	0.494	N/A	88.0%	B1			92	Pass
SL-392	9	1	113.1	16.4%	0.491	N/A	90.0%	E3			92	Pass
SL-386A	9	1	114.1	15.6%	0.478	N/A	88.0%	A1			93	Pass
SL-390A	9	1	111.5	16.3%	0.512	N/A	86.0%	C1			93	Pass
SL-393	9	1	116.4	15.1%	0.449	N/A	91.0%	E5			93	Pass
SL-394	9	1	115.8	15.1%	0.455	N/A	90.0%	E4			93	Pass
SL-395	9	2	113.2	15.9%	0.489	N/A	88.0%	C2			93	Pass
SL-396	9	2	112.5	15.8%	0.499	N/A	85.0%	B2			93	Pass
SL-397	9	2	111.3	15.3%	0.514	N/A	80.0%	A2			93	Fail
SL-397A	9	2	111.3	17.1%	0.515	N/A	90.0%	A2			93	Pass
SL-398	9	2	111.4	16.9%	0.514	N/A	89.0%	A1			93	Pass
SL-399	9	2	114.7	15.0%	0.470	N/A	86.0%	B1			93	Pass
SL-400	9	2	114.8	15.6%	0.468	N/A	90.0%	C1			93	Pass
SL-401	9	2	114.2	15.8%	0.476	N/A	90.0%	E3			93	Pass
SL-402	9	2	114.3	15.1%	0.474	N/A	86.0%	E4			93	Pass
SL-403	9	2	112.1	16.4%	0.504	16.2%	88.0%	E5	113.1		93	Pass
SL-404	9	3	113.6	16.1%	0.484	N/A	90.0%	C2			93	Pass
SL-405	9	3	115.0	15.2%	0.465	N/A	88.0%	B2			93	Pass
SL-406	9	3	112.6	17.0%	0.497	N/A	92.0%	A2			93	Pass
SL-407	9	3	116.2	14.6%	0.450	N/A	88.0%	A1			94	Pass
SL-408	9	3	111.6	16.9%	0.511	N/A	89.0%	B1		1.14E-08	94	Pass
SL-409	9	3	114.1	15.5%	0.477	N/A	88.0%	C1			94	Pass
SL-410	9	3	111.8	16.5%	0.508	N/A	88.0%	E3			94	Pass
SL-411	9	3	114.2	15.6%	0.476	17.3%	88.0%	E4	112.2		94	Pass
SL-412	9	3	111.7	16.4%	0.509	N/A	87.0%	E5			94	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-413	9	4	112.4	17.1%	0.500	N/A	92.0%	A2			94	Pass
SL-414	9	4	111.9	16.0%	0.506	N/A	85.0%	B2			94	Pass
SL-415	9	4	115.7	14.8%	0.457	N/A	87.0%	C2			94	Pass
SL-416	9	4	111.9	16.5%	0.506	N/A	88.0%	A1			94	Pass
SL-417	9	4	112.2	15.9%	0.502	N/A	86.0%	B1			94	Pass
SL-418	9	4	112.5	16.3%	0.498	N/A	88.0%	C1			94	Pass
SL-419	9	5	112.0	16.2%	0.506	N/A	86.0%	A2			94	Pass
SL-420	9	5	111.9	16.2%	0.507	N/A	86.0%	B2			94	Pass
SL-421	9	5	112.1	16.1%	0.503	N/A	86.0%	C2			94	Pass
SL-422	9	5	113.4	15.6%	0.486	N/A	87.0%	A1			95	Pass
SL-423	9	5	113.4	15.7%	0.486	N/A	87.0%	B1			95	Pass
SL-424	9	5	114.2	15.4%	0.476	N/A	87.0%	C1			95	Pass
SL-425	9	4	111.9	16.9%	0.506	N/A	90.0%	E3			95	Pass
SL-426	9	4	114.7	15.4%	0.469	N/A	89.0%	E4			95	Pass
SL-427	9	4	112.3	16.3%	0.500	18.3%	88.0%	E5	106.8		95	Pass
SL-428	9	5	112.0	17.2%	0.505	N/A	92.0%	E3			95	Pass
SL-429	9	5	111.2	17.2%	0.516	N/A	90.0%	E5			95	Pass
SL-430	9	5	111.5	17.0%	0.512	N/A	90.0%	E4			95	Pass
SL-431	9	6	111.2	17.3%	0.516	N/A	91.0%	A1			95	Pass
SL-432	9	6	111.2	17.1%	0.515	N/A	90.0%	B1			95	Pass
SL-433	9	6	107.5	17.1%	0.569	N/A	81.0%	C1			95	Fail
SL-434	9	6	111.0	17.4%	0.518	N/A	91.0%	C2			95	Pass
SL-435	9	6	112.8	16.9%	0.494	N/A	92.0%	B2			95	Pass
SL-436	9	6	112.8	15.7%	0.494	N/A	86.0%	A2		1.46E-08	95	Pass
SL-433A	9	6	111.3	17.0%	0.514	N/A	89.0%	C1			95	Pass
SL-437	9	6	111.7	16.2%	0.509	N/A	86.0%	E5			95	Pass
SL-438	9	6	112.9	16.9%	0.493	N/A	93.0%	E4			95	Pass
SL-439	9	6	112.7	16.3%	0.495	N/A	89.0%	E3			95	Pass
SL-440	9	1	112.3	16.3%	0.501	16.4%	88.0%	D3	119.5		96	Pass
SL-441	9	1	114.2	16.3%	0.476	N/A	92.0%	A4			96	Pass
SL-442	9	1	112.8	16.0%	0.494	N/A	87.0%	B4			96	Pass
SL-443	9	1	111.0	16.3%	0.518	N/A	85.0%	C4			96	Pass
SL-444	9	2	114.8	15.8%	0.468	17.3%	91.0%	D3	113.8		97	Pass
SL-445	9	1	112.6	15.7%	0.497	N/A	85.0%	A3			97	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC.

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-446	9	1	112.2	17.0%	0.502	N/A	91.0%	B3			97	Pass
SL-447	9	1	115.0	15.1%	0.465	N/A	88.0%	C3			97	Pass
SL-448	9	2	113.7	15.1%	0.482	N/A	85.0%	A3			97	Pass
SL-449	9	2	112.1	17.2%	0.503	N/A	92.0%	B3			97	Pass
SL-450	9	2	112.4	16.4%	0.500	N/A	89.0%	C3			97	Pass
SL-451	9	3	111.5	16.9%	0.511	N/A	89.0%	D3			97	Pass
SL-452	9	1	112.7	16.6%	0.496	N/A	90.0%	C5			98	Pass
SL-453	9	1	112.7	16.1%	0.495	N/A	88.0%	B5			98	Pass
SL-454	9	1	111.7	17.4%	0.508	N/A	92.0%	A5			98	Pass
SL-455	9	4	115.7	14.5%	0.457	N/A	86.0%	D3		1.36E-08	98	Pass
SL-456	9	1	111.9	16.5%	0.507	16.8%	88.0%	D5	112.1		98	Pass
SL-457	9	1	114.8	15.2%	0.469	N/A	88.0%	D4			98	Pass
SL-458	9	3	113.9	16.2%	0.479	N/A	91.0%	A3			98	Pass
SL-459	9	3	114.6	14.8%	0.470	N/A	85.0%	B3			98	Pass
SL-460	9	3	113.2	15.7%	0.489	N/A	87.0%	C3			98	Pass
SL-461	9	2	112.4	16.9%	0.500	N/A	86.0%	A4			98	Pass
SL-462	9	2	111.8	16.8%	0.507	N/A	89.0%	B4			98	Pass
SL-463	9	2	111.3	17.0%	0.515	N/A	89.0%	C4			98	Pass
SL-464	9	2	112.1	16.7%	0.504	N/A	89.0%	A5			98	Pass
SL-465	9	2	112.1	17.2%	0.504	N/A	92.0%	B5			98	Pass
SL-466	9	2	112.3	16.0%	0.500	N/A	86.0%	C5			98	Pass
SL-467	9	2	113.1	15.8%	0.490	N/A	87.0%	D5			98	Pass
SL-468	9	2	111.4	16.3%	0.513	N/A	86.0%	D4			98	Pass
SL-469	9	5	113.3	15.7%	0.487	N/A	87.0%	D3			98	Pass
SL-470	10	1	112.1	15.9%	0.503	N/A	85.0%	I6			99	Pass
SL-471	10	1	111.1	16.5%	0.517	N/A	86.0%	H6			99	Pass
SL-472	10	1	113.0	16.1%	0.491	18.0%	89.0%	G6	116.4		99	Pass
SL-473	9	4	113.6	16.0%	0.483	N/A	89.0%	A3			99	Pass
SL474	9	4	114.2	15.6%	0.477	N/A	89.0%	B3			99	Pass
SL-475	9	4	115.2	15.6%	0.464	N/A	91.0%	C3		1.20E-08	99	Pass
SL-476	9	3	114.3	15.1%	0.474	N/A	86.0%	A4			99	Pass
SL-477	9	3	115.5	14.9%	0.459	N/A	88.0%	B4			99	Pass
SL-478	9	3	113.3	16.5%	0.487	N/A	91.0%	C4			99	Pass
SL-479	9	3	115.2	13.5%	0.464	N/A	79.0%	C5			99	Fail

ADMIX FIELD TESTING SUMMARY

ENVIROTECH
ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-480	9	3	112.4	16.4%	0.500	N/A	89.0%	B5			99	Pass
SL-481	9	3	112.2	16.0%	0.502	N/A	86.0%	A5			99	Pass
SL-479A	9	3	116.4	15.2%	0.448	N/A	92.0%	C5			99	Pass
SL-482	9	3	118.0	14.1%	0.429	N/A	89.0%	D5			100	Pass
SL-483	9	3	112.6	15.9%	0.498	17.2%	86.0%	D4	112.9		100	Pass
SL-484	9	5	112.1	16.5%	0.504	N/A	88.0%	A3			100	Pass
SL-485	9	5	112.5	15.7%	0.498	N/A	85.0%	B3			100	Pass
SL-486	9	5	111.1	17.4%	0.517	N/A	91.0%	C3			100	Pass
SL-487	9	3	112.1	17.2%	0.503	N/A	92.0%	D5		1.08E-08	100	Pass
SL-488	9	4	112.3	17.1%	0.501	N/A	92.0%	A4			100	Pass
SL-489	9	4	112.2	16.1%	0.502	N/A	87.0%	B4			100	Pass
SL-490	9	4	114.3	15.4%	0.475	N/A	88.0%	C4			100	Pass
SL-491	9	4	114.8	15.9%	0.468	N/A	92.0%	C5			100	Pass
SL-492	9	4	114.9	15.3%	0.466	N/A	89.0%	B5			100	Pass
SL-493	9	4	114.2	16.2%	0.477	N/A	92.0%	A5			100	Pass
SL-494	9	4	114.6	15.4%	0.471	N/A	88.0%	D5			100	Pass
SL-495	9	4	116.2	14.4%	0.451	N/A	86.0%	D4			100	Pass
SL-496	9	6	114.2	15.4%	0.476	N/A	87.0%	A3			101	Pass
SL-497	9	6	111.8	17.5%	0.507	N/A	93.0%	B3			101	Pass
SL-498	9	6	113.1	16.5%	0.491	N/A	91.0%	C3			101	Pass
SL-499	9	5	112.1	17.0%	0.504	N/A	91.0%	A4		2.07E-08	101	Pass
SL-500	9	5	111.4	17.2%	0.514	N/A	90.0%	B4			101	Pass
SL-501	9	5	112.5	16.4%	0.499	N/A	89.0%	C4			101	Pass
SL-502	9	5	114.2	15.3%	0.477	N/A	87.0%	A5			101	Pass
SL-503	9	5	111.2	17.0%	0.516	N/A	89.0%	B5			101	Pass
SL-504	9	5	111.6	17.8%	0.510	N/A	94.0%	C5			101	Pass
SL-505	9	5	112.5	16.1%	0.498	17.6%	87.0%	D5	113.5		101	Pass
SL-506	9	5	113.0	15.7%	0.492	N/A	86.0%	D4			101	Pass
SL-507	10	3	112.3	16.2%	0.501	N/A	87.0%	K6			101	Pass
SL-508	10	3	111.5	16.2%	0.512	N/A	85.0%	L6			101	Pass
SL-509	10	3	114.0	16.2%	0.479	N/A	91.0%	M6			101	Pass
SL-510	10	3	112.7	16.8%	0.496	N/A	91.0%	J6			101	Pass
SL-511	10	1	111.1	16.7%	0.517	N/A	87.0%	M7			101	Pass
SL-512	10	1	111.1	17.3%	0.518	N/A	90.0%	M9			101	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC.

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-513	10	1	111.0	17.4%	0.519	N/A	91.0%	M8			101	Pass
SL-514	10	4	114.9	15.4%	0.466	N/A	89.0%	M6			102	Pass
SL-515	10	4	112.5	16.7%	0.498	N/A	91.0%	L6			102	Pass
SL-516	10	4	112.0	16.7%	0.505	N/A	89.0%	K6			102	Pass
SL-517	10	4	111.2	17.4%	0.511	17.4%	92.0%	J6	119.2		102	Pass
SL-518	10	2	111.3	16.8%	0.515	N/A	88.0%	M9			102	Pass
SL-519	10	2	112.3	16.8%	0.501	N/A	91.0%	M8			102	Pass
SL-520	10	2	112.8	15.8%	0.495	N/A	86.0%	M7			102	Pass
SL-521	10	1	112.8	16.5%	0.494	N/A	90.0%	P6			102	Pass
SL-522	10	1	115.9	15.2%	0.455	N/A	90.0%	O6			102	Pass
SL-523	10	1	115.5	15.4%	0.460	N/A	90.0%	N6			102	Pass
SL-524	9	6	114.6	15.4%	0.471	N/A	88.0%	D3			102	Pass
SL-525	10	1	112.9	16.7%	0.493	N/A	91.0%	N7			102	Pass
SL-526	10	1	113.9	15.4%	0.480	N/A	87.0%	O7			102	Pass
SL-527	10	1	111.0	17.0%	0.519	N/A	88.0%	P7			102	Pass
SL-528	10	1	111.3	16.8%	0.515	N/A	88.0%	N8			103	Pass
SL-529	10	1	112.6	16.6%	0.497	N/A	90.0%	O8			103	Pass
SL-530	10	1	111.9	17.7%	0.506	N/A	94.0%	P8 -			103	Pass
SL-531	10	1	108.4	18.5%	0.555	N/A	90.0%	M10			103	Fail
SL-531A	10	1	111.0	17.1%	0.518	N/A	89.0%	M10			103	Pass
SL-532	10	2	114.9	15.5%	0.467	N/A	90.0%	P6			103	Pass
SL-533	10	2	115.9	15.0%	0.455	N/A	89.0%	O6			103	Pass
SL-534	10	2	117.5	14.4%	0.435	N/A	89.0%	N6			103	Pass
SL-535	10	2	111.9	16.2%	0.506	N/A	86.0%	N7			103	Pass
SL-536	10	2	114.7	15.4%	0.470	N/A	88.0%	O7			103	Pass
SL-537	10	2	111.2	16.6%	0.516	N/A	87.0%	P7			103	Pass
SL-538	10	2	117.3	14.4%	0.437	14.3%	89.0%	M8	116.0		103	Pass
SL-539	10	2	112.7	16.2%	0.496	N/A	88.0%	P8			103	Pass
SL-540	10	2	112.9	15.9%	0.493	N/A	87.0%	O8			103	Pass
SL-541	10	2	111.0	17.4%	0.518	N/A	91.0%	N8			103	Pass
SL-542	10	1	111.3	16.9%	0.515	N/A	89.0%	P9			104	Pass
SL-543	10	1	111.0	17.0%	0.519	N/A	88.0%	O9			104	Pass
SL-544	10	1	112.0	16.6%	0.506	N/A	89.0%	N9			104	Pass
SL-545	10	3	113.1	15.5%	0.490	N/A	85.0%	P6			104	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-546	10	3	116.1	15.4%	0.452	N/A	92.0%	O6			104	Pass
SL-547	10	3	115.2	15.6%	0.463	N/A	91.0%	N6			104	Pass
SL-548	10	3	113.4	16.0%	0.486	N/A	89.0%	M9			104	Pass
SL-549	10	3	115.4	14.8%	0.461	N/A	87.0%	M7			104	Pass
SL-550	10	3	113.9	15.6%	0.480	15.2%	88.0%	M8	116.3		104	Pass
SL-551	10	2	112.1	16.0%	0.504	N/A	86.0%	M10			104	Pass
SL-552	10	3	114.3	15.0%	0.475	N/A	85.0%	N7			104	Pass
SL-553	10	3	115.0	15.0%	0.466	N/A	87.0%	O7			104	Pass
SL-554	10	3	114.7	14.8%	0.469	N/A	85.0%	P7			104	Pass
SL-555	10	3	112.4	17.0%	0.500	N/A	92.0%	P8			104	Pass
SL-556	10	3	114.4	15.4%	0.473	N/A	88.0%	O8			104	Pass
SL-557	10	3	114.8	15.4%	0.469	N/A	89.0%	N8			104	Pass
SL-558	10	2	112.1	16.1%	0.503	N/A	86.0%	N9			105	Pass
SL-559	10	2	112.7	16.4%	0.496	N/A	89.0%	O9			105	Pass
SL-560	10	2	112.9	14.4%	0.495	N/A	79.0%	P9			105	Fail
SL-560A	10	2	113.2	15.7%	0.489	N/A	87.0%	P9			105	Pass
SL-561	10	1	111.2	16.5%	0.515	N/A	87.0%	N10			105	Pass
SL-562	10	1	113.1	15.6%	0.491	N/A	86.0%	O10			105	Pass
SL-563	10	1	111.2	16.9%	0.516	N/A	88.0%	P10			105	Pass
SL-564	10	4	116.2	14.5%	0.450	N/A	87.0%	P6		1.87E-08	105	Pass
SL-565	10	4	115.7	15.2%	0.457	N/A	90.0%	O6			105	Pass
SL-566	10	4	108.7	16.3%	0.550	N/A	80.0%	N6			105	Fail
SL-566A	10	4	111.5	16.7%	0.512	N/A	88.0%	N6			105	Pass
SL-567	10	4	111.8	17.4%	0.508	N/A	92.0%	N7			105	Pass
SL-568	10	4	111.8	16.1%	0.508	N/A	86.0%	O7			105	Pass
SL-569	10	4	111.5	16.3%	0.512	N/A	86.0%	P7			105	Pass
SL-570	10	3	112.5	16.5%	0.499	17.1%	89.0%	L6	112.7		105	Pass
SL-571	10	4	111.4	16.4%	0.513	N/A	86.0%	N8			106	Pass
SL-572	10	4	112.1	16.6%	0.503	N/A	89.0%	O8			106	Pass
SL-573	10	4	111.4	17.1%	0.513	N/A	90.0%	P8			106	Pass
SL-574	10	2	111.7	16.5%	0.508	N/A	88.0%	N10			106	Pass
SL-575	10	2	112.5	16.2%	0.499	N/A	88.0%	O10			106	Pass
SL-576	10	2	111.8	16.1%	0.507	N/A	86.0%	P10			106	Pass
SL-577	10	3	112.8	15.9%	0.494	N/A	87.0%	N9			106	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-578	10	3	112.9	16.0%	0.493	N/A	88.0%	O9			106	Pass
SL-579	10	3	112.1	15.9%	0.504	N/A	85.0%	P9			106	Pass
SL-580	10	4	112.8	16.3%	0.495	N/A	89.0%	M7			106	Pass
SL-581	10	4	112.9	15.7%	0.493	N/A	86.0%	M8			106	Pass
SL-582	10	3	113.3	15.8%	0.488	16.2%	87.0%	M10	111.5		106	Pass
SL-583	10	5	112.3	16.1%	0.501	N/A	87.0%	N6			106	Pass
SL-584	10	5	114.1	16.3%	0.478	N/A	92.0%	O6			106	Pass
SL-585	10	5	113.9	15.8%	0.480	N/A	89.0%	P6			106	Pass
SL-586	10	5	112.7	16.7%	0.495	N/A	91.0%	P7			106	Pass
SL-587	10	5	111.7	16.4%	0.509	N/A	87.0%	O7			106	Pass
SL-588	10	5	112.0	16.3%	0.505	N/A	87.0%	N7		5.42E-08	106	Pass
SL-589	10	3	116.6	14.3%	0.445	N/A	87.0%	N10			106	Pass
SL-590	10	3	113.3	15.8%	0.488	N/A	87.0%	O10			106	Pass
SL-591	10	3	113.2	15.5%	0.488	N/A	86.0%	P10			106	Pass
SL-592	10	4	114.9	16.0%	0.467	N/A	93.0%	P9			107	Pass
SL-593	10	4	113.9	16.3%	0.480	N/A	92.0%	O9			107	Pass
SL-594	10	4	117.5	14.3%	0.434	N/A	89.0%	N9		1.65E-08	107	Pass
SL-595	10	5	112.4	15.9%	0.499	N/A	86.0%	M7			107	Pass
SL-596	10	5	111.6	16.5%	0.511	17.7%	87.0%	M8	109.9		107	Pass
SL-597	10	6	116.2	14.8%	0.451	N/A	89.0%	N6			107	Pass
SL-598	10	6	117.6	14.2%	0.434	N/A	88.0%	O6			107	Pass
SL-599	10	6	114.4	15.3%	0.473	N/A	87.0%	P6			107	Pass
SL-600	10	6	112.6	15.9%	0.496	N/A	87.0%	P7			107	Pass
SL-601	10	6	115.3	15.2%	0.461	N/A	89.0%	O7			107	Pass
SL-602	10	6	113.9	15.5%	0.479	N/A	87.0%	N7			107	Pass
SL-603	9	6	113.1	15.6%	0.490	N/A	86.0%	A4			107	Pass
SL-604	9	6	111.2	17.2%	0.516	N/A	90.0%	B4			107	Pass
SL-605	9	6	112.0	16.6%	0.505	N/A	89.0%	C4			107	Pass
SL-606	10	4	117.5	14.4%	0.434	N/A	90.0%	P10			108	Pass
SL-607	10	4	111.4	17.3%	0.514	N/A	91.0%	O10			108	Pass
SL-608	10	4	111.0	14.5%	0.518	N/A	76.0%	N10			108	Fail
SL-608A	10	4	112.7	15.7%	0.495	N/A	86.0%	N10			108	Pass
SI-609	9	6	116.8	15.2%	0.443	N/A	92.0%	A5			108	Pass
SL-610	9	6	114.8	15.5%	0.468	N/A	89.0%	B5			108	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-611	9	6	114.6	16.6%	0.471	N/A	95.0%	C5		1.71E-08	108	Pass
SL-612	10	5	116.0	14.9%	0.454	N/A	89.0%	N9			108	Pass
SL-613	10	5	112.8	16.3%	0.494	N/A	89.0%	O9			108	Pass
SL-614	10	5	111.0	17.2%	0.519	N/A	89.0%	P9			108	Pass
SL-615	10	1	111.0	16.2%	0.508	N/A	86.0%	L10			108	Pass
SL-616	10	1	118.2	14.2%	0.427	N/A	90.0%	L9			108	Pass
SL-617	10	1	112.2	16.4%	0.502	N/A	88.0%	L8			108	Pass
SL-618	10	1	112.1	16.3%	0.504	17.6%	87.0%	L7	114.3		108	Pass
SL-619	10	4	113.6	15.9%	0.484	N/A	89.0%	M9			108	Pass
SL-620	10	4	111.1	15.8%	0.517	N/A	83.0%	M10			108	Fail
SL-621	10	5	112.7	16.7%	0.495	N/A	91.0%	N8			108	Pass
SL-622	10	5	111.7	16.6%	0.509	N/A	88.0%	O8			108	Pass
SL-623	10	5	112.4	16.4%	0.500	N/A	89.0%	P8			108	Pass
SL-620A	10	4	113.0	16.5%	0.492	N/A	91.0%	M10			108	Pass
SL-624	10	2	112.3	14.2%	0.501	N/A	77.0%	L7			108	Fail
SL-625	10	2	113.2	15.4%	0.489	N/A	85.0%	L8			108	Pass
SL-626	10	2	113.7	16.2%	0.483	N/A	91.0%	L9			108	Pass
SL-627	10	2	113.9	15.9%	0.480	N/A	89.0%	L10	-		108	Pass
SL-628	10	5	114.3	15.2%	0.475	N/A	86.0%	N10			108	Pass
SL-629	10	5	113.2	15.5%	0.489	N/A	86.0%	O10			108	Pass
SL-630	10	5	113.3	15.7%	0.488	N/A	87.0%	P10			108	Pass
SL-624A	10	2	133.8	15.3%	0.481	N/A	86.0%	L7			108	Pass
SL-631	10	5	113.4	16.1%	0.486	N/A	89.0%	M9			108	Pass
SL-632	10	5	113.4	15.4%	0.487	N/A	85.0%	M10			108	Pass
SL-633	10	3	111.7	16.5%	0.508	N/A	88.0%	L10			108	Pass
SL-634	10	3	111.7	16.2%	0.509	N/A	86.0%	L9			108	Pass
SL-635	10	5	118.2	14.5%	0.427	16.1%	92.0%	J6	118.2		109	Pass
SL-636	10	5	113.4	17.0%	0.487	N/A	94.0%	K6			109	Pass
SL-637	10	5	113.7	16.3%	0.483	N/A	91.0%	L6			109	Pass
SL-638	10	5	115.5	15.5%	0.459	N/A	91.0%	M6			109	Pass
SL-639	10	3	116.6	14.7%	0.446	N/A	89.0%	L7			109	Pass
SL-640	10	3	114.5	15.3%	0.472	N/A	88.0%	L8			109	Pass
SL-641	9	6	116.9	14.4%	0.443	N/A	88.0%	D5			109	Pass
SL-642	9	6	115.9	15.1%	0.447	N/A	91.0%	D4			109	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-643	10	1	120.9	13.1%	0.395	N/A	90.0%	J7			109	Pass
SL-644	10	1	116.7	14.4%	0.445	N/A	87.0%	K7			109	Pass
SL-645	10	4	115.6	14.6%	0.458	N/A	86.0%	L10			109	Pass
SL-646	10	4	118.8	13.0%	0.418	N/A	84.0%	L9			109	Fail
SL-646A	10	4	119.0	14.0%	0.416	N/A	91.0%	L9			109	Pass
SL-647	10	4	114.9	15.4%	0.467	N/A	89.0%	L8			109	Pass
SL-648	10	4	114.4	15.5%	0.473	N/A	88.0%	L7			109	Pass
SL-649	10	2	114.7	15.6%	0.470	N/A	90.0%	J7			109	Pass
SL-650	10	2	116.2	15.2%	0.451	N/A	91.0%	K7			109	Pass
SL-651	10	5	117.4	15.3%	0.436	14.0%	95.0%	L9			112	Pass
SL-652	10	5	118.1	15.2%	0.427	N/A	96.0%	L10	117.4		112	Pass
SL-653	10	1	112.7	16.2%	0.496	N/A	88.0%	K10			112	Pass
SL-654	10	5	113.6	16.6%	0.483	N/A	93.0%	L8			112	Pass
SL-655	10	5	115.9	15.2%	0.454	N/A	90.0%	L7			112	Pass
SL-656	10	1	110.0	17.5%	0.532	N/A	89.0%	K8			112	Fail
SL-656A	10	1	111.6	16.6%	0.511	N/A	88.0%	K8			112	Pass
SL-657	10	1	112.8	16.5%	0.494	N/A	90.0%	K9			112	Pass
SL-658	10	6	117.2	14.1%	0.430	N/A	89.0%	L6	-	3.71E-08	113	Pass
SL-659	10	6	112.8	16.5%	0.494	N/A	90.0%	M6			113	Pass
SL-660	10	6	116.5	14.4%	0.447	N/A	87.0%	M7			113	Pass
SL-661	10	6	113.6	9.0%	0.483	N/A	50.0%	L7			113	Fail
SL-662	10	2	114.3	16.4%	0.475	N/A	93.0%	K10			113	Pass
SL-663	10	2	114.8	15.8%	0.468	N/A	91.0%	K9			113	Pass
SL-664	10	2	114.3	15.9%	0.475	17.8%	90.0%	K8	109.5		113	Pass
SL-665	10	3	116.5	12.6%	0.447	N/A	76.0%	J7			113	Fail
SL-666	10	3	111.5	16.3%	0.511	N/A	86.0%	K7			113	Pass
SL-665A	10	3	113.3	16.2%	0.487	N/A	90.0%	J7			113	Pass
SL-667	10	3	113.8	15.8%	0.481	N/A	89.0%	K10			113	Pass
SL-661A	10	6	117.1	15.4%	0.440	N/A	95.0%	L7			113	Pass
SL-668	10	3	114.1	15.5%	0.447	N/A	94.0%	K8			113	Pass
SL-669	10	3	111.0	17.5%	0.519	N/A	91.0%	K9			113	Pass
SL-670	10	4	112.4	16.1%	0.500	N/A	87.0%	K7			113	Pass
SL-671	10	4	115.0	15.1%	0.466	N/A	87.0%	J7			113	Pass
SL-672	10	6	117.9	14.0%	0.430	N/A	88.0%	P8			113	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-673	10	6	116.3	14.4%	0.449	N/A	87.0%	O8			113	Pass
SL-674	10	6	114.7	16.6%	0.470	N/A	95.0%	N8			113	Pass
SL-675	10	4	112.9	15.9%	0.492	N/A	87.0%	K10			113	Pass
SL-676	10	4	113.9	15.8%	0.480	N/A	89.0%	K9			113	Pass
SL-677	10	6	117.9	14.6%	0.429	N/A	92.0%	P9			113	Pass
SL-678	10	6	114.4	15.9%	0.473	N/A	91.0%	O9			113	Pass
SL-679	10	6	118.2	15.1%	0.426	N/A	96.0%	N9			113	Pass
SL-680	10	4	114.3	15.5%	0.475	N/A	88.0%	K8			113	Pass
SL-681	10	6	119.2	13.6%	0.414	N/A	89.0%	P10		2.43E-08	113	Pass
SL-682	10	6	117.3	13.9%	0.438	N/A	86.0%	O10			113	Pass
SL-683	10	6	114.2	15.9%	0.476	N/A	90.0%	N10			113	Pass
SL-684	10	5	112.8	16.4%	0.494	N/A	90.0%	J7			113	Pass
SL-685	10	5	111.9	16.9%	0.507	N/A	90.0%	K7			113	Pass
SL-686	10	6	114.5	15.2%	0.472	N/A	87.0%	K6			114	Pass
SL-687	10	6	113.2	16.7%	0.490	N/A	92.0%	J6	112.4		114	Pass
SL-688	10	6	115.4	15.6%	0.461	N/A	91.0%	L8			114	Pass
SL-689	10	6	118.6	13.5%	0.421	N/A	87.0%	M8			114	Pass
SL-690	10	5	114.1	15.3%	0.477	N/A	87.0%	K10			114	Pass
SL-691	10	5	112.6	16.6%	0.497	16.7%	90.0%	K9		4.70E-08	114	Pass
SL-692	10	5	117.9	13.7%	0.430	N/A	86.0%	K8			114	Pass
SL-693	10	1	115.5	15.1%	0.459	N/A	89.0%	I7			114	Pass
SL-694	10	6	117.6	13.8%	0.434	N/A	86.0%	J7			114	Pass
SL-695	10	6	113.9	15.9%	0.480	N/A	89.0%	K7			114	Pass
SL-696	10	6	112.5	15.7%	0.498	N/A	85.0%	L7			114	Pass
SL-697	10	1	111.3	16.7%	0.514	N/A	88.0%	J8			114	Pass
SL-698	10	1	112.4	16.1%	0.500	N/A	87.0%	J9			114	Pass
SL-699	10	1	114.2	15.5%	0.476	N/A	88.0%	J10			114	Pass
SL-700	10	6	115.1	15.3%	0.465	N/A	89.0%	K8			114	Pass
SL-701	10	2	113.1	16.4%	0.490	N/A	90.0%	I6			114	Pass
SL-702	10	2	113.9	15.7%	0.480	N/A	88.0%	I7			114	Pass
SL-703	10	2	112.0	16.3%	0.505	N/A	87.0%	J8			114	Pass
SL-704	10	2	112.9	15.6%	0.492	N/A	86.0%	J9			114	Pass
SL-705	10	2	114.1	15.1%	0.477	N/A	85.0%	J10			114	Pass
SL-706	10	3	112.8	16.1%	0.495	N/A	88.0%	I6			114	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-707	10	3	113.1	15.1%	0.491	N/A	83.0%	I7			114	Fail
SL-708	10	1	125.1	11.9%	0.348	N/A	92.0%	D6			114	Pass
SL-707A	10	3	115.2	15.2%	0.464	N/A	88.0%	I7			114	Pass
SL-709	10	3	116.9	14.2%	0.442	N/A	87.0%	J8			114	Pass
SL-710	10	3	112.0	16.3%	0.506	N/A	87.0%	J10			115	Pass
SL-711	10	3	112.1	16.1%	0.504	N/A	86.0%	J9			115	Pass
SL-712	10	1	113.9	15.6%	0.479	N/A	88.0%	D7			115	Pass
SL-713	10	4	112.4	15.8%	0.500	N/A	85.0%	I7		1.55E-08	115	Pass
SL-714	10	4	114.9	15.8%	0.467	16.5%	91.0%	I6	111.3		115	Pass
SL-715	10	4	113.3	15.6%	0.488	N/A	86.0%	J8			115	Pass
SL-716	10	4	113.5	15.7%	0.485	N/A	87.0%	J9			115	Pass
SL-717	10	4	111.7	16.5%	0.509	N/A	88.0%	J10			115	Pass
SL-718	10	5	112.1	14.9%	0.503	N/A	80.0%	I6			115	Fail
SL-719	10	5	111.9	16.5%	0.506	N/A	88.0%	I7			115	Pass
SL-718A	10	5	112.5	16.2%	0.499	N/A	88.0%	I6			115	Pass
SL-720	10	5	114.3	15.2%	0.474	N/A	87.0%	J8			115	Pass
SL-721	10	5	114.1	15.3%	0.478	N/A	86.0%	J10			115	Pass
SL-722	10	5	111.8	16.1%	0.508	N/A	86.0%	J9			115	Pass
SL-723	10	1	114.9	15.6%	0.467	N/A	90.0%	I10			115	Pass
SL-724	10	1	112.5	16.8%	0.499	N/A	91.0%	I9			115	Pass
SL-725	10	1	112.3	16.2%	0.501	N/A	87.0%	I8			115	Pass
SL-726	10	1	113.8	15.3%	0.482	N/A	86.0%	D7			115	Pass
SL-727	10	2	112.6	16.1%	0.497	N/A	87.0%	I10			116	Pass
SL-728	10	2	113.3	15.4%	0.488	N/A	85.0%	I9			116	Pass
SL-729	10	2	114.4	15.4%	0.473	N/A	88.0%	I8			116	Pass
SL-730	10	2	113.2	15.5%	0.489	N/A	86.0%	D6			116	Pass
SL-731	10	2	112.4	16.5%	0.500	N/A	89.0%	D7			116	Pass
SL-732	10	2	111.7	16.8%	0.508	16.5%	89.0%	D6	110.9		116	Pass
SL-733	10	2	111.1	16.4%	0.518	N/A	85.0%	H6			116	Pass
SL-734	10	2	111.0	17.3%	0.519	N/A	90.0%	G6			116	Pass
SL-735	10	1	112.4	16.6%	0.500	N/A	90.0%	F6			116	Pass
SL-736	10	2	112.7	16.3%	0.495	N/A	89.0%	F6			116	Pass
SL-737	10	3	112.4	16.1%	0.499	N/A	87.0%	D6			116	Pass
SL-738	10	3	112.3	16.0%	0.501	N/A	86.0%	D7			116	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-739	10	3	111.6	15.4%	0.510	N/A	82.0%	F6			116	Fail
SL-740	10	3	111.9	17.1%	0.507	N/A	91.0%	G6			116	Pass
SL-741	10	3	113.4	15.8%	0.487	N/A	88.0%	H6			116	Pass
SL-739A	10	3	112.7	16.0%	0.496	N/A	87.0%	F6			116	Pass
SL-742	10	4	115.5	15.2%	0.459	N/A	89.0%	D7			116	Pass
SL-743	10	4	113.9	15.4%	0.480	N/A	87.0%	D6			116	Pass
SL-744	10	4	111.7	16.7%	0.509	N/A	89.0%	H6			116	Pass
SL-745	10	4	112.8	16.7%	0.494	N/A	91.0%	F6			116	Pass
SL-746	10	4	111.1	17.0%	0.518	N/A	89.0%	G6			116	Pass
SL-747	10	5	113.7	15.5%	0.482	N/A	87.0%	D7			117	Pass
SL-748	10	1	112.5	16.5%	0.499	N/A	89.0%	D6			117	Pass
SL-749	10	1	115.3	14.9%	0.462	N/A	87.0%	B6			117	Pass
SL-750	10	1	118.8	14.5%	0.419	N/A	93.0%	C6			117	Pass
SL-751	10	1	111.0	17.2%	0.519	N/A	89.0%	C7			117	Pass
SL-752	10	1	117.5	14.1%	0.435	N/A	88.0%	B7			117	Pass
SL-753	10	1	113.8	15.8%	0.481	N/A	89.0%	A7			117	Pass
SL-754	10	5	113.2	15.7%	0.489	N/A	87.0%	D6			117	Pass
SL-755	10	1	113.2	15.8%	0.489	N/A	87.0%	D10	-		117	Pass
SL-756	10	1	114.5	15.3%	0.472	N/A	88.0%	C10			117	Pass
SL-757	10	1	112.4	15.9%	0.500	N/A	86.0%	B10			117	Pass
SL-758	10	1	113.8	15.7%	0.481	N/A	88.0%	A10			117	Pass
SL-759	10	6	113.3	16.5%	0.487	N/A	91.0%	I6			117	Pass
SL-760	10	5	112.1	16.8%	0.504	16.2%	90.0%	H6	112.6		117	Pass
SL-761	10	5	111.3	16.2%	0.514	N/A	85.0%	G6			117	Pass
SL-762	10	5	112.2	16.6%	0.502	N/A	89.0%	F6			117	Pass
SL-763	10	1	111.9	16.3%	0.506	N/A	87.0%	C9			117	Pass
SL-764	10	1	109.2	16.4%	0.543	N/A	82.0%	B9			117	Fail
SL-765	10	1	111.3	16.4%	0.515	N/A	86.0%	S9			117	Pass
SL-766	10	2	113.9	16.1%	0.479	N/A	91.0%	F10			117	Pass
SL-767	10	1	113.0	16.8%	0.491	N/A	92.0%	D9			117	Pass
SL-768	10	2	115.0	16.1%	0.465	N/A	93.0%	D9			118	Pass
SL-769	10	3	110.3	16.8%	0.528	N/A	86.0%	D9			118	Fail
SL-769A	10	3	115.1	14.7%	0.464	N/A	86.0%	D9			118	Pass
SL-770	10	3	113.5	15.8%	0.485	N/A	88.0%	D10			118	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-771	10	6	115.0	14.7%	0.466	N/A	85.0%	L9			118	Pass
SL-772	10	6	115.4	16.0%	0.461	N/A	94.0%	M9			118	Pass
SL-773	10	1	114.4	16.2%	0.473	N/A	92.0%	F10			118	Pass
SL-774	10	1	113.9	15.6%	0.480	N/A	88.0%	E10			118	Pass
SL-775	10	1	117.8	13.6%	0.431	N/A	85.0%	G10			118	Pass
SL-776	10	6	112.7	17.8%	0.495	N/A	97.0%	L10			118	Pass
SL-777	10	6	117.2	12.3%	0.438	N/A	76.0%	M10			118	Fail
SL-777A	10	6	113.2	16.9%	0.490	N/A	93.0%	M10			118	Pass
SL-778	10	2	117.4	14.2%	0.435	N/A	88.0%	E10			118	Pass
SL-779	10	2	113.5	16.4%	0.485	N/A	91.0%	F10			118	Pass
SL-780	10	2	115.0	15.4%	0.466	N/A	89.0%	G10			118	Pass
SL-781	10	6	111.5	16.6%	0.511	N/A	88.0%	F6		1.80E-08	118	Pass
SL-782	10	6	111.2	17.0%	0.516	18.0%	89.0%	G6	111.0		118	Pass
SL-783	10	6	111.6	16.5%	0.510	N/A	87.0%	H6			118	Pass
SL-784	10	3	118.4	14.4%	0.423	N/A	92.0%	G10			119	Pass
SL-785	10	3	115.7	14.7%	0.457	N/A	87.0%	F10			119	Pass
SL-786	10	3	115.0	15.5%	0.466	N/A	90.0%	E10		2.26E-08	119	Pass
SL-787	10	4	117.7	13.9%	0.432	N/A	87.0%	D10	-		119	Pass
SL-788	10	4	112.6	16.4%	0.497	17.7%	89.0%	D9	116.1		119	Pass
SL-789	10	4	113.6	15.7%	0.484	N/A	88.0%	G10			119	Pass
SL-790	10	4	110.4	16.1%	0.527	N/A	82.0%	F10			119	Fail
SL-791	10	4	112.0	17.0%	0.505	N/A	91.0%	E10			119	Pass
SL-790A	10	4	114.1	15.3%	0.478	N/A	86.0%	F10			119	Pass
SL-792	10	5	111.3	17.2%	0.515	N/A	90.0%	D9			119	Pass
SL-793	10	5	114.1	15.2%	0.477	N/A	86.0%	D10			119	Pass
SL-794	10	5	112.8	15.8%	0.494	N/A	86.0%	F10			119	Pass
SL-795	10	5	111.5	16.6%	0.512	N/A	88.0%	E10			119	Pass
SL-796	10	5	112.8	16.4%	0.494	N/A	90.0%	G10			119	Pass
SL-797	10	6	112.2	16.5%	0.503	N/A	89.0%	K10			119	Pass
SL-798	10	6	114.2	16.3%	0.476	N/A	92.0%	K9			119	Pass
SL-799	10	6	116.0	15.5%	0.453	N/A	92.0%	J9			119	Pass
SL-800	10	6	113.7	16.2%	0.483	N/A	91.0%	J10			119	Pass
SL-764A	10	1	115.5	14.9%	0.459	N/A	88.0%	B9			120	Pass
SL-801	10	1	114.7	15.2%	0.469	16.8%	88.0%	E9	115.8		120	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-802	10	1	116.2	14.7%	0.450	N/A	88.0%	F9			120	Pass
SL-803	10	2	116.0	14.4%	0.453	N/A	86.0%	C10			120	Pass
SL-804	10	2	115.0	16.3%	0.466	N/A	94.0%	B10			120	Pass
SL-805	10	2	116.3	15.1%	0.449	N/A	91.0%	A10			120	Pass
SL-806	10	6	111.9	17.2%	0.506	N/A	92.0%	J8			120	Pass
SL-807	10	6	115.2	15.9%	0.464	N/A	93.0%	K8			120	Pass
SL-808	10	2	114.4	16.5%	0.474	N/A	88.0%	C9		5.26E-08	120	Pass
SL-809	10	2	112.8	17.6%	0.494	N/A	96.0%	B9			120	Pass
SL-810	10	2	111.9	16.0%	0.506	N/A	85.0%	A9			120	Pass
SL-811	10	2	113.0	16.4%	0.492	N/A	90.0%	E9			120	Pass
SL-812	10	2	115.6	15.7%	0.458	N/A	93.0%	F9			120	Pass
SL-813	10	3	113.0	16.3%	0.491	N/A	90.0%	C10			120	Pass
SL-814	10	3	112.9	17.1%	0.492	N/A	94.0%	B10			120	Pass
SL-815	10	3	114.5	16.2%	0.472	N/A	93.0%	A10			120	Pass
SL-816	10	1	112.1	16.5%	0.504	N/A	88.0%	G9			120	Pass
SL-817	10	3	113.6	16.4%	0.484	N/A	91.0%	C9			120	Pass
SL-818	10	3	116.9	14.6%	0.442	N/A	89.0%	B9			120	Pass
SL-819	10	3	114.5	15.3%	0.472	N/A	88.0%	A9			120	Pass
SL-820	####	5	114.0	16.7%	0.479	N/A	94.0%	Road			121	Pass
SL-821	####	6	111.7	16.2%	0.510	N/A	86.0%	Road			121	Pass
SL-822	10	1	112.9	15.9%	0.493	N/A	87.0%	E6			121	Pass
SL-823	10	2	112.0	16.4%	0.505	N/A	88.0%	E6			121	Pass
SL-824	10	3	114.8	15.0%	0.469	N/A	86.0%	E6			121	Pass
SL-825	10	4	117.1	14.4%	0.440	N/A	88.0%	E6			121	Pass
SL-826	10	4	109.3	17.9%	0.542	N/A	89.0%	C10			121	Fail
SL-827	10	4	113.8	16.0%	0.481	N/A	90.0%	B10			121	Pass
SL-828	10	4	113.9	17.3%	0.480	N/A	97.0%	A10		5.17E-08	121	Pass
SL-826A	10	4	111.7	17.1%	0.509	N/A	91.0%	C10			121	Pass
SL-829	10	5	111.2	16.7%	0.516	N/A	87.0%	E6			121	Pass
SL-830	10	3	112.6	15.9%	0.497	N/A	86.0%	E9			121	Pass
SL-831	10	3	114.2	15.6%	0.476	17.0%	88.0%	F9	114.2		121	Pass
SL-832	10	4	111.7	16.8%	0.510	N/A	89.0%	C9			121	Pass
SL-833	10	4	113.1	16.6%	0.490	N/A	91.0%	B9			121	Pass
SL-834	10	4	112.7	17.4%	0.493	N/A	95.0%	A9			121	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH
ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-835	10	5	114.8	15.7%	0.471	N/A	90.0%	C10			121	Pass
SL-836	10	5	112.6	16.9%	0.497	N/A	92.0%	B10			121	Pass
SL-837	10	5	114.7	15.9%	0.470	N/A	91.0%	A10			121	Pass
SL-838	10	2	111.6	17.4%	0.511	N/A	92.0%	G9			121	Pass
SL-839	10	5	113.9	15.6%	0.480	N/A	88.0%	C9			122	Pass
SL-840	10	5	114.8	15.0%	0.469	N/A	86.0%	B9			122	Pass
SL-841	10	5	1128.0	17.0%	0.494	N/A	93.0%	A9			122	Pass
SL-842	10	3	112.4	17.0%	0.500	N/A	92.0%	I8			122	Pass
SL-843	10	3	116.8	14.7%	0.443	N/A	90.0%	I9			122	Pass
SL-844	10	3	115.5	15.8%	0.459	16.7%	93.0%	I10	117.0		122	Pass
SL-845	10	6	114.1	15.6%	0.477	N/A	88.0%	C10			122	Pass
SL-846	10	6	112.7	16.1%	0.495	N/A	88.0%	B10			122	Pass
SL-847	10	6	114.6	15.1%	0.477	N/A	85.0%	A10			122	Pass
SL-848	10	6	116.1	15.1%	0.451	N/A	90.0%	C9			122	Pass
SL-849	10	6	113.3	16.7%	0.488	N/A	92.0%	B9			122	Pass
SL-850	10	6	112.3	17.7%	0.500	N/A	96.0%	A9			122	Pass
SL-851	10	2	114.4	16.4%	0.474	N/A	93.0%	A6			122	Pass
SL-852	10	2	117.1	14.6%	0.440	N/A	90.0%	B6			122	Pass
SL-853	10	2	113.1	17.2%	0.491	N/A	95.0%	C6			122	Pass
SL-854	10	2	117.6	14.6%	0.434	N/A	91.0%	A7			122	Pass
SL-855	10	2	118.8	14.1%	0.419	N/A	91.0%	B7			122	Pass
SL-856	10	2	114.1	15.8%	0.478	N/A	89.0%	C7			122	Pass
SL-857	10	1	112.8	17.1%	0.494	N/A	93.0%	E7			122	Pass
SL-858	10	4	115.1	15.6%	0.464	N/A	91.0%	I8			123	Pass
SL-859	10	4	116.6	12.5%	0.445	N/A	76.0%	I9			123	Fail
SL-860	10	4	117.2	14.4%	0.438	N/A	89.0%	I10			123	Pass
SL-861	10	3	117.3	14.6%	0.436	N/A	90.0%	C6			123	Pass
SL-862	10	3	116.0	14.6%	0.454	N/A	87.0%	B6			123	Pass
SL-863	10	3	113.8	16.0%	0.481	N/A	90.0%	A6			123	Pass
SL-859A	10	4	117.1	14.4%	0.439	N/A	89.0%	I9			123	Pass
SL-864	10	3	116.0	15.0%	0.454	N/A	89.0%	C7			123	Pass
SL-865	10	3	113.1	15.7%	0.490	N/A	87.0%	B7			123	Pass
SL-866	10	3	118.8	14.6%	0.419	N/A	94.0%	A7			123	Pass
SL-867	10	1	115.0	15.2%	0.465	N/A	88.0%	G7			123	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-868	10	1	112.8	15.7%	0.494	N/A	86.0%	F7			123	Pass
SL-869	10	5	116.6	14.6%	0.446	N/A	88.0%	I10			123	Pass
SL-870	10	5	111.1	16.4%	0.517	N/A	86.0%	I9			123	Pass
SL-871	10	5	117.9	14.3%	0.430	N/A	90.0%	I8			123	Pass
SL-872	10	4	117.7	14.9%	0.432	N/A	93.0%	C6			123	Pass
SL-873	10	4	111.4	16.6%	0.513	N/A	87.0%	B6			123	Pass
SL-874	10	4	114.9	14.9%	0.466	N/A	86.0%	A6			123	Pass
SL-875	10	4	113.2	16.3%	0.489	N/A	90.0%	C7			123	Pass
SL-876	10	4	111.6	16.1%	0.510	N/A	85.0%	B7			123	Pass
SL-877	10	4	111.1	17.2%	0.518	N/A	90.0%	A7			123	Pass
SL-878	10	5	111.2	16.8%	0.515	N/A	88.0%	C6			123	Pass
SL-879	10	5	113.1	15.6%	0.491	N/A	86.0%	B6			123	Pass
SL-880	10	5	112.2	16.1%	0.502	N/A	87.0%	A6			123	Pass
SL-881	10	6	115.4	14.6%	0.461	N/A	86.0%	D9			123	Pass
SL-882	10	6	116.7	14.7%	0.445	N/A	89.0%	A10			123	Pass
SL-883	10	5	114.0	15.1%	0.478	N/A	85.0%	C7			124	Pass
SL-884	10	5	116.1	14.8%	0.452	N/A	88.0%	B7			124	Pass
SL-885	10	5	112.7	16.3%	0.496	N/A	89.0%	A7			124	Pass
SL-886	10	2	112.1	16.7%	0.504	N/A	89.0%	E7			124	Pass
SL-887	10	2	114.1	15.1%	0.477	N/A	85.0%	F7			124	Pass
SL-888	10	2	113.1	15.7%	0.490	15.9%	87.0%	G7	117.7		124	Pass
SL-889	10	6	115.7	14.9%	0.457	N/A	88.0%	A6			124	Pass
SL-890	10	6	114.9	16.2%	0.467	N/A	94.0%	B6		3.38E-08	124	Pass
SL-891	10	6	113.9	15.5%	0.480	N/A	87.0%	C6			124	Pass
SL-892	10	6	116.8	14.9%	0.443	N/A	91.0%	I8			124	Pass
SL-893	10	6	118.0	14.2%	0.429	N/A	89.0%	I9			124	Pass
SL-894	10	6	115.0	15.2%	0.460	N/A	89.0%	I10		4.45E-08	124	Pass
SL-895	10	3	111.8	17.3%	0.508	N/A	92.0%	G9			124	Pass
SL-896	10	6	116.3	14.8%	0.449	N/A	89.0%	I7			124	Pass
SL-897	10	3	113.8	15.9%	0.482	N/A	89.0%	G7			124	Pass
SL-898	10	3	113.2	16.2%	0.489	N/A	89.0%	F7			124	Pass
SL-899	10	3	112.6	15.9%	0.496	N/A	87.0%	E7			124	Pass
SL-900	10	6	115.7	15.2%	0.457	N/A	90.0%	A7			124	Pass
SL-901	10	6	114.0	15.8%	0.478	N/A	89.0%	B7			124	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-902	10	6	114.0	16.1%	0.479	N/A	91.0%	C7			124	Pass
SL-903	10	4	112.5	16.4%	0.498	N/A	89.0%	E9			124	Pass
SL-904	10	4	114.5	15.5%	0.472	N/A	89.0%	F9			124	Pass
SL-905	10	4	111.8	16.1%	0.507	N/A	86.0%	G9			124	Pass
SL-906	10	4	113.1	15.7%	0.491	16.5%	86.0%	G7	112.5		125	Pass
SL-907	10	4	115.8	14.5%	0.455	N/A	86.0%	F7			125	Pass
SL-908	10	4	114.6	14.9%	0.471	N/A	85.0%	E7			125	Pass
SL-909	10	5	115.5	15.2%	0.459	N/A	89.0%	E9			125	Pass
SL-910	10	5	112.7	16.0%	0.496	N/A	87.0%	F9			125	Pass
SL-911	10	5	113.6	16.2%	0.484	N/A	90.0%	G9			125	Pass
SL-912	10	1	120.6	13.3%	0.398	N/A	90.0%	I8			125	Pass
SL-913	10	1	113.2	16.5%	0.489	N/A	91.0%	I9			125	Pass
SL-914	10	1	115.1	15.1%	0.464	N/A	88.0%	I10			125	Pass
SL-915	10	5	114.2	15.9%	0.476	N/A	90.0%	G7			125	Pass
SL-916	10	5	111.4	17.7%	0.512	N/A	93.0%	F7			125	Pass
SL-917	10	5	115.6	15.2%	0.458	N/A	90.0%	E7			125	Pass
SL-918	10	6	119.5	13.7%	0.411	N/A	90.0%	D6			125	Pass
SL-919	10	6	120.6	13.0%	0.398	N/A	88.0%	D7			125	Pass
SL-920	10	2	120.1	14.1%	0.404	N/A	94.0%	I10			126	Pass
SL-921	10	2	119.0	14.0%	0.416	N/A	91.0%	I9			126	Pass
SL-922	10	2	120.6	12.5%	0.397	N/A	85.0%	I8			126	Pass
SL-923	10	3	112.1	16.6%	0.504	N/A	89.0%	I10			126	Pass
SL-924	10	3	112.3	16.5%	0.501	N/A	89.0%	I9			126	Pass
SL-925	10	3	112.7	16.6%	0.496	16.5%	90.0%	I8	112.4		126	Pass
SL-926	10	6	112.1	15.9%	0.503	N/A	85.0%	E9			126	Pass
SL-927	10	6	112.9	16.1%	0.493	N/A	88.0%	F9			126	Pass
SL-928	10	1	115.3	14.9%	0.463	N/A	87.0%	D8			126	Pass
SL-929	10	1	114.0	15.4%	0.478	N/A	87.0%	C8-E			127	Pass
SL-930	10	1	114.1	16.2%	0.478	N/A	92.0%	B8-E			127	Pass
SL-931	10	1	115.6	15.9%	0.458	N/A	94.0%	A8-E			127	Pass
SL-932	10	1	111.7	17.0%	0.509	N/A	90.0%	C8-W			127	Pass
SL-933	10	1	115.8	15.3%	0.456	N/A	91.0%	B8-W			127	Pass
SL-934	10	1	114.5	16.2%	0.472	N/A	93.0%	A8-W			127	Pass
SL-935	10	4	114.6	15.2%	0.470	N/A	87.0%	I10			127	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING INC

Client: **Washington Closure Hanford**

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-936	10	4	113.8	15.3%	0.482	N/A	86.0%	I9			127	Pass
SL-937	10	4	112.6	17.3%	0.497	17.3%	94.0%	I8	110.6		127	Pass
SL-938	10	2	116.6	15.4%	0.445	N/A	93.0%	C8-E			127	Pass
SL-939	10	2	113.2	16.6%	0.489	N/A	92.0%	B8-E			127	Pass
SL-940	10	2	114.4	15.8%	0.474	N/A	90.0%	A8-E			127	Pass
SL-941	10	2	114.9	16.0%	0.468	N/A	92.0%	C8-W			127	Pass
SL-942	10	2	114.0	15.3%	0.479	N/A	86.0%	B8-W			127	Pass
SL-943	10	2	114.9	15.9%	0.467	N/A	92.0%	A8-W			127	Pass
SL-944	9	6	120.4	12.7%	0.400	N/A	86.0%	D3			128	Pass
SL-945	9	6	122.0	13.3%	0.381	N/A	94.0%	E3			128	Pass
SL-946	10	5	113.3	16.1%	0.488	N/A	89.0%	I10			128	Pass
SL-947	10	5	112.6	15.9%	0.497	N/A	86.0%	I9			128	Pass
SL-948	10	5	111.4	17.2%	0.513	N/A	91.0%	I8			128	Pass
SL-949	10	6	113.6	15.6%	0.484	N/A	87.0%	E10			128	Pass
SL-950	10	6	113.4	16.8%	0.486	N/A	93.0%	F10			128	Pass
SL-951	10	6	112.6	17.0%	0.497	17.7%	92.0%	G10	114.7		128	Pass
SL-952	10	6	117.9	14.4%	0.429	N/A	91.0%	G9			128	Pass
SL-953	10	3	114.2	15.6%	0.476	N/A	88.0%	C8-E			128	Pass
SL-954	10	3	113.9	16.0%	0.479	N/A	90.0%	B8-E			128	Pass
SL-955	10	3	115.4	15.1%	0.461	N/A	88.0%	A8-E			128	Pass
SL-956	10	2	113.8	16.2%	0.481	N/A	91.0%	D8			128	Pass
SL-957	10	3	114.0	16.3%	0.480	N/A	92.0%	A8-W		2.02E-08	128	Pass
SL-958	10	3	113.2	16.4%	0.489	N/A	91.0%	B8-W			128	Pass
SL-959	10	3	113.2	16.5%	0.489	N/A	91.0%	C8-W			128	Pass
SL-960	10	4	113.7	15.8%	0.482	N/A	89.0%	C8-E			129	Pass
SL-961	10	4	116.1	14.6%	0.452	N/A	87.0%	B8-E			129	Pass
SL-962	10	4	115.8	15.7%	0.456	N/A	93.0%	A8-E			129	Pass
SL-963	10	6	117.9	14.2%	0.429	N/A	89.0%	I10			129	Pass
SL-964	10	6	115.2	15.9%	0.463	N/A	93.0%	I9			129	Pass
SL-965	10	6	115.9	14.5%	0.454	15.7%	86.0%	I8	111.9		129	Pass
SL-966	10	4	114.6	15.6%	0.471	N/A	89.0%	C8-W			129	Pass
SL-967	10	4	115.2	15.1%	0.466	N/A	87.0%	B8-W			129	Pass
SL-968	10	4	111.6	17.0%	0.511	N/A	90.0%	A8-W			129	Pass
SL-969	10	5	116.2	14.5%	0.450	N/A	87.0%	C8-E			129	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH
ENGINEERING & CONSULTING INC

Client: Washington Closure Hanford

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Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-970	10	5	116.2	14.7%	0.450	N/A	88.0%	B8-E			129	Pass
SL-971	10	5	116.0	14.5%	0.453	N/A	86.0%	A8-E			129	Pass
SL-972	10	5	116.1	15.0%	0.452	N/A	90.0%	A8-W			129	Pass
SL-973	10	5	113.8	15.5%	0.481	N/A	87.0%	B8-W			129	Pass
SL-974	10	5	114.5	15.2%	0.472	N/A	87.0%	C8-W			129	Pass
SL-975	10	3	117.4	14.2%	0.436	N/A	88.0%	D8			129	Pass
SL-976	10	6	113.0	17.2%	0.491	N/A	95.0%	A8-E			130	Pass
SL-977	10	6	115.3	15.6%	0.462	N/A	91.0%	B8-E			130	Pass
SL-978	10	6	116.1	14.4%	0.451	N/A	86.0%	C8-E			130	Pass
SL-979	10	6	114.5	15.8%	0.472	N/A	90.0%	A8-W			130	Pass
SL-980	10	6	116.9	14.2%	0.420	N/A	91.0%	B8-W			130	Pass
SL-981	10	6	114.5	16.5%	0.472	N/A	95.0%	C8-W			130	Pass
SL-982	10	1	111.3	17.2%	0.515	N/A	90.0%	E8			130	Pass
SL-983	10	1	113.2	15.9%	0.489	N/A	88.0%	F8			130	Pass
SL-984	10	1	117.1	14.3%	0.439	N/A	88.0%	G8			130	Pass
SL-985	10	4	114.0	16.9%	0.478	N/A	95.0%	D8		9.81E-09	130	Pass
SL-986	10	2	112.0	16.5%	0.506	N/A	88.0%	E8			130	Pass
SL-987	10	2	119.7	13.9%	0.406	N/A	92.0%	F8			130	Pass
SL-988	10	6	115.1	14.7%	0.464	N/A	86.0%	E7			130	Pass
SL-989	10	6	115.4	15.6%	0.461	N/A	91.0%	E6			130	Pass
SL-990	10	6	114.4	16.7%	0.474	N/A	95.0%	F7			130	Pass
SL-991	10	6	113.3	15.5%	0.488	N/A	86.0%	G7			130	Pass
SL-992	10	2	124.2	11.9%	0.357	N/A	90.0%	G8			130	Pass
SL-993	10	3	113.4	15.4%	0.487	16.6%	85.0%	E8	110.8		130	Pass
SL-994	10	3	112.2	16.5%	0.503	N/A	89.0%	F8			130	Pass
SL-995	10	3	112.7	15.6%	0.495	N/A	85.0%	G8			130	Pass
SL-996	10	5	116.3	12.3%	0.449	N/A	74.0%	D8			131	Fail
SL-996A	10	5	117.8	14.5%	0.431	N/A	91.0%	D8			131	Pass
SL-997	10	4	114.8	14.8%	0.468	N/A	85.0%	E8			131	Pass
SL-998	10	4	111.3	17.2%	0.515	N/A	90.0%	F8		2.57E-08	131	Pass
SL-999	10	4	114.3	16.2%	0.474	16.7%	92.0%	G8	116.3		131	Pass
SL-1000	10	6	119.9	12.8%	0.406	N/A	85.0%	D8			131	Pass
SL-1001	10	5	114.1	15.3%	0.478	N/A	86.0%	E8			131	Pass
SL-1002	10	6	113.2	16.3%	0.489	N/A	90.0%	E8			131	Pass

ADMIX FIELD TESTING SUMMARY

ENVIROTECH ENGINEERING & CONSULTING, INC

Client: Washington Closure Hanford

Note: Only Testing in Cell 9 was included in the Cell 9 report

Test No.	Cell No.	Lift No.	Dry Density lbs/cuft	Moisture Content (%)	Void Ratio	Moist Verify	% Sat.	Grid	Sand Cone Density	Shelby Tube (cm/s)	Report	Pass / Fail
SL-1003	10	5	116.9	15.0%	0.442	N/A	92.0%	F8			131	Pass
SL-1004	10	6	117.7	13.8%	0.432	N/A	86.0%	F8			131	Pass
SL-1005	10	5	113.0	16.3%	0.491	N/A	90.0%	G8			132	Pass
SL-1006	10	6	114.4	15.5%	0.474	15.9%	88.0%	G8	116.7		132	Pass
SL-1007	10	1	114.3	15.0%	0.475	N/A	85.0%	I7			165	Pass
SL-1008	10	1	113.0	15.8%	0.492	N/A	87.0%	H7			165	Pass
SL-1009	10	2	111.0	16.9%	0.518	N/A	88.0%	I7			165	Pass
SL-1010	10	2	112.8	16.3%	0.494	N/A	89.0%	H7			165	Pass
SL-1011	10	3	112.3	15.8%	0.502	16.4%	85.0%	I7	112.2		165	Pass
SL-1012	10	3	113.1	15.8%	0.491	N/A	87.0%	H7		1.96E-08	165	Pass
SL-1013	10	4	111.8	16.3%	0.508	N/A	87.0%	I7			165	Pass
SL-1014	10	4	111.3	16.8%	0.515	N/A	88.0%	H7			165	Pass
SL-1015	10	5	111.8	16.1%	0.508	N/A	86.0%	I7			165	Pass
SL-1016	10	5	111.2	16.8%	0.516	N/A	88.0%	H7			165	Pass
SL-1017	10	6	112.1	16.9%	0.503	N/A	91.0%	I7			165	Pass
SL-1018	10	6	111.0	16.4%	0.518	N/A	85.0%	H7			165	Pass
SL-1019	10	1	113.4	15.4%	0.486	N/A	86.0%	H8			166	Pass
SL-1020	10	1	112.4	16.0%	0.500	N/A	86.0%	H9			166	Pass
SL-1021	10	1	114.1	15.8%	0.477	N/A	89.0%	H10			166	Pass
SL-1022	10	2	113.2	16.9%	0.489	N/A	93.0%	H8			166	Pass
SL-1023	10	2	113.0	16.0%	0.492	N/A	88.0%	H9			166	Pass
SL-1024	10	2	113.4	15.7%	0.486	16.3%	87.0%	H10	112.6		166	Pass
SL-1025	10	3	112.1	16.1%	0.504	N/A	86.0%	H8			166	Pass
SL-1026	10	3	114.7	14.8%	0.469	N/A	85.0%	H9			166	Pass
SL-1027	10	3	115.0	14.7%	0.466	N/A	85.0%	H10			166	Pass
SL-1028	10	4	112.0	16.4%	0.505	N/A	88.0%	H8			166	Pass
SL-1029	10	4	112.2	16.2%	0.503	N/A	87.0%	H9			166	Pass
SL-1030	10	4	111.6	17.0%	0.511	N/A	90.0%	H10			166	Pass
SL-1031	10	5	111.6	16.1%	0.511	N/A	85.0%	H8			166	Pass
SL-1032	10	5	112.8	16.2%	0.495	N/A	88.0%	H9			166	Pass
SL-1033	10	5	113.2	16.0%	0.489	N/A	88.0%	H10			166	Pass
SL-1034	10	6	113.1	15.6%	0.491	N/A	86.0%	H8			166	Pass
SL-1035	10	6	113.9	15.7%	0.480	N/A	88.0%	H9			166	Pass
SL-1036	10	6	112.1	16.3%	0.504	N/A	87.0%	H10			166	Pass

Construction Testing
Shelby Tube Summary

ENVIROTECH
ENGINEERING & CONSULTING INC
2500 N. 11th Street I Enid, OK 73701
(580) 234-8780 I Fax (580) 237-4302

Shelby Tube Tracking Log

Collected						Tested				
No.	Test Number	Date Sampled	Report	Lift	Grid	Date Submitted	Report	Permeabilty (cm/sec)	Pass/ Fail	Comments
1	SL-31	5/12/2010	066	3	M1	5/17/2010	071	2.0518E-08	Pass	Cell 9 SW Corner Floor
2	SL-60	5/13/2010	067	4	O2	5/20/2010	072	1.2627E-08	Pass	Cell 9 S. Embankment
3	SL-100	5/17/2010	069	6	P1	5/21/2010	073	1.5866E-08	Pass	Cell 9 S. Embankment
4	SL-102	5/17/2010	069	6	N1	5/21/2010	073	1.6459E-08	Pass	Cell 9 S. Embankment
5	SL-174	5/25/2010	075	2	J5	6/1/1979	079	1.7823E-08	Pass	Cell 9 Floor
6	SL-176	5/25/2010	075	4	I1	6/1/1979	079	1.3539E-08	Pass	Cell 9 Tie Floor
7	SL-177	5/25/2010	075	3	P5	6/1/1979	079	1.5622E-08	Pass	Cell 9 S. Embankment
8	SL-209	6/1/2010	079	5	N5	6/5/2010	083	1.1908E-08	Pass	Cell 9 S. Embankment
9	SL-297	6/10/2010	086	5	D2	6/17/2010	091	1.3169E-08	Pass	Cell 9 Floor
10	SL-354	6/15/2010	089	4	G3	6/22/2010	94	8.9863E-09	Pass	Cell 9 Floor
11	SL-408	6/22/2010	094	3	B1	6/27/2010	98	1.1431E-08	Pass	Cell 9 N. Embankment
12	SL-436	6/23/2010	095	6	A2	6/27/2010	98	1.4574E-08	Pass	Cell 9 N. Embankment
13	SL-455	6/27/2010	098	4	D3	8/18/2010	136	1.3589E-08	Pass	Cell 9 Sump
14	SL-475	6/29/2010	099	3	C4	8/18/2010	136	1.2000E-08	Pass	Cell 9 N. Embankment
14	SL-487	6/30/2010	100	4	D5	7/7/2010	104	1.0825E-08	Pass	Cell 9 Floor
15	SL-499	7/1/2010	101	4	A4	7/7/2010	104	2.0718E-08	Pass	Cell 9 N. Embankment
16	SL-564	7/8/2010	105	4	P6	7/15/2010	110	1.8699E-08	Pass	Cell 10 S. Embankment
17	SL-588	7/9/2010	106	5	N7	7/20/2010	113	5.4161E-08	Pass	Cell 10 S. Embankment
18	SL-594	7/12/2010	107	4	N9	7/20/2010	113	1.6519E-08	Pass	Cell 10 S. Embankment
19	SL-611	7/13/2010	108	6	C5	7/20/2010	113	1.7062E-08	Pass	Cell 9 N. Embankment
20	SL-658	7/20/2010	113	6	L6	7/26/2010	118	3.7069E-08	Pass	Cell 10 S. Floor
21	SL-681	7/20/2010	113	6	P10	7/27/2010	119	2.4318E-08	Pass	Cell 10 S. Embankment
22	SL-691	7/21/2010	114	5	K9	7/27/2010	119	4.6977E-08	Pass	Cell 10 S. Floor
23	SL-713	7/22/2010	115	4	I7	7/27/2010	119	1.5531E-08	Pass	Cell 10 S. Floor
24	SL-781	7/26/2010	118	6	F6	7/30/2010	122	1.7987E-08	Pass	Cell 10 N. Floor
25	SL-786	7/27/2010	119	3	E10	7/30/2010	122	2.2587E-08	Pass	Cell 10 N. Floor
26	SL-808	7/28/2010	120	2	C9	8/4/2010	125	5.2597E-08	Pass	Cell 10 N. Embankment

Construction Testing
Shelby Tube Summary

ENVIROTECH
ENGINEERING & CONSULTING INC
2500 N. 11th Street I Enid, OK 73701
(580) 234-8780 I Fax (580) 237-4302

Shelby Tube Tracking Log

Collected						Tested				
No.	Test Number	Date Sampled	Report	Lift	Grid	Date Submitted	Report	Permeabilty (cm/sec)	Pass/ Fail	Comments
27	SL-828	7/29/2010	121	4	A10	8/4/2010	125	5.1693E-08	Pass	Cell 10 N. Embankment
28	SL-890	8/3/2010	124	6	B6	8/5/2010	126	3.3762E-08	Pass	Cell 10 N. Embankment
29	SL-894	8/3/2010	124	6	I10	8/5/2010	126	4.4510E-08	Pass	Cell 10 S. Floor
30	SL-957	8/7/2010	128	3	A8	8/13/2010	133	2.0179E-08	Pass	Cell 10 N. Riser Trench
31	SL-985	8/10/2010	130	3	D8	8/17/2010	135	9.8116E-09	Pass	Cell 10 Sump
32	SL-998	8/11/2010	131	4	F8	8/17/2010	135	2.5701E-08	Pass	Cell 10 N. Floor
33	SL-1012	9/30/2010	166	3	H7	10/5/2010	170	1.9589E-08	Pass	Cell 10 N. Floor

G.1

BENTONITE CERTIFICATIONS

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	RADCON	FIELD ENGINEER	~~OTHER~~ STR
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	BB											BB for P.C via 3/8/10 email			CVS

W.A. Balaney C.V. 3/8/10

Project Engineer/STR Date

DOCUMENT ID NUMBER

S012308A00	05-021	001
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

SECOND ORIGINAL

REMINDER: MAKE SURE TO INCLUDE THE API 13A TEST RESULTS ON THE MANUFACTURER'S CERTIFIED TEST RESULTS FOR BENTONITE DELIVER.

① Make sure to include API 13A characteristics test results with Manufacturer's certified test results.

RECEIVED

MAR 02 2010

TECH DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD	JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

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	CIVIL/STRUCTURAL/ARCHITECTURAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	QAU	PROJECT MGR	ENVIRONMENTAL	ASSET MANAGEMENT	SAFETY	PROCESS/NUCLEAR	FIRE PROTECTION	S	BUILDER	FIELD ENGINEER	SUPPL
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	RB											RC	RB		EVF

Project Engineer STR — Date 3-4-10

DOCUMENT ID NUMBER

SCOPO No	ESRS ITEM	SUBMITTAL
5012308A00	05-021	001

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MAR 02 2010
DOCUMENT CONTROL

LINING TECHNOLOGIES

VOLCLAY® CP-200
HANFORD ERDF CELLS 9 & 10

Description:	Volclay CP-200 is a natural, powdered, high-swelling Wyoming sodium bentonite. Volclay CP-200 meets API Specification 13A for Drilling Fluid Materials.
Applications:	Soil/bentonite liners; slurry trenching
Composition:	Sodium bentonite is a hydrous silicate of alumina primarily consisting of the clay mineral montmorillonite, which swells several times its own volume when wetted.
Free Swell	16 mL/2g minimum (ASTM D5890)
Filtrate Loss:	15 mL maximum (ASTM D5891)
Barrel Yield:	91 minimum (API 13A)
Moisture Content:	12 percent maximum as shipped
Particle Sizing:	70 percent minimum passing #200 mesh (75 µm) sieve (ASTM D 422)
Dry Bulk Density:	54 lbs/ft^3 (865 kg/m^3) typical
Packaging:	50-lb (22.5-kg) multi-wall paper bags; 2000lb (900kg) or 4,000 lb (1,800-kg) super sacks; or bulk.
Availability:	F.O.B. Lovell, WY. Quantities less than 1 ton may be available locally.

Application Information: Soil Liners

Primary Soil Type	Typical Application Rate*
Sand	8-10 lbs/ft^2 (40-50 kg/m^2)
Silt	4-8 lbs/ft^2 (20-50 kg/m^2)
Clay	2-4 lbs/ft^2 (10-20 kg/m^2)

*Application rates are for a soil/bentonite liner mixed in a layer 6 inches (150mm) in thickness with a permeability of 1 x 10^{-7} cm/sec. Application rates above are shown for informational purposes only. All soils should be tested to determine specific application rates.

Application Information: Slurry Trenching

Condition	Pounds of bentonite per 100 gal of water	Percent of Solids
Normal	30-50	3.5 -5.7%
Sand and Gravel	50-70	5.7 -7.7%
Fluid Loss Control	70-80	7.7 -8.8%

Mixing ratios are based on the use of fresh water; water purity will affect bentonite performance. For best results, acidic and hard makeup water should be pretreated with soda ash to a pH of 8.5-9.5. Add CP-200 slowly through jet/hopper mixer.

HANDFORD ERDF
Revised 10/09

847.851.1800 Fax 847 851.1899
For the most up-to-date product information, please visit our website, www.cetco.com.
A wholly owned subsidiary of AMCOL International Corporation. The information and data contained herein are believed to be accurate and reliable, CETCO makes no warranty of any kind and accepts no responsibility for the results obtained through application of this information

5012308A00-05-021-001

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 19-Mar-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 16-Mar-10
in BNSF425135
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

** TEST		ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	38
APV RATIO	3.00 MAX.	1.8
FLUID LOSS	15.0 MLS. MAX.	14.4
GRIT (> 75 micrometers)	4.0 MAX.	3.3
MOISTURE	10 % MAX.	8
BARREL YIELD	91 MIN.	> 91*
FREE SWELL	16 mL/2g min.	24

* Based on measured viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: LN031610

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26017601

WASHINGTON CLOSURE HANFORD | JOB NO. 14635

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract

	CIVIL STRUCTURAL/ARCHITECTURAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	QAQC	PROJECT MGT	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	ENG. PROTECTION	CS	SURVEY	IT/LAN/WAN	STR
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	KW											JK			BJH

B Howard — Project Engineer/STR — 3/25/10 — Date

DOCUMENT ID NUMBER
S0123081700- 05-021- 002
SCPO No — SSRS ITEM — SUBMITTAL

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MAR 23 2010
WCH - DOCUMENT CONTROL

** TESTED PER API Specif. 13A, Section 9; ASTM-D5890; and ASTM-D5891.

WASHINGTON CLOSURE HANFORD	JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
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per e-mail

	CIVIL/ STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/ NUCLEAR	CADD	PROJECT MGR	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	RADCON	FIELD ENGINEER	CP4
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	KW											BJH			KB

B Howard — Project Engineer/STR — 4/28/10 — Date

DOCUMENT ID NUMBER

S012308A00 - 05-021 - 003

SCPO No — SSRS ITEM — SUBMITTAL

WCH-DE-032 (4/15/2009) — E1/2051

RECEIVED

APR 26 2010

WCH - DOCUMENT CONTROL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 20-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **18-Apr-10**
in **BNSF424483**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

T			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	45
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.1
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	12.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **DB041810B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26085302**

S012308A00-05-021-003

RECEIVED
APR 26 2010
WCH - DOCUMENT CONTROL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 21-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 19-Apr-10
in ATSF314216
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
T			
COSITY (600 reading)	30 min.	API 13A Sec. 9	48
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.4
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: LN041910A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26085307

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WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required. per e-mail

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIV/ STRUCTURAL ARCHITECTURAL CAPITAL/MECH	ELECTRICAL	MECHANICAL	PROJECT/ NUCLEAR	CADD	PROJECT REP	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QS	RCSOP	FIELD ENGINEER	
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	KW											BH			KW

B J Howard — Project Engineer/STR — 4/28/10 DATE

DOCUMENT ID NUMBER
S012308A00-05-021-004
SCP O. No | SSRS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 22-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200** left our Lovell, WY plant on **20-Apr-10** in **BNSF420259** as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

T			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	53
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.4
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: LN042010A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26085312

RECEIVED
APR 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14555

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required.

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per e-mail

	CIVIL STRUCTURAL/ ARCHITECTURAL GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	CADD	PROJECT REP	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	RADCON	FIELD ENGINEER	CQA
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	KEW											BJH			

B Howard 4/28/10
Project Engineer/STR Date

DOCUMENT ID NUMBER
S012308A00 - 05-021 - 005
SCP.O. No. SSRS ITEM SUBMITTAL

WCH-DE-432 (11-15-2007)

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CQA	FIELD ENGINEER	~~OTHER~~
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	E CVS											E CVS	CVS E		CVS

Project Engineer/STR

5-3-10
Date

DOCUMENT ID NUMBER

S012308A00	05-021	006
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

E = VIA EMAIL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 22-Apr-10
in ATSF315179
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	42
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042210A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085317

RECEIVED BY
WCH DOCUMENT CONTROL
04/29/2010

S012308A00-05-021-006

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 22-Apr-10
in ATSF315179
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	42
P\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042210A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085317

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on 22-Apr-10
in **ATSF315179**
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
;T			
COSITY (600 reading)	30 min.	API 13A Sec. 9	42
rPVPV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042210A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085317

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CQA	FIELD ENGINEER	~~OTHER~~ STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	CVS E											CVS E	CVS E		CVS

C.V. 5-3-10

Project Engineer/STR — Date

DOCUMENT ID NUMBER

S012308A00	05-021	007
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 27-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 25-Apr-10
in ATSF314956
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	53
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	27

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042510A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085322

RECEIVED BY
WCH DOCUMENT CONTROL
04/29/2010

S012308A00-05-021-007

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 27-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 25-Apr-10
in ATSF314956
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	53
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	27

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042510A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085322

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 27-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 25-Apr-10
in ATSF314956
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	53
PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	27

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE042510A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085322

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CQA	FIELD ENGINEER	OTHER
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVS											* CVS	* CVS		CVS

CV

Project Engineer/STR

5-11-10

Date

DOCUMENT ID NUMBER

S012308A00	05-021	008
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

* email status "1" CVS

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 28-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **26-Apr-10**
in **BNSF421067**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
...COSITY (600 reading)	30 min.	API 13A Sec. 9	42
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	26

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **GP042610A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26085327**

RECEIVED BY
WCH DOCUMENT CONTROL
04/29/2010

S012308A00-05-021-008

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ QA	FIELD ENGINEER	~~OTHER~~ STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVS											* CVS	* CVS		CVS

CVS

Project Engineer/STR

5-11-10

Date

DOCUMENT ID NUMBER

S012308A00	05-021	009
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

* email status "1" CVS

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 29-Apr-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 27-Apr-10
in ATSF314158
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	49
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.5
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.6
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: RM042710A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26085332

RECEIVED BY
WCH DOCUMENT CONTROL
04/29/2010

S012308A00-05-021-009

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CQA	FIELD ENGINEER	OTHER
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVS											* CVS	* CVS		CVS

CVS

Project Engineer/STR

5-11-10

Date

DOCUMENT ID NUMBER

S012308A00	05-021	010
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

* email status
" " CVS

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 03-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **29-Apr-10**
in **ATSF315032**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

T			ACTUAL RESULTS
COSITY (600 reading)	30 min.	**API 13A Sec. 9**	45
YP\PV RATIO	3.00 MAX.	**API 13A Sec. 9**	2.1
FLUID LOSS	15.0 MLS. MAX.	**ASTM D5891**	14.2
GRIT (> 75 micrometers)	4.0 MAX.	**API 13A Sec. 9**	3.8
MOISTURE	10 % MAX.	**ASTM D2216**	8
BARREL YIELD	91 MIN.	**API 13A**	> 91*
FREE SWELL	15 mL/2g min.	**ASTM D5890**	21

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **DB042910A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26085337**

RECEIVED BY
WCH DOCUMENT CONTROL
05/10/2010

S012308A00-05-021-010

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CRA	FIELD ENGINEER	~~OTHER~~ STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVS											*	*		CVS

Project Engineer/STR

5-17-10
Date

DOCUMENT ID NUMBER

S012308A00	05-021	011
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 04-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 02-May-10
in ATSF315191
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
;COSITY (600 reading)	30 min.	API 13A Sec. 9	41
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.7
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.6
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	7.2
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: LN050210A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26159802

RECEIVED BY
WCH DOCUMENT CONTROL
05/10/2010

S012308A00-05-021-011

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	~~RADCON~~ CQA	FIELD ENGINEER	OTHER STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVJ											* CVJ	* CVJ		CVJ

CVJ

Project Engineer/STR

5-17-10

Date

DOCUMENT ID NUMBER

S012308A00	05-021	012
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

* email status

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 05-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 03-May-10
in BNSF421891
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	41
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.7
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	27

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE050310A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 261598007

RECEIVED BY
WCH DOCUMENT CONTROL
05/10/2010

S012308A00-05-021-012

WASHINGTON CLOSURE HANFORD	Job No. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

- [x] 1. Work may proceed
- [ ] 2. Revise and resubmit. Work may proceed prior to resubmission.
- [ ] 3. Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
- [ ] 4. Revise and resubmit. Work may not proceed.
- [ ] 5. Permission to proceed not required.

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	CIVIL/STRUCTURAL/ ARCHITECTURAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	CADD	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	RADCON CRA	FIELD ENGINEER	OTHER STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	* CVB											* CVB	* CVB		CVB

B J Howard

Project Engineer/STR

5/24/10

Date

DOCUMENT ID NUMBER

S012308A00	05-021	013
SC/P.O. No.	SSRS ITEM	SUBMITTAL

WCH-DE-032 (01/15/2007)

* email states "/"

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 05-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **04-May-10**
in **BNSF421892**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	43
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	26

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **TE050410A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **261598012**

RECEIVED BY
WCH DOCUMENT CONTROL
05/10/2010

S012308A00-05-021-013

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 11-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 06-May-10
in BNSF421052
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

:ST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	45
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.1
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	15
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: NW050610A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 261559817

RECEIVED
MAY 13 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission
3. ☐ Revise and resubmit. Work may proceed prior to recubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

Date 5-3-10
DOCUMENT ID NUMBER
S0123084-00 05-021 014
SCPG No. SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 11-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 09-May-10
in BNSF422575
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST		API 13A Sec. 9	46
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	2.2
YP\PV RATIO	3.00 MAX.	ASTM D5891	13.8
FLUID LOSS	15.0 MLS. MAX.	API 13A Sec. 9	3.5
GRIT (> 75 micrometers)	4.0 MAX.	ASTM D2216	8
MOISTURE	10 % MAX.	API 13A	> 91*
BARREL YIELD	91 MIN.	ASTM D5890	25
FREE SWELL	15 mL/2g min.		

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: LN050910A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26159822

RECEIVED
MAY 13 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission, subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

CHECK REVIEW RESPONSIBILITY: TSA, STRUCTURAL, MECHANICAL, ELECTRICAL, HEATING, PROCESS, CADD, PROJECT MGR, ENVIRONMENTAL, WASTE MANAGEMENT, SAFETY, MATERIAL HANDLING, FIRE PROTECTION, QA, PROCUREMENT, HEALTH PHYSICS, OTHER

REVIEWED BY: Project Engineer/S.TR — Date: 6-3-10

DOCUMENT ID NUMBER: S0123084-00 05-021 015
SCP O No. | SSHS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 12-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **10-May-10**
in **BNSF421875**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	43
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	15
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	26

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **LN051010A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26159827**

RECEIVED

MAY 13 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

DOCUMENT ID NUMBER 5012308A00 05-021 01G

SCP.O No. SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 17-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 13-May-10
in BNSF422305 as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST	30 min.	API 13A Sec. 9	43
VISCOSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	1.9
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14.4
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	3.8
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	22
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE051310B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26159837

RECEIVED
MAY 24 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

DOE MATERIAL MANAGEMENT	ELECTRICAL	MECHANICAL	MOISTURE MIGRATION	LOAD	PROJECT MGR	ENGINEERING	MATL MANAGEMENT	SAFETY	MATERIAL ENGINEER	TRU INSPECTION	QA	PROCUREMENT	QA	SAFETY				
✓											✓		✓	✓				
													✓					

CHECK REVIEW RESPONSIBILITY

REVIEWED BY: [illegible]

Signature/Engineer/STR: [illegible] Date: 6/2/10

DOCUMENT ID NUMBER: S01a308800-05-021-017

SCP/D. No: SSRS ITEM: SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 19-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **17-May-10**
in **BNSF420827**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	47
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.3
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	7.2
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	26

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH051710B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our Order Number **26159842**

RECEIVED

MAY 24 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/MECHANICAL/ELECTRICAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	QAP	PROJECT MGR	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	MOISTURE MIGRATION	FIRE PROTECTION	QA	QAA	FIELD ENGINEER	SPM
ONE CLICK REVIEW REQUIRED	✓											✓	✓		✓
REVIEWED BY	TEW											6/2/10			

Cog Engineer/STR

DOCUMENT ID NUMBER S0123085A00-CS-001-018

SQPO No. | SSRS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 13-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

RECEIVED
MAY 24 2010
WCH - DOCUMENT CONTROL

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 11-May-10
in BNSF425351
-- -equested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	42
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH051110B

Approved By: NICHOLAS WAMBEKE

ACC

y correspondence regarding this shipment, please refer to our
Order Number 26159832

WASHINGTON CLOSURE HANFORD | JOB NO 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/ARCHITECTURAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	CADD	PROJECT REF	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA		FIELD ENGINEER	STR
CHECK REVIEW REQUIREMENT	✓											✓			
REVIEWED BY															

B Howard — Project Engineer/STR — 6/2/10 — Date

DOCUMENT ID NUMBER
S012308A00- 05-021- 019
SC/PO No — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 19-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **18-May-10**
in **BNSF421088**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	45
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.1
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	7.2
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH051810B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26159847**

RECEIVED
MAY 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☒ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
CHECK REVIEW ACCURACY
REVIEWED BY
Project Engineer/STR
Date 6/3/10
DOCUMENT ID NUMBER 50123088000-05-021-020
SCP.O. No.
SSRS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 20-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 19-May-10
in BNSF422646
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
;T	30 min.	API 13A Sec. 9	40
...COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	2
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14.6
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	3.7
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	7.6
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	21
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH051910B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26159852

RECEIVED
MAY 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL STRUCTURAL ARCHITECTURAL GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	CADD	PROJECT MGR	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	MATERIAL MGMNT	PPE PROTECTION	QA	[illegible]	FIELD ENGINEER	[illegible]
CHECK REVIEW REQUIREMENT	✓											✓		✓	✓
REVIEWED BY	TEU											[illegible]	CQA	[illegible]	[illegible]

Project Engineer/STR: [illegible] Date: 6/3/10

DOCUMENT ID NUMBER: S0123080O- 05-001- 021

SC/PO No. — SSRS ITEM — SUBMITTAL

WCH-SQE-032 (01/05/07)

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 24-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 21-May-10
in ATSF314460
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	44
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: RM052110A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26159857

RECEIVED
MAY 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
COA
DATE
DOCUMENT ID NUMBER 50123058 A00-05-001-022
SSRS ITEM
SUBMITTAL
SCPO No.

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **24-May-10**
in **BNSF420683**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	**API 13A Sec. 9**	47
TP\PV RATIO	3.00 MAX.	**API 13A Sec. 9**	2.3
FLUID LOSS	15.0 MLS. MAX.	**ASTM D5891**	15
GRIT (> 75 micrometers)	4.0 MAX.	**API 13A Sec. 9**	4 *
MOISTURE	10.% MAX.	**ASTM D2216**	8
BARREL YIELD	91 MIN.	**API 13A**	> 91*
FREE SWELL	15 mL/2g min.	**ASTM D5890**	22

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **RM052410B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26159862**

RECEIVED
JUN 11
WSH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 11655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. [x] Work may proceed
2. [ ] Revise and resubmit. Work may proceed prior to resubmission
3. [ ] Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. [ ] Revise and resubmit. Work may not proceed
5. [ ] Permission to proceed not required

"Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. X - APPD PER E-MAIL - BJH 6/9/10

B. Hornwall 6/9/10
DOCUMENT ID NUMBER
5012308A00-05-001-023
DOPO No. | SSRS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 27-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **25-May-10**
in **BNSF422695**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

:ST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	**API 13A Sec. 9**	39
YP\PV RATIO	3.00 MAX.	**API 13A Sec. 9**	1.9
FLUID LOSS	15.0 MLS. MAX.	**ASTM D5891**	14
GRIT (> 75 micrometers)	4.0 MAX.	**API 13A Sec. 9**	4 *
MOISTURE	10 % MAX.	**ASTM D2216**	8.8
BARREL YIELD	91 MIN.	**API 13A**	> 91*
FREE SWELL	15 mL/2g min.	**ASTM D5890**	22

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **RM052510B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26159867**

RECEIVED
DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 12655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. X - APPROVED E-MAIL - BJH 6/9/10

												5	CPA		STD
	✓											✓	✓		✓
												X			

BJHonrad 6/9/10
Lead Engineer SSR Date

DOCUMENT ID NUMBER
S012308ACC 05-021-024
SCP/PO No SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 28-May-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **26-May-10**
in **BNSF422332**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

EST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	39
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	22

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **LN052610B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our Order Number **26159872**

RECEIVED
JUN 07 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not requested.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. X - APP'D PER E-MAIL - BJH 6/9/10

HEAD REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWER												X			

BJ Howard — Project Engineer STR — 6/9/10 Date

DOCUMENT ID NUMBER
S012308P00-05-021-025
SCPO No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 01-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **28-May-10**
in **BNSF422657**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	43
..\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4 •
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **TE052810B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26159877**

RECEIVED
JUN 08 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☒ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract * APP'D PER E-MAIL - B J 6/9/10

DISCIPLINE REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY												*			

B J Howard — 6/9/10
Project Engineer STR — Date

DOCUMENT ID NUMBER
S012308A00- 05-021- 026
SCPO No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 01-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 30-May-10
in BN458309
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
ISCOSITY (600 reading)	30 min.	API 13A Sec. 9	48
P\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.4
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.7
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE053010A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234202

RECEIVED
JUN 1 1 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. * - APP'D PER E-MAIL - BJH 6/9/10

RECEIVED FOR REVIEW	✓											✓	✓	✓
RETURNED	1											*	*	BJ

B. Horvath 6/9/10
Project Engr or SME Date

DOCUMENT ID NUMBER
SCPO No 5012308A00 ESRS ITEM 05-021 SUBMITTAL 027

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 02-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **31-May-10**
in **BNSF424530**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	56
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.6
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment. Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **RM053110A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our Order Number **26234207**

WASHINGTON CLOSURE HANFORD | JOB NO 14955

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. *AP'D PER E-mail - BJ 6/4/10

CHECKED BY / REVIEWED BY

BJ Howard 6/9/10
Project Engineer/STR Date

DOCUMENT ID NUMBER
S0123080-05-031-028
SGPO No SSHS ITEM SUBMITTAL

RECEIVED
JUN 08 2010
WCH DOCUMENT CONTROL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 03-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 01-Jun-10
in BN458666
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

'EST			ACTUAL RESULTS
'ISCOSITY (600 reading)	30 min.	API 13A Sec. 9	59
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE060110A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234212

RECEIVED
JUN 03 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. X-APPD PER E-mail - BXH 6/4/10

6/9/10
Date

DOCUMENT ID NUMBER
SGI23068A00-05-021-029
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 07-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 03-Jun-10
in ATSF314818
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

EST			ACTUAL RESULTS
ISCOSITY (600 reading)	30 min.	API 13A Sec. 9	47
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.3
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: RM060310A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234217

RECEIVED
JUN 14 2010
WCH DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed
2 ☐ Revise and resubmit Work may proceed prior to resubmission
3 ☐ Revise and resubmit Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit Work may not proceed
5 ☐ Permission to proceed not required
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any holds placed on the contract X - APP'D PER E-MAIL - BJH 6/1/10
6/9/10
DOCUMENT ID NUMBER S01230SP00-05-081-030
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 08-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 06-Jun-10
in BNSF422512
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

EST		ACTUAL RESULTS	
ISCOSITY (600 reading)	30 min.	API 13A Sec. 9	42
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.7
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

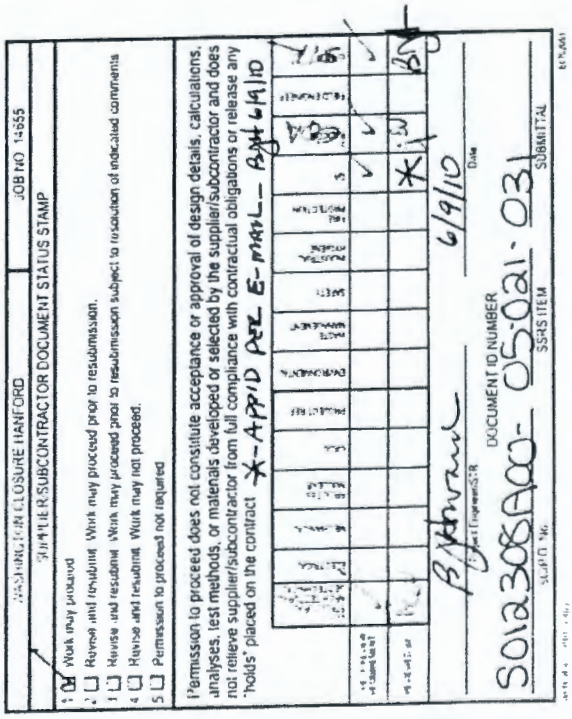
Tests Conducted By: BH060610A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234222

RECEIVED
JUN 1 2010
MCH - DOCUMENT CONTROL



CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 09-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **07-Jun-10**
in **BNSF421996**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

	EST		ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	44
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U S.A.

Tests Conducted By: **BH060710A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26234227**

RECEIVED
JUN 17 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☒ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
Date
DOCUMENT ID NUMBER S013305800-05-021-032
SSHS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 10-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 08-Jun-10
in BNSF422589
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
..SCOSITY (600 reading)	30 min.	API 13A Sec. 9	39
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH060810A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26234232

RECEIVED
JUN 1? 2010
WCH DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☐ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to incorporation of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
Reviewer Initials
Reviewer
Date
Reviewer Signature & Title
DOCUMENT ID NUMBER
SCP-0123068A00-OS-021-033
SCP ID No.
SSMS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 14-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 10-Jun-10
in BNSF422271
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
EST	30 min.	API 13A Sec. 9	47
VISCOSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	2.3
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14.2
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	23
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE061010B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26234237

RECEIVED
JUN 1 7 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
Project Engineer STR
DOCUMENT ID NUMBER 50123088A00-05-021-034
SCOPE No.
SSAS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 17-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **14-Jun-10**
in **ATSF314800**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	38
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.6
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH061410A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26234242**

RECEIVED

JUN 24 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14855

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

VERIFIED

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. APPROVED VIA E-MAIL - BJH

	Civil/Structural/Architectural/Geotechnical	Electrical	Mechanical	Process/Nuclear	QA/QC	Project Mgmt	Environmental	Waste Management	Safety	Industrial Hygiene	Fire Protection	3	CCN	Fluid Mechanics	STP
CHECK REQUIRED DISCIPLINE	✓											✓	✓		✓
REVIEWED BY	TEW											★	★ BJS		BJS

BJ Howard — Project Engineer/STR — 6/29/10 — Date

DOCUMENT ID NUMBER
S012308A00-05-021-035
SC/PO. No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 17-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 15-Jun-10
in ATSF315003
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	44
P\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.0 DMS 6-21-10
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.6
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH061510A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234247

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

* VERIFIED

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. * APPROVED VIA E-MAIL - BJH

	CIVIL STRUCTURAL ARCHITECTURAL GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	CADD	PROJECT MGT	ENVIRONMENTAL	HAZ MATERIALS	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	S	QA	FIELD ENGINEER	STR
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	TEW											*	✓		✓

B J Howard — Project Engineer S/T — 6/29/10 Date

DOCUMENT ID NUMBER
S012308A00- 05-021- 036
SCPO No. SSRS TEM SUBMITTAL

RECEIVED
JUN 24 2010
WCH - DOCUMENT CONTROL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 18-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 16-Jun-10
in ATSF314932
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	39
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.7
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH061610B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 2624252

RECEIVED
JUN 24 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required. ★ VERIFIED

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. ★ - APPROVED VIA E-MAIL - BJH

	CIVIL/STRUCTURAL/ARCHITECTURAL/GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/NUCLEAR	QAM	PROJECT REP	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	PROJECT ENGINEER	FIELD ENGINEER	TRANSPORTATION
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	TEU											★	★ BJH		VS

BJHowell 6/29/10
Project Engineer/STR Date

DOCUMENT ID NUMBER
SC12308A00- 05-021- 037
SC/PO No SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 21-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 17-Jun-10
in ATSF314014
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
iT			
COSITY (600 reading)	30 min.	API 13A Sec. 9	46
.PV RATIO	3.00 MAX.	API 13A Sec. 9	2.1
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.6
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH061710B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234257

RECEIVED
JUN 24 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

* VERIFIED

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	CIVIL STRUCTURAL/ MECHANICAL/ GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/ NUCLEAR	QAQC	PROJECT MGT	ENVIRONMENTAL	HEALTH PHYSICS	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	PROCUREMENT	FIELD ENGINEER	SITING
CHECK REVIEW REQUIREMENT	✓											✓			✓
REVIEWED BY	TGW											*			

Project Engineer/STR: BJHoward Date: 6/29/10

DOCUMENT ID NUMBER
S012308A00-05-021-038
SCIPD No | SSPS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 22-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 20-Jun-10
in BNSF420843
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
T			
COSITY (600 reading)	30 min.	API 13A Sec. 9	46
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.4
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE062010A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234262

RECEIVED
JUN 30 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☒ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required

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Project Engineer/STR — Date 7/7/10
DOCUMENT ID NUMBER 5012308PA00-05-0021-039
SCPO No. — SSHS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 25-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 21-Jun-10
in BNSF422032
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST	30 min.	API 13A Sec. 9	56
COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	2.6
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	25
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB062110B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26234267

RECEIVED
JUN 30 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

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COE PROCUREMENT ADMINISTRATOR	CONTROL	MECHANICAL	RELATED NUCLEAR	CIVIL	HEALTH PHY	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	HOSTILE HYGIENE	FIRE PROTECTION	QA	PROJECT ENGINEER	FIELD ENGINEER	SSR
CHIEF REVIEW ENGINEER	✓										✓	✓		✓
REVIEWED BY	Tew													

Project Engineer/STR: B Howard
Date: 7/7/10
DOCUMENT ID NUMBER: 50123088100-05-021-040
SSRS ITEM
SUBMITTAL
SCPO No.

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 25-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 22-Jun-10
in BNSF422624
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
--ST			
COSITY (600 reading)	30 min.	API 13A Sec. 9	46
PV RATIO	3.00 MAX.	API 13A Sec. 9	2.2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	19

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB062210B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234272

RECEIVED
JUN 30 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☐ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
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CHECK REVIEW REQUIREMENT
REVIEWED BY
Signature 7/7/10 Date
DOCUMENT ID NUMBER SQ123088AB-05-021-041
SCIPD No SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 28-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 24-Jun-10
in BNSF420401
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	41
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	6.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB062410B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26234277

RECEIVED
JUN 30 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14855
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
7/7/10
DOCUMENT ID NUMBER
SQ123085000 05-081-042
SCP O No. SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 28-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 27-Jun-10
in BNSF422175
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
iT	30 min.	API 13A Sec. 9	34
COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	1.4
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14.8
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	26
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH062710A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26234282

RECEIVED
JUN 30 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1. ☑ Work may proceed
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. ☐ Revise and resubmit. Work may not proceed
5. ☐ Permission to proceed not required.

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CHECK REVIEW REQUIREMENT
REVIEWED BY
Project Engineer/STR
7/7/10 Date
DOCUMENT ID NUMBER 50123068A00-050021-043
SCHD No. SSHS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 30-Jun-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **28-Jun-10**
in **ATSF314209**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	41
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.7
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **TE062810A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26234287**

RECEIVED

JUL 12 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14555

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required

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	Structural/Architectural	Electrical	Mechanical	Process/Chemical	QA/QC	Fire Protection	Environmental	Industrial Hygiene	Safety	Quality Assurance	Fire Protection	QA	Technical	Field Engineer	Author
CHECK REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	[illegible]											[illegible]	[illegible]		[illegible]

B J Howard — Project Engineer STR — 7/15/10 Date

DOCUMENT ID NUMBER
S012308A00- 05-021- 044
SCPO No | SSRS ITEM | SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 06-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **29-Jun-10**
in **BNSF422191**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	43
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	26

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **TE062910B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26234292**

RECEIVED

JUL 12 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

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	CIVIL STRUCTURAL ARCHITECTURAL GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS NUCLEAR	CADD	PROJECT MGT	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	S	[illegible]	FIELD ENGINEER	[illegible]
CHECK REVIEW REQUIREMENT	✓											✓	✓		
REVIEWED BY	TEW											[illegible]	[illegible]		[illegible]

B J Howard — Project Engineer/STR — 7/14/10 — Date

DOCUMENT ID NUMBER
S012308A00 - 05-021- 045
SCPO No — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 06-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **01-Jul-10**
in **BNSF425354**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	46
PV RATIO	3.00 MAX.	API 13A Sec. 9	2.2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	27

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **RM070110A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our Order Number **2639305**

RECEIVED

JUL 12 2010

WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD	JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP	

1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required

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	CIVIL STRUCTURAL/ ARCHITECTURAL GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS/ NUCLEAR	CADD	PROJECT MGT	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL ENGINEER	FIRE PROTECTION	3	QA	FIELD ENGINEER	STR
CHECK REVIEW REQUIREMENT	✓								•			✓	✓		✓
REVIEWED BY	TEW														

B Howard — Cognizant Engineer/STR — 7/14/10 — Date

DOCUMENT ID NUMBER
5012308A00- 05-001- 046
SCP O. No — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 08-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **06-Jul-10**
in **BNSF422251**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	58
\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	22

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH070610B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26349310**

RECEIVED
JUL 12 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. ☐ Revise and resubmit. Work may not proceed
5. ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract

	CIVIL/STRUCTURAL/ARCHITECTURAL/GEOTECHNICAL	ELECTRICAL	MECHANICAL	PIPING/PROCESS	CADD	PROJECT MGT	ENVIRONMENTAL	HAZ. MATERIALS MGT	SAFETY	RADIOLOGICAL HYGIENE	FIRE PROTECTION	QA	[illegible]	FIELD ENGINEER	[illegible]
CHECK & REVIEW REQUIREMENT	✓											✓	✓		✓
REVIEWED BY	[illegible]											[illegible]	[illegible]		[illegible]

B J Howard — Project Engineer/STR — 7/14/10 — Date

DOCUMENT ID NUMBER
S012308A00- 05-021-047
SCPO No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 13-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

RECEIVED
AUG 19 2010
WCH - DOCUMENT CONTROL

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 07-Jul-10
in ATSF314109
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
[illegible]COSITY (600 reading)	30 min.	API 13A Sec. 9	39
[illegible]PV RATIO	3.00 MAX.	API 13A Sec. 9	1.9
[illegible]LUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	7.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH070710B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26349315

"second original"

WASHINGTON CLOSURE HANFORD — JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

	CIVIL/STRUCTURAL/MECHANICAL/ELECTRICAL	NEUTRONICS	MODELS	CADD	PROJECT MGT	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	CONTRACT ADMIN	LINE MONITORING	QA	MANAGEMENT	FIELD ENGINEER	OTHER
CHECK REVIEW REQUIREMENT	✓													
REVIEWED BY	TAW													

Project Engineer/STR: B Yatsuzuka — Date: 8/30/10
DOCUMENT ID NUMBER: 50123088A00-05-021 048
SCP O. No — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 13-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

RECEIVED
AUG 19 2010
WCH - DOCUMENT CONTROL

A shipment of CP-200
left our Lovell, WY plant on 08-Jul-10
in BNSF422225
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	35
V RATIO	3.00 MAX.	API 13A Sec. 9	1.5
D LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	24

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH070810A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349320

"Second original"

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☒ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
CHECK REVIEW REQUIRED
REVIEWED BY
Project Engineer/STR
Date
DOCUMENT ID NUMBER
SQ123068000-QS-021-049
SSRS ITEM
SUBMITTAL
SCEP O No.

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 13-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

RECEIVED
AUG 19 2010
WCH - DOCUMENT CONTROL

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 09-Jul-10
in BN458518
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	31
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.1
ID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	20

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH070910A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26349325

"Second original"

WASHINGTON CLOSURE HANFORD — JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

CIVIL/STRUCTURAL/ARCHITECTURAL/GEOTECHNICAL — ELECTRICAL — MECHANICAL — PROCESS NUCLEAR — QAQC — PROJECT ISM — ENVIRONMENTAL — WASTE MANAGEMENT — SAFETY — MATERIAL HANDLING — FIRE PROTECTION — QA — PROCUREMENT — FIELD ENGINEER — OTHER

CHECK REVIEW REQUIREMENT: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

REVIEWED BY: TEC ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Resp. Engineer/STR: B. Hornad — Date: 8/30/10

DOCUMENT ID NUMBER: SQ12308A00-05-021-050
SCP O. No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 13-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

RECEIVED
AUG 19 2010
WCH - DOCUMENT CONTROL

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 11-Jul-10
in ATSF314967
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
OSITY (600 reading)	30 min.	API 13A Sec. 9	39
V RATIO	3.00 MAX.	API 13A Sec. 9	1.9
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	9.6
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: RM071110B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26349330

"second original"

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☒ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
CHECK REVIEW REQUIREMENT
REVIEWED BY
Project Engineer/SSR
8/30/10 Date
DOCUMENT ID NUMBER S01230800-05-021-051
SCP O. No.
SSRS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 20-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **14-Jul-10**
in **BNSF422500**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

EST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	46
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.5
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

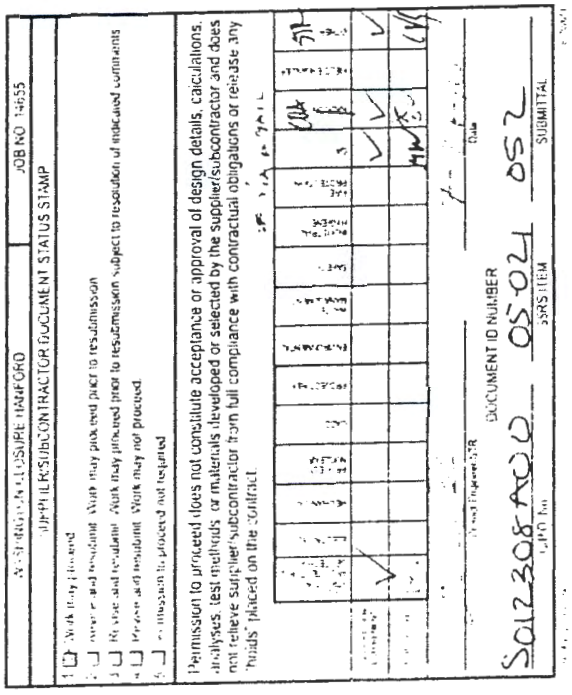
Tests Conducted By: BH071410B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349335

RECEIVED
JUL 22 2010
WCH - DOCUMENT CONTROL



CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 20-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **15-Jul-10**
in **BNSF421891**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	55
APV RATIO	3.00 MAX.	API 13A Sec. 9	2.5
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.7
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH071510A**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26349340**

RECEIVED
JUL 22 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14855
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
CHECK REVIEW REQUIREMENT
REVIEWED BY
Project Engineer/TR
7-28-10
Date
DOCUMENT ID NUMBER
SQ12308402 05-021 053
JCP O No. SSRS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 20-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **16-Jul-10**
in **BNSF421902**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	41
PV RATIO	3.00 MAX.	API 13A Sec. 9	1.7
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **RM071610B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our Order Number **26349345**

RECEIVED
JUL 22 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed
5 ☐ Permission to proceed not required

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.

CHECK/REVIEW ATTACHMENT

REVIEWED BY

Project Engineer/STR — Date 7-28-10

DOCUMENT ID NUMBER 50123088-00 05-021 064

SCPO No. — SSMS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 23-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 18-Jul-10
in BNSF422349
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	48
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.3
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.3
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	20

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: NW071810B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349350

RECEIVED
JUL 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE- HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☒ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. *-APPD PER M.A. WEBB- BXH 7/24/10
CHECK REVIEW REQUIREMENT
REVIEWED BY
Project Engineer/STR
8-9-10 Date
DOCUMENT ID NUMBER
SCIP O No. S0230800 05-021 055
SSRS ITEM
SUBMITTAL

G.1 Page 70 of 79

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 23-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 19-Jul-10
in BN458399
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
;COSITY (600 reading)	30 min.	API 13A Sec. 9	56
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.6
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	9.2
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	25

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB071910A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349355

RECEIVED
JUL 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. * - APP'D Per M. A. WEBB - BJH 7/24/10
DOCUMENT ID NUMBER 05-021 SUBMITTAL
SUPP'D NO. 0526
SSKS ITEM
Project Engineer/TR 8-9-10 Date
S0123058A0D

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 23-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 20-Jul-10
in BNSF421930
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

ST			ACTUAL RESULTS
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	53
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.8
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	20

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB072010B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349360

RECEIVED
JUL 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD — JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1. ☐ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. * App'd Per M.A. Webb – 8/4/10
CHECK REVIEW REQUIREMENT
REVIEWED BY
Project Engineer/STR — Date 8-9-10
DOCUMENT ID NUMBER 05-021
SQ1123068R00
SCAP O No.
SSRS ITEM
SUBMITTAL 057

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 23-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 21-Jul-10
in ATSF315108
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
VISCOSITY (600 reading)	30 min.	API 13A Sec. 9	45
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	2.1
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14.2
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB072110B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349365

RECEIVED
JUL 26 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission.
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
5. ☐ Permission to proceed not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract. SIGNED PER M.A. WEBB - RSH 7/29/10

Project Engineer/STM — Date 8-9-10

DOCUMENT ID NUMBER 05-021 — 05-8
SCPO No. — SSRS ITEM — SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 22-Jul-10
in BNSF422266
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST			
SCOSITY (600 reading)	30 min.	API 13A Sec. 9	33
YP\PV RATIO	3.00 MAX.	API 13A Sec. 9	1.3
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.8
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: DB072210A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26349370

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed pary to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.
CHECKED BY WCH COMPLIANT
REVIEWED BY
8/11/10
DOCUMENT ID NUMBER
50123058A00 05-021 059
SCP/O No. SSHS ITEM SUBMITTAL

AUG 05 2010
WCH - DOCUMENT CONTROL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of **CP-200**
left our Lovell, WY plant on **23-Jul-10**
in **BNSF422277**
as requested on your order no. **CONTRACT**

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	46
PV RATIO	3.00 MAX.	API 13A Sec. 9	2.2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	13.8
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	4
MOISTURE	10 % MAX.	ASTM D2216	8.4
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **BH072310B**

Approved By: **NICHOLAS WAMBEKE**

ACC

In any correspondence regarding this shipment, please refer to our
Order Number **26349375**

RECEIVED
AUG 05 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☒ Work may proceed.
2 ☐ Revise and resubmit. Work may proceed prior to resubmission.
3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.

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	STR																		
CHG LIST NUMBER																			
REVIEWED BY																			

Project Engineer/STR 8/11/10 Date

DOCUMENT ID NUMBER
SCIP O. No. 50123088A00 SSHS ITEM 05-021 SUBMITTAL 060

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 26-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 23-Jul-10
in BNSF422652
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST	30 min.	API 13A Sec. 9	56
COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	2.7
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	26
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: BH072310A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26349379

RECEIVED
AUG 05 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP
1 ☑ Work may proceed.
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3 ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4 ☐ Revise and resubmit. Work may not proceed.
5 ☐ Permission to proceed not required.
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CHECKED BY/DISCIPLINE: CIVIL/STRUCTURAL, MOTION CONTROL, ELECTRICAL, MECHANICAL, PROCESS CONTROL, QAS, HOISTING, ENVIRONMENTAL, MATL MANAGEMENT, SAFETY, HOISTING ENGINE, FIRE PROTECTION, QA, MECHANICAL, ENGINEERING
REVIEWED BY: TED
B Hovsepian 8/11/10
Print (1) Signature/STR Date
DOCUMENT ID NUMBER: 30123088 ACD 05-021 01
SCIP'D No. SSHS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 28-Jul-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200
left our Lovell, WY plant on 26-Jul-10
in BNSF420640
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

TEST			ACTUAL RESULTS
COSITY (600 reading)	30 min.	API 13A Sec. 9	44
PV RATIO	3.00 MAX.	API 13A Sec. 9	2
FLUID LOSS	15.0 MLS. MAX.	ASTM D5891	14
GRIT (> 75 micrometers)	4.0 MAX.	API 13A Sec. 9	3.6
MOISTURE	10 % MAX.	ASTM D2216	8.8
BARREL YIELD	91 MIN.	API 13A	> 91*
FREE SWELL	15 mL/2g min.	ASTM D5890	23

* Based on viscosity

We hereby certify that the results shown above represent this shipment
Tests were conducted using ACC and/or customer
approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE072610A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our
Order Number 26438205

RECEIVED
AUG 05 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1. ☑ Work may proceed.
2. ☐ Revise and resubmit. Work may proceed prior to resubmission
3. ☐ Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.
4. ☐ Revise and resubmit. Work may not proceed.
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CHECK REVIEW REQUIREMENTS
REVIEWED BY TEW
Date 8/11/10
DOCUMENT ID NUMBER 30123084-00 05-021 CLR2
SCP/O No. SSHS ITEM
SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 02-Aug-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 27-Jul-10
in BNSF420871
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST	30 min.	API 13A Sec. 9	38
;COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	1.8
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8.8
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	26
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: RM072710B

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26438210

RECEIVED
AUG 05 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655
SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

1 ☑ Work may proceed.
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	ELECTRICAL	MECHANICAL	PROJECT MANAGER	CADD	PROJECT ENG	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	RADIATION HYGIENE	RADIATION ENG	QA				
CHECK REVIEW REQUIREMENTS	✓										✓		✓		✓
REVIEWED BY	TEL										mr				

B Johnson 8/11/10
Project Engineer/STR Date

DOCUMENT ID NUMBER S0123085ACD 05-021 0463
SCAN ID No. SSMS ITEM SUBMITTAL

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
92 HWY. 37
LOVELL, WY 82431

DATE: 02-Aug-10

TO: S/T DELHUR SITING
HORN RAPID SPUR
RICHLAND, WA 99353

ATTN:

Dear Sirs:

A shipment of CP-200 left our Lovell, WY plant on 27-Jul-10
in BNSF422155
as requested on your order no. CONTRACT

A sample from this shipment was tested, and gave the following results:

			ACTUAL RESULTS
ST	30 min.	API 13A Sec. 9	43
COSITY (600 reading)	3.00 MAX.	API 13A Sec. 9	1.9
YP\PV RATIO	15.0 MLS. MAX.	ASTM D5891	14.2
FLUID LOSS	4.0 MAX.	API 13A Sec. 9	4
GRIT (> 75 micrometers)	10 % MAX.	ASTM D2216	8.4
MOISTURE	91 MIN.	API 13A	> 91*
BARREL YIELD	15 mL/2g min.	ASTM D5890	25
FREE SWELL			

* Based on viscosity

We hereby certify that the results shown above represent this shipment.
Tests were conducted using ACC and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: TE072710A

Approved By: NICHOLAS WAMBEKE

ACC

In any correspondence regarding this shipment, please refer to our Order Number 26438214

RECEIVED
AUG 05 2010
WCH - DOCUMENT CONTROL

WASHINGTON CLOSURE HANFORD | JOB NO. 14655

SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP

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CHECK REVIEW REQUIREMENT

REVIEW BY

Prepared/STR

Date 8/11/10

DOCUMENT ID NUMBER 5012308 A00 05.021

SUBMITTAL 064

SCP/P.O. No.

SSHS ITEM

G.2

PROCTORS

Modified Proctor (ASTM D1557 and D4718)

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-01
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	4/5/2010
Tested By:	L. Hay	Date:	4/12/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	4/13/2010	Date Received:	4/5/2010
Comments:				Report No.	#45

DENSITY DATA (lbs)

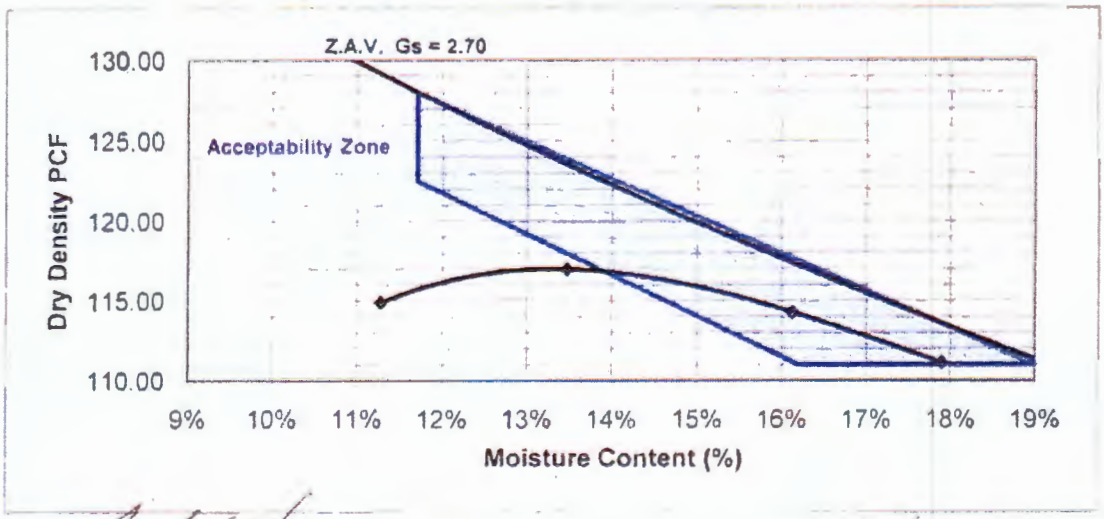
Mold + Wet Soil	12.98	13.15	13.15	13.09	12.99
Mold Wt.	8.72	8.72	8.72	8.72	8.72
Wet Soil	4.26	4.43	4.42	4.37	4.27
lbs/cu. ft. (wet)	127.8	132.8	132.7	131.0	128.0
lbs/cu. ft. (dry)	114.9	117.0	114.3	111.1	107.0

MOISTURE DATA (grams)

Tin No	LH	AB	VI	BX	XIII
Wet Soil + Tin	538.90	565.10	535.10	482.20	512.50
Dry Soil + Tin	484.30	498.00	460.80	409.00	428.70
Tin Wt.	0.00	0.00	0.00	0.00	0.00
Dry Soil	484.30	498.00	460.80	409.00	428.70
% Moisture	11.3%	13.5%	16.1%	17.9%	19.5%
% Saturation	65.2%	82.7%	91.9%	93.7%	91.9%

MAXIMUM DRY DENSITY (PCF) **117.0**

OPTIMUM MOISTURE CONTENT (%) **13.5%**



Envirotech

5/4/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-02
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9 -10			Sampling Date:	4/28/2010
Tested By:	J. Voss	Date:	5/5/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	5/6/2010	Date Received:	4/28/2010
Comments:				Report No.	05-016-062

DENSITY DATA (grams)

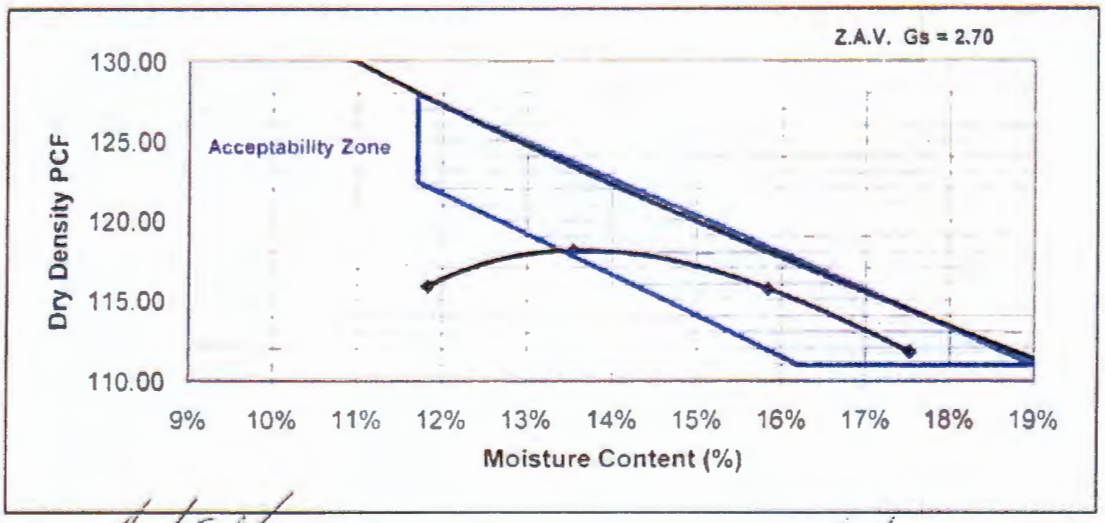
Mold + Wet Soil	5915.40	5984.00	5982.60	5942.50	5899.90
Mold Wt.	3955.70	3955.70	3955.70	3955.70	3955.70
Wet Soil	1959.70	2028.30	2026.90	1986.80	1944.20
lbs/cu. ft. (wet)	129.6	134.1	134.1	131.4	128.6
lbs/cu. ft. (dry)	115.9	118.2	115.7	111.8	107.7

MOISTURE DATA (grams)

Tin No.	V1	E4	LH	AR	XIII
Wet Soil + Tin	1282.50	785.90	945.70	1178.80	954.80
Dry Soil + Tin	1165.90	713.00	840.40	1029.00	829.30
Tin Wt.	179.93	174.45	175.31	174.32	181.07
Dry Soil	985.97	538.55	665.09	854.68	648.23
% Moisture	11.8%	13.5%	15.8%	17.5%	19.4%
% Saturation	70.4%	85.8%	93.8%	93.4%	92.7%

MAXIMUM DRY DENSITY (PCF) **118.2**

OPTIMUM MOISTURE CONTENT (%) **14.0%**



Envirotech

5/6/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-05
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9 -10			Sampling Date:	5/12/2010
Tested By:	J. Stallings	Date:	5/14/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	5/17/2010	Date Received:	5/12/2010
Comments:				Report No.	05-016-068

DENSITY DATA (grams)

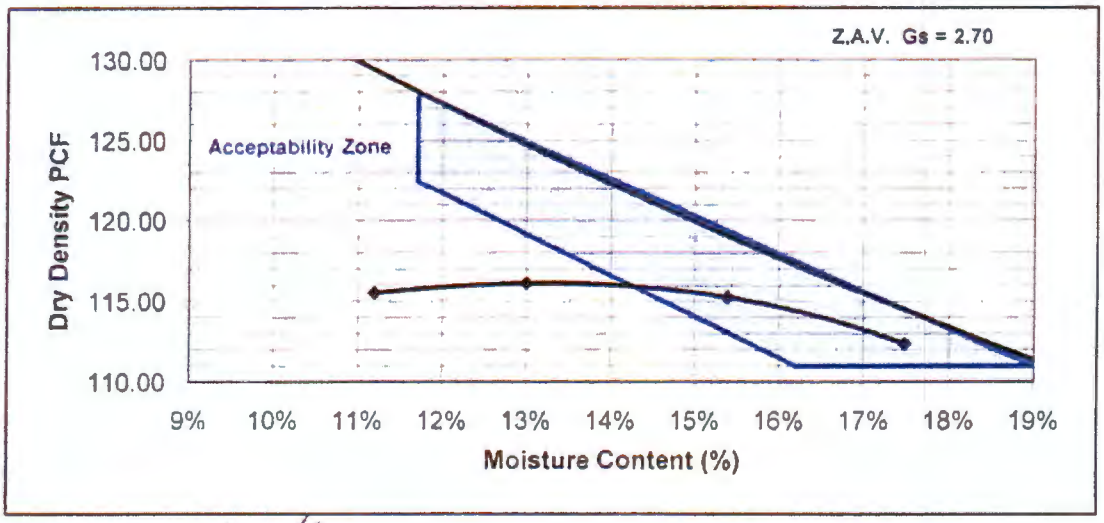
Mold + Wet Soil	5898.00	5939.60	5966.50	5951.80	5842.30
Mold Wt.	3955.70	3955.70	3955.70	3955.70	3955.70
Wet Soil	1942.30	1983.90	2010.80	1996.10	1886.60
lbs/cu. ft. (wet)	128.5	131.2	133.0	132.0	124.8
lbs/cu. ft. (dry)	115.5	116.1	115.3	112.4	112.3

MOISTURE DATA (grams)

Tin No.	M4	M7	M8	M9	L
Wet Soil + Tin	262.55	268.67	291.00	298.92	387.83
Dry Soil + Tin	241.20	243.52	258.90	261.86	353.95
Tin Wt.	50.40	50.01	50.15	49.85	49.90
Dry Soil	190.80	193.51	208.75	212.01	304.05
% Moisture	11.2%	13.0%	15.4%	17.5%	11.1%
% Saturation	65.9%	77.8%	89.9%	94.5%	60.1%

MAXIMUM DRY DENSITY (PCF) **116.1**

OPTIMUM MOISTURE CONTENT (%) **13.0%**



Envirotech

5-20-2010
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580) 234-8780 | Fax 580) 237-4302

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

Sample Information

Contact Name	Charlie Skiba			Sample ID:	AM-09
Project:	S013213A00			Sample Des:	Admix
Project Location	ERDF Cells 9 -10			Sampling Date:	5/24/2010
Tested By:	J. Stallings	Date:	6/4/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date	6/7/2010	Date Received:	5/24/2010
Comments:				Report No	05-016-082

DENSITY DATA (grams)

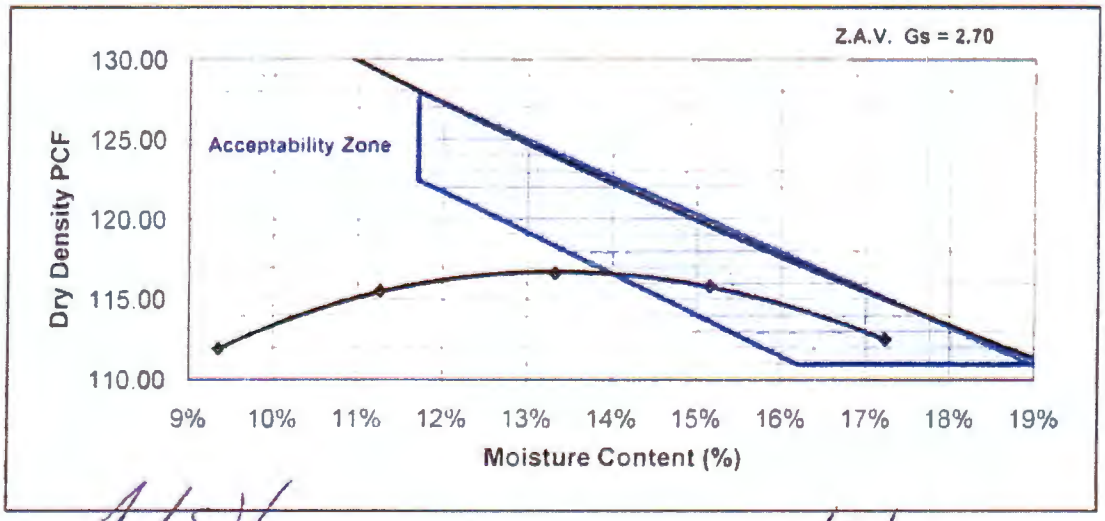
Mold + Wet Soil	5806 40	5899 00	5954 40	5972 80	5950.20
Mold Wt.	3955 70	3955 70	3955 70	3955 70	3955 70
Wet Soil	1850.70	1943 30	1998 70	2017.10	1994.50
lbs/cu. ft (wet)	122 4	128 5	132 2	133.4	131.9
lbs/cu. ft (dry)	111 9	115.5	116 7	115 9	112 5

MOISTURE DATA (grams)

Tin No	LH	VI	E4	AB	BX
Wet Soil + Tin	621.20	687 90	1017.50	638.70	727 30
Dry Soil + Tin	583 10	635.90	918.40	577.60	646 00
Tin Wt.	175 40	174.10	174.60	174 30	174.00
Dry Soil	407.70	461.80	743 80	403.30	472 00
% Moisture	9 3%	11 3%	13.3%	15.2%	17 2%
% Saturation	50.0%	66.3%	81 0%	90 1%	93.5%

MAXIMUM DRY DENSITY (PCF) **116.7**

OPTIMUM MOISTURE CONTENT (%) **13.3%**



Envirotech

6/7/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Form: 05-18D Admix Proctor

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-13
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9 -10			Sampling Date:	6/7/2010
Tested By:	R.M. Lunday	Date:	6/9/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	6/10/2010	Date Received:	6/7/2010
Comments:				Report No.	5-16-086

DENSITY DATA (grams)

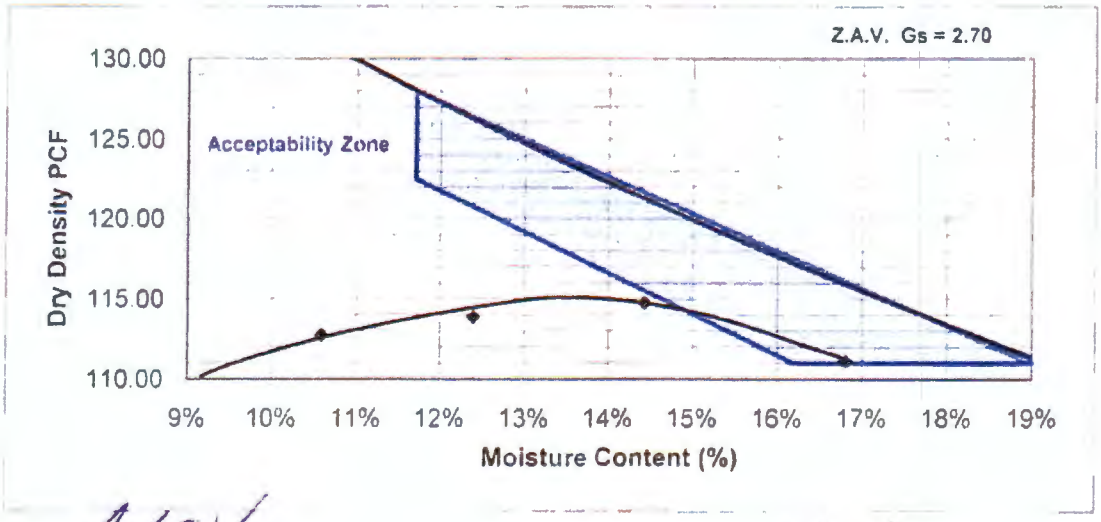
Mold + Wet Soil	12.65	12.88	12.99	13.10	13.05
Mold Wt	8.72	8.72	8.72	8.72	8.72
Wet Soil	3.93	4.16	4.27	4.38	4.33
lbs/cu. ft. (wet)	117.9	124.7	128.0	131.3	129.8
lbs/cu. ft. (dry)	108.6	112.7	113.9	114.8	111.1

MOISTURE DATA (grams)

Tin No.	BOO	M2	M8	M7	M6
Wet Soil + Tin	315.40	308.00	252.59	337.01	395.37
Dry Soil + Tin	294.51	283.30	230.27	300.82	345.61
Tin Wt	50.11	49.98	50.12	50.00	49.53
Dry Soil	244.40	233.32	180.15	250.82	296.08
% Moisture	8.5%	10.6%	12.4%	14.4%	16.8%
% Saturation	41.8%	57.8%	69.8%	83.2%	87.9%

MAXIMUM DRY DENSITY (PCF) 115.0

OPTIMUM MOISTURE CONTENT (%) 13.5%



Envirotech

6/10/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Form: 05-18D Admix Proctor

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-17
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9 -10			Sampling Date:	6/23/2010
Tested By:	L. Hay	Date:	6/23/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	6/30/2010	Date Received:	6/23/2010
Comments:				Report No.	05-016-100

DENSITY DATA (grams)

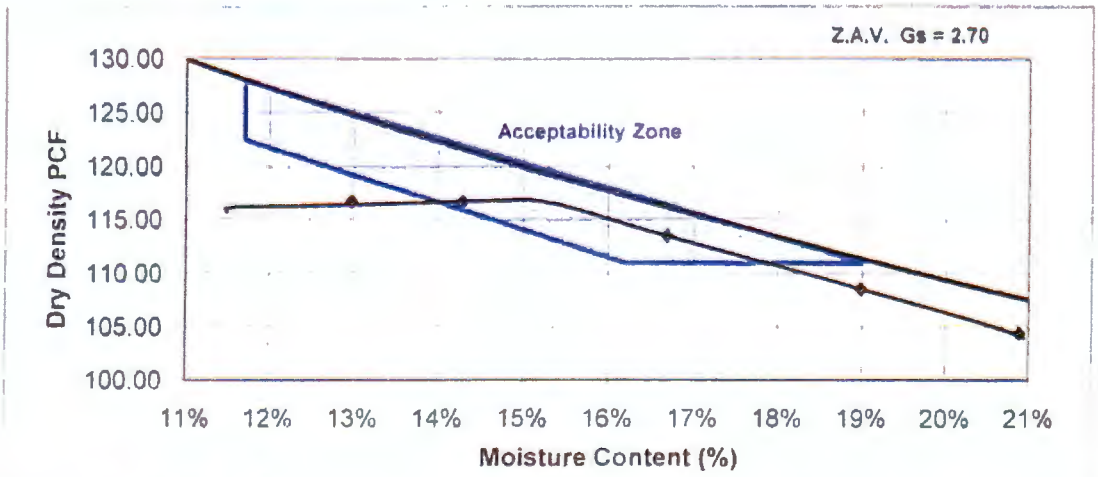
Mold + Wet Soil	5947 80	5971.00	5958.00	5908 30	5863.00
Mold Wt.	3955 20	3955.20	3955 20	3955 20	3955.20
Wet Soil	1992 60	2015 80	2002 80	1953 10	1907.80
lbs/cu ft (wet)	131 8	133.3	132 5	129 2	126.2
lbs/cu ft. (dry)	116 7	116 7	113.5	108 6	104.4

MOISTURE DATA (grams)

Tin No.	M6	M7	M8	M9	M10
Wet Soil + Tin	652.00	456 60	499 10	448 90	507 50
Dry Soil + Tin	582.86	405.81	434 86	385 25	428.47
Tin Wt	49.60	50.10	50.00	49 90	50 00
Dry Soil	533 26	355 71	384.86	335.35	378.47
% Moisture	13.0%	14 3%	16.7%	19.0%	20 9%
% Saturation	78 8%	86.8%	93 1%	92.9%	91.8%

MAXIMUM DRY DENSITY (PCF) 117.0

OPTIMUM MOISTURE CONTENT (%) 15.1%



Envirotech

7/10/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-21
Project:	S013213A00			Sample Des:	Admix
Project Location:	ERDF Cells 9 -10			Sampling Date:	7/7/2010
Tested By:	L. Hay	Date:	7/9/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	7/12/2010	Date Received:	7/7/2010
Comments:				Report No.	5-16-107

DENSITY DATA (grams)

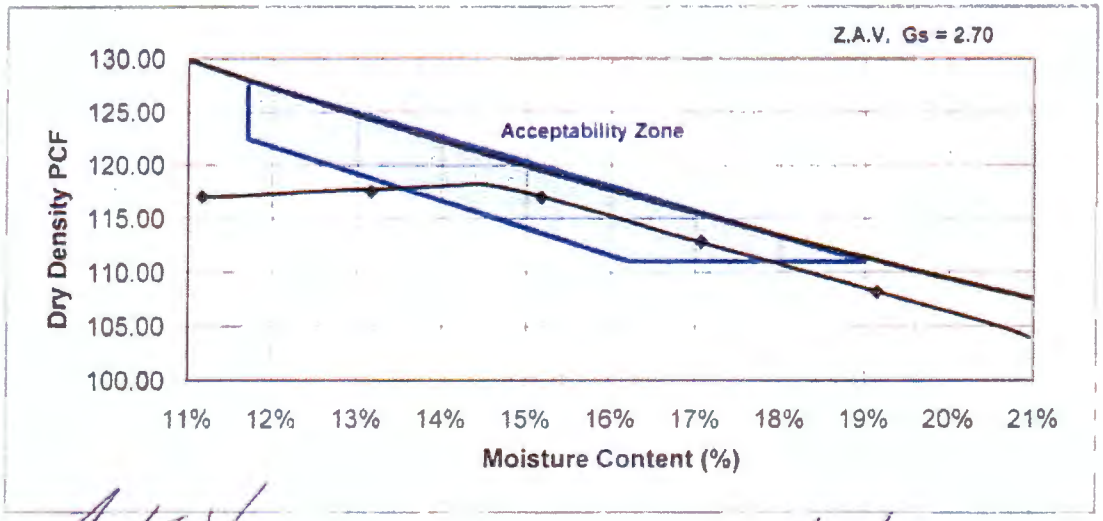
Mold + Wet Soil	5921.70	5966.10	5992.60	5952.30	5904.60
Mold Wt.	3955.40	3955.40	3955.40	3955.40	3955.40
Wet Soil	1966.30	2010.70	2037.20	1996.90	1949.20
lbs/cu. ft. (wet)	130.0	133.0	134.7	132.1	128.9
lbs/cu. ft. (dry)	117.0	117.5	117.0	112.8	108.2

MOISTURE DATA (grams)

Tin No.	M6	M7	M8	M9	M10
Wet Soil + Tin	650.21	561.90	624.26	483.38	641.52
Dry Soil + Tin	589.90	502.38	548.61	420.19	546.46
Tin Wt.	49.58	50.05	50.14	49.87	49.99
Dry Soil	540.32	452.33	498.47	370.32	496.47
% Moisture	11.2%	13.2%	15.2%	17.1%	19.1%
% Saturation	68.5%	81.9%	93.1%	93.4%	92.8%

MAXIMUM DRY DENSITY (PCF) **117.8**

OPTIMUM MOISTURE CONTENT (%) **14.5%**



Envirotech

7/12/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580.234.8780 | Fax 580.237.4302

Client: **Washington Closure Hanford**

Form: **05-18D Admix Proctor**

Sample Information

Contact Name	Charlie Skiba			Sample ID	AM-27
Project	S013213A00			Sample Des	Admix
Project Location	ERDF Cells 9 -10			Sampling Date	7/26/2010
Tested By	R Swenson	Date	7/28/2010	Sampled By	R. Swenson
Reviewed By	J Voss	Date	7/29/2010	Date Received	7/26/2010
Comments				Report No	5-16-121

DENSITY DATA (grams)

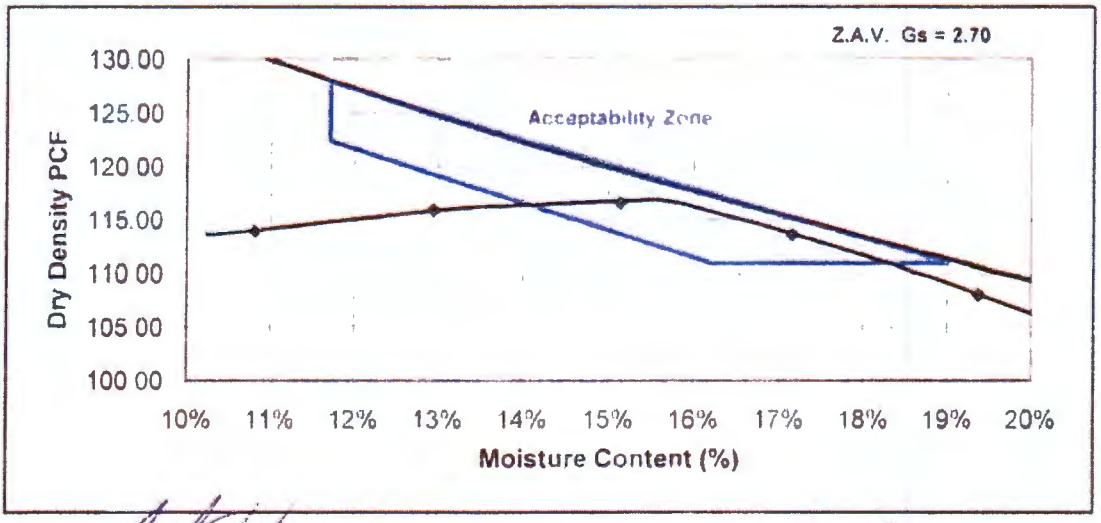
Mold + Wet Soil	5864 30	5934 20	5985 10	5967 50	5905 00
Mold Wt	3955 20	3955 20	3955 20	3955 20	3955 20
Wet Soil	1909 10	1979 00	2029 90	2012 30	1949.80
lbs/cu ft (wet)	126 3	130 9	134 3	133 1	129 0
lbs/cu ft. (dry)	114 0	115 9	116 6	113.6	108 0

MOISTURE DATA (grams)

Tin No	E2	XIII	BX	VI	LH
Wet Soil + Tin	2157 20	2118 70	2203 80	2169 40	2093 40
Dry Soil + Tin	1970 90	1896 80	1937 00	1877 20	1782 20
Tin Wt	246 80	181 10	174 10	174 00	175 60
Dry Soil	1724 10	1715 70	1762 90	1703.20	1606 60
% Moisture	10 8%	12.9%	15 1%	17 2%	19 4%
% Saturation	61 0%	77.0%	91.9%	95 9%	93 5%

MAXIMUM DRY DENSITY (PCF) **116.8**

OPTIMUM MOISTURE CONTENT (%) **15.4%**



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Date 8/5/10

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4402

Client: Washington Closure Hanford
Form: 05-18D Admix Proctor

Sample Information

Contact Name	Charlie Skiba			Sample ID	AM-29
Project	S013213A00			Sample Des	Admix
Project Location	ERDF Cells 9 -10			Sampling Date	7/28/2010
Tested By:	R. Swenson	Date.	8/2/2010	Sampled By:	R. Swenson
Reviewed By.	J. Voss	Date	8/3/2010	Date Received	7/28/2010
Comments				Report No.	5-16-124

DENSITY DATA (grams)

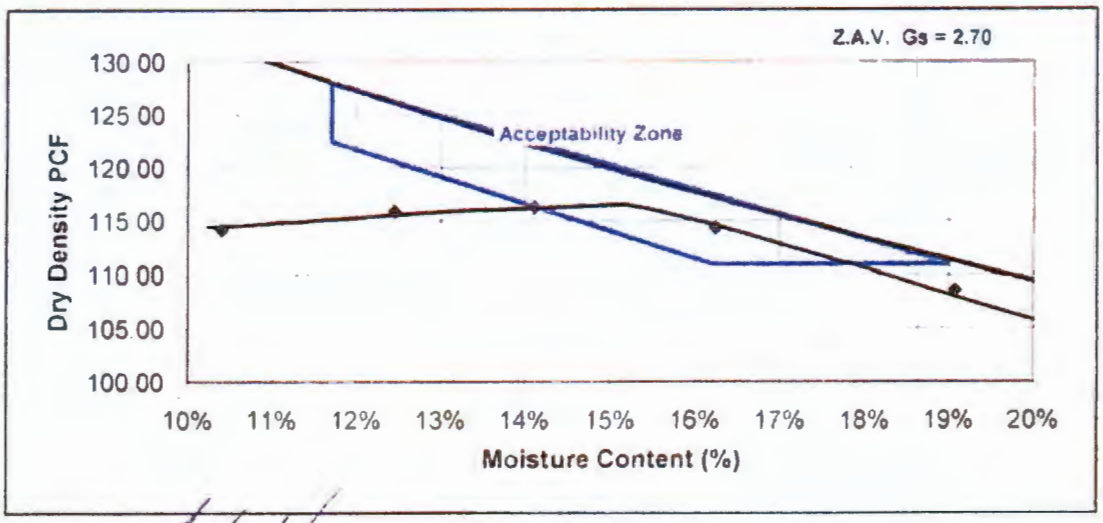
Mold + Wet Soil	5909 00	5964 70	5960 40	5924 40	5860 40
Mold Wt	3955 00	3955 00	3955 00	3955 00	3955.00
Wet Soil	1954 00	2009 70	2005.40	1969 40	1905 40
lbs/cu ft. (wet)	129 2	132 9	132 6	130 3	126 0
lbs/cu ft (dry)	108 5	114 4	116 2	115 8	114 2

MOISTURE DATA (grams)

Tin No	E2	LH	E4	E1	E5
Wet Soil + Tin	2190 30	2172 70	2172 80	2131 20	2187.20
Dry Soil + Tin	1879 00	1893 70	1925 80	1922 50	2004 40
Tin Wt	246 80	175 40	174 50	245 30	246 40
Dry Soil	1632 20	1718 30	1751.30	1677 20	1758 00
% Moisture	19 1%	16 2%	14 1%	12 4%	10 4%
% Saturation	93 2%	92 6%	84 7%	73 9%	59 0%

MAXIMUM DRY DENSITY (PCF) 116.8

OPTIMUM MOISTURE CONTENT (%) 15.1%



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8/5/10
Date

Standard Proctor (ASTM D698)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580 234 8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Form: 05-18D Admix Proctor

Sample Information

Contact Name:	Charlie Skiba			Sample ID	AM-33
Project	S013213A00			Sample Des.	Admix
Project Location	ERDF Cells 9 -10			Sampling Date	8/5/2010
Tested By	R Swenson	Date:	8/10/2010	Sampled By	R Swenson
Reviewed By	J. Voss	Date:	8/11/2010	Date Received:	8/5/2010
Comments:				Report No	5-16-130

DENSITY DATA (grams)

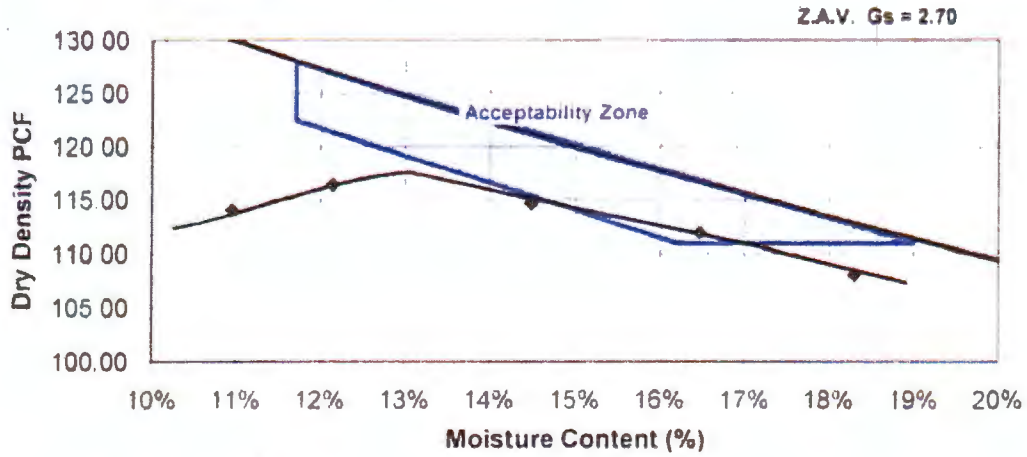
Mold + Wet Soil	5888.00	5925.80	5939.60	5928.00	5868.20
Mold Wt	3954.80	3954.80	3954.80	3954.80	3954.80
Wet Soil	1933.20	1971.00	1984.80	1973.20	1913.40
lbs/cu ft (wet)	127.9	130.4	131.3	130.5	126.6
lbs/cu ft (dry)	108.1	111.9	114.7	116.4	114.1

MOISTURE DATA (grams)

Tin No	E3	Vi	LH	E5	E4
Wet Soil + Tin	2151.10	2067.60	2146.70	2277.40	2124.50
Dry Soil + Tin	1856.50	1800.00	1897.40	2057.60	1932.20
Tin Wt	246.60	174.20	175.40	246.40	174.40
Dry Soil	1609.90	1625.80	1722.00	1811.20	1757.80
% Moisture	18.3%	16.5%	14.5%	12.1%	10.9%
% Saturation	88.4%	88.0%	83.3%	73.2%	61.9%

MAXIMUM DRY DENSITY (PCF) 116.5

OPTIMUM MOISTURE CONTENT (%) 13.0%



Envirotech

Date 8/11/10

Page 1 of 1

G.3

RECOMPACTED PERMEABILITY

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	4/13/2010
Sample ID:	AM-01
Sample Description:	Brown Sandy Clay

L_i =	7.69	cm	**Hydraulic System Constants**	
L_f =	7.68	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	20.6	C	Area permometer tube, a_p (cm^2)	0.031416
R_t =	0.987595		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_i (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.63	60
10^{-5} - 10^{-6}	10	7.57	60
10^{-6} - 10^{-7}	20	13.43	60
< 10^{-7}	30	19.30	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	KR	4/13/2010	0				20.40	1.70	254.51	33.2		
1	KR	4/13/2010	20	1200	60	65	19.90	1.68	247.98	32.3	1.34E-08	1.33E-08
			20				19.90	1.68	247.98	32.3		
2	KR	4/13/2010	30	1800	60	65	19.50	1.66	242.76	31.6	1.6321E-08	1.61E-08
			30				19.50	1.66	242.76	31.6		
3	KR	4/13/2010	40	2400	60	65	19.10	1.65	237.54	30.9	1.789E-08	1.77E-08
			40				19.10	1.65	237.54	30.9		
4	KR	4/13/2010	50	3000	60	65	18.80	1.63	233.62	30.4	1.7773E-08	1.76E-08
			50				18.80	1.63	233.62	30.4		
5	KR	4/13/2010	60	3600	60	65	18.40	1.62	228.40	29.8	1.874E-08	1.85E-08

Project Manager

4-16-2010
Date

Average K:	1.6834E-08	1.6625E-08
Specification:	< 1.00E-07	

HYDRAULIC CC...JCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	4/13/2010
Sample ID:	AM-01
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.21		10.21	
Sample Length (cm)	7.69		7.68	
Sample Volume (cm^3)	629.8		628.5	
Tare Number	v		WO	
Tare Weight (gm)	49.9		50.15	
Wet Soil + Tare (gm)	375.7		311.18	
Dry Soil + Tare (gm)	332.94		274.36	
Water Weight (gm)		42.8		36.82
Dry Soil Weight (gm)		283.04		224.21
Moisture Content (%)		15.1%		16.4%
Wet Weight Sample (gm)	1335.3		1350.3	
Wet Density Sample (pcf)		132.08		133.85
Dry Density Sample (pcf)		114.75		114.97
Saturation %		87.1%		95.3%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	8

Date:	5/10/2010
Sample ID:	AM-02
Sample Description:	Dark Brown Sandy Clay

L_i =	7.79	cm	**Hydraulic System Constants**	
L_f =	7.63	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	17.8	C	Area permometer tube, a_p (cm^2)	0.031416
R_i =	1.05809		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting

Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.62	60
10^{-5} - 10^{-6}	10	7.53	60
10^{-6} - 10^{-7}	20	13.36	60
< 10^{-7}	30	19.19	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Pre/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	KR	5/10/2010	0				22.10	1.70	277.64	36.4		
1	KR	5/10/2010	20	1200	60	65	21.70	1.68	272.42	35.7	9.76E-09	1.03E-08
			20				21.70	1.68	272.42	35.7		
2	KR	5/10/2010	30	1800	60	65	21.40	1.67	268.51	35.2	1.148E-08	1.21E-08
			30				21.40	1.67	268.51	35.2		
3	KR	5/10/2010	40	2400	60	65	21.20	1.66	265.90	34.9	1.113E-08	1.18E-08
			40				21.20	1.66	265.90	34.9		
4	KR	5/10/2010	50	3000	60	65	21.00	1.65	263.29	34.5	1.094E-08	1.16E-08
			50				21.00	1.65	263.29	34.5		
5	KR	5/10/2010	60	3600	60	65	20.90	1.65	261.98	34.3	9.973E-09	1.06E-08

Project Manager

5/11/2010
Date

Average K:	1.066E-08	1.1277E-08
Specification:	< 1.00E-07	

HYDRAULIC CC ICTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	8

Date:	5/10/2010
Sample ID:	AM-02
Sample Description:	Dark Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.21		10.21	
Sample Length (cm)	7.79		7.63	
Sample Volume (cm^3)	637.9		624.8	
Tare Number	CC		JV	
Tare Weight (gm)	49.8		49.6	
Wet Soil + Tare (gm)	469.9		412	
Dry Soil + Tare (gm)	410.11		359.6	
Water Weight (gm)		59.8		52.4
Dry Soil Weight (gm)		360.31		310
Moisture Content (%)		16.6%		16.9%
Wet Weight Sample (gm)	1338.5		1343.9	
Wet Density Sample (pcf)		130.73		134.01
Dry Density Sample (pcf)		112.13		114.64
Saturation %		89.1%		97.2%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	8

Date:	5/10/2010
Sample ID:	AM-05
Sample Description:	Dark Brown Sandy Clay

L_i =	7.73	cm	**Hydraulic System Constants**	
L_f =	7.66	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	18.3	C	Area permometer tube, a_p (cm^2)	0.031416
R_i =	1.04329		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.63	60
10^{-5} - 10^{-6}	10	7.55	60
10^{-6} - 10^{-7}	20	13.41	60
< 10^{-7}	30	19.26	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	JS	5/17/2010	0				20.90	1.70	261.31	34.1		
1	JS	5/17/2010	10	600	60	65	20.60	1.69	257.40	33.6	1.57E-08	1.63E-08
			10				20.60	1.69	257.40	33.6		
2	JS	5/17/2010	20	1200	60	65	20.20	1.67	252.18	32.9	1.848E-08	1.93E-08
			20				20.20	1.67	252.18	32.9		
3	JS	5/17/2010	30	1800	60	65	19.80	1.65	246.95	32.2	1.958E-08	2.04E-08
			30				19.80	1.65	246.95	32.2		
4	JS	5/17/2010	40	2400	60	65	19.50	1.64	243.04	31.7	1.885E-08	1.97E-08
			40				19.50	1.64	243.04	31.7		
5	JS	5/17/2010	50	3000	60	65	19.20	1.63	239.12	31.2	1.848E-08	1.93E-08

Project Manager

5-19-2010
Date

Average K:	1.821E-08	1.9001E-08
Specification:	< 1.00E-07	

HYDRAULIC CC...JCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	8

Date:	5/10/2010
Sample ID:	AM-05
Sample Description:	Dark Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.19		10.19	
Sample Length (cm)	7.73		7.66	
Sample Volume (cm^3)	629.5		624.1	
Tare Number	BB		O	
Tare Weight (gm)	50.09		49.79	
Wet Soil + Tare (gm)	456.08		463.24	
Dry Soil + Tare (gm)	393.78		396.66	
Water Weight (gm)		62.3		66.58
Dry Soil Weight (gm)		343.69		346.87
Moisture Content (%)		18.1%		19.2%
Wet Weight Sample (gm)	1302.5		1306.6	
Wet Density Sample (pcf)		128.90		130.44
Dry Density Sample (pcf)		109.12		109.43
Saturation %		90.0%		96.0%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH

Submittal:	05-18D: Admix Laboratory Data Sheet		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	5/31/2010
Sample ID:	AM 09
Sample Description:	Brown Sandy Clay

L_i =	7.81	cm	**Hydraulic System Constants**	
L_f =	7.78	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	22.2	c	Area permometer tube, a_p (cm^2)	0.031416
R_t =	0.949048		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.67	60
10^{-5} - 10^{-6}	10	7.65	60
10^{-6} - 10^{-7}	20	13.59	60
< 10^{-7}	30	19.54	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	KR	5/31/2010	0				21.60	1.70	270.84	34.8		
1	KR	5/31/2010	30	1800	60	65	20.60	1.66	257.79	33.1	1.73E-08	1.64E-08
			30				20.60	1.66	257.79	33.1		
2	KR	5/31/2010	40	2400	60	65	20.20	1.64	252.57	32.5	1.8364E-08	1.74E-08
			40				20.20	1.64	252.57	32.5		
3	KR	5/31/2010	50	3000	60	65	19.80	1.63	247.34	31.8	1.9103E-08	1.81E-08
			50				19.80	1.63	247.34	31.8		
4	KR	5/31/2010	60	3600	60	65	19.50	1.61	243.43	31.3	1.8732E-08	1.78E-08
			60				19.50	1.61	243.43	31.3		
5	KR	5/31/2010	70	4200	60	65	19.20	1.60	239.51	30.8	1.851E-08	1.76E-08

Project Manager

6-1-2010
Date

Average K:	1.8401E-08	1.7464E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH

Submittal:	05-18D: Admix Laboratory Data Sheet		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	5/31/2010
Sample ID:	AM 09
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.21		10.21	
Sample Length (cm)	7.81		7.78	
Sample Volume (cm^3)	639.5		637.2	
Tare Number	EZ		Z	
Tare Weight (gm)	50.28		49.68	
Wet Soil + Tare (gm)	481.77		427.15	
Dry Soil + Tare (gm)	429.82		377.4	
Water Weight (gm)		52.0		49.75
Dry Soil Weight (gm)		379.54		327.72
Moisture Content (%)		13.7%		15.2%
Wet Weight Sample (gm)	1353.5		1387	
Wet Density Sample (pcf)		131.87		135.60
Dry Density Sample (pcf)		115.99		117.73
Saturation %		81.7%		95.1%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING, INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	6/14/2010
Sample ID:	AM-13
Sample Description:	Brown Sandy Clay

L_i =	7.65	cm	**Hydraulic System Constants**	
L_f =	7.54	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	26.7	C	Area permometer tube, a_p (cm^2)	0.031416
R_t =	0.85718		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.58	60
10^{-5} - 10^{-6}	10	7.46	60
10^{-6} - 10^{-7}	20	13.23	60
< 10^{-7}	30	18.99	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	KR	6/14/2010	0				22.40	1.70	281.73	37.4		
1	KR	6/14/2010	30	1800	60	65	21.60	1.67	271.28	36.0	1.28E-08	1.10E-08
			30				21.60	1.67	271.28	36.0		
2	KR	6/14/2010	40	2400	60	65	21.30	1.65	267.37	35.5	1.332E-08	1.14E-08
			40				21.30	1.65	267.37	35.5		
3	KR	6/14/2010	50	3000	60	65	21.10	1.65	264.76	35.1	1.266E-08	1.08E-08
			50				21.10	1.65	264.76	35.1		
4	KR	6/14/2010	60	3600	60	65	20.90	1.64	262.15	34.8	1.224E-08	1.05E-08
			60				20.90	1.64	262.15	34.8		
5	KR	6/14/2010	70	4200	60	65	20.70	1.63	259.54	34.4	1.195E-08	1.02E-08

Project Manager

6-15-2010
Date

Average K:	1.259E-08	1.0795E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	6/14/2010
Sample ID:	AM-13
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.21		10.21	
Sample Length (cm)	7.65		7.54	
Sample Volume (cm^3)	626.1		617.5	
Tare Number	Z		GG	
Tare Weight (gm)	49.7		50	
Wet Soil + Tare (gm)	456.6		424.3	
Dry Soil + Tare (gm)	391.63		365.22	
Water Weight (gm)		65.0		59.08
Dry Soil Weight (gm)		341.93		315.22
Moisture Content (%)		19.0%		18.7%
Wet Weight Sample (gm)	1289.6		1294	
Wet Density Sample (pcf)		128.31		130.54
Dry Density Sample (pcf)		107.83		109.94
Saturation %		91.2%		95.0%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	6/27/2010
Sample ID:	AM-17
Sample Description:	Brown Sandy Clay

L_i =	7.75	cm	**Hydraulic System Constants**	
L_f =	7.40	cm	**Mercury U-Tube Manometer**	
Dia =	10.4	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	24.4	C	Area permometer tube, a_p (cm^2)	0.031416
R_t =	0.90131		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting

Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.53	60
10^{-5} - 10^{-6}	10	7.35	60
10^{-6} - 10^{-7}	20	13.01	60
< 10^{-7}	30	18.66	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	KR	6/27/2010	0				21.90	1.70	274.92	37.2		
1	KR	6/27/2010	30	1800	60	65	20.70	1.65	259.26	35.1	1.90E-08	1.71E-08
			30				20.70	1.65	259.26	35.1		
2	KR	6/27/2010	40	2400	60	65	20.20	1.63	252.73	34.2	2.043E-08	1.84E-08
			40				20.20	1.63	252.73	34.2		
3	KR	6/27/2010	50	3000	60	65	19.90	1.62	248.82	33.6	1.939E-08	1.75E-08
			50				19.90	1.62	248.82	33.6		
4	KR	6/27/2010	60	3600	60	65	19.50	1.60	243.60	32.9	1.961E-08	1.77E-08
			60				19.50	1.60	243.60	32.9		
5	KR	6/27/2010	70	4200	60	65	19.20	1.59	239.68	32.4	1.908E-08	1.72E-08

Project Manager

6/28/2010
Date

Average K:	1.949E-08	1.7569E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	6/27/2010
Sample ID:	AM-17
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.36		10.36	
Sample Length (cm)	7.75		7.40	
Sample Volume (cm^3)	653.6		623.9	
Tare Number	Y		LOL	
Tare Weight (gm)	49.6		49.5	
Wet Soil + Tare (gm)	455.3		396.9	
Dry Soil + Tare (gm)	395.65		343.84	
Water Weight (gm)		59.7		53.06
Dry Soil Weight (gm)		346.05		294.34
Moisture Content (%)		17.2%		18.0%
Wet Weight Sample (gm)	1325.4		1331.4	
Wet Density Sample (pcf)		126.33		132.95
Dry Density Sample (pcf)		107.76		112.64
Saturation %		82.6%		98.2%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	7/12/2010
Sample ID:	AM-21
Sample Description:	Brown Sandy Clay

L_i =	7.71	cm	**Hydraulic System Constants**	
L_f =	7.72	cm	**Mercury U-Tube Manometer**	
Dia =	10.3	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	23.9	C	Area permometer tube, a_p (cm^2)	0.031416
R_i =	0.91288		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting

Estimated k_f (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.65	60
10^{-5} - 10^{-6}	10	7.60	60
10^{-6} - 10^{-7}	20	13.50	60
< 10^{-7}	30	19.40	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	OG	7/12/2010	0				25.80	1.70	328.00	42.5		
1	OG	7/12/2010	30	1800	60	65	24.40	1.64	309.73	40.1	1.97E-08	1.80E-08
			30				24.40	1.64	309.73	40.1		
2	OG	7/12/2010	40	2400	60	65	23.80	1.62	301.90	39.1	2.143E-08	1.96E-08
			40				23.80	1.62	301.90	39.1		
3	OG	7/12/2010	50	3000	60	65	23.30	1.60	295.37	38.3	2.169E-08	1.98E-08
			50				23.30	1.60	295.37	38.3		
4	OG	7/12/2010	60	3600	60	65	22.80	1.58	288.84	37.4	2.195E-08	2.00E-08
			60				22.80	1.58	288.84	37.4		
5	OG	7/12/2010	70	4200	60	65	22.40	1.56	283.62	36.7	2.153E-08	1.97E-08

Project Manager

7/13/2010
Date

Average K:	2.127E-08	1.9414E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	3

Date:	7/12/2010
Sample ID:	AM-21
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.26		10.26	
Sample Length (cm)	7.71		7.72	
Sample Volume (cm^3)	637.6		638.6	
Tare Number	JS		WO	
Tare Weight (gm)	50		50.1	
Wet Soil + Tare (gm)	203.7		265.4	
Dry Soil + Tare (gm)	185.31		235.3	
Water Weight (gm)		18.4		30.1
Dry Soil Weight (gm)		135.31		185.2
Moisture Content (%)		13.6%		16.3%
Wet Weight Sample (gm)	1365		1383.5	
Wet Density Sample (pcf)		133.38		134.97
Dry Density Sample (pcf)		117.42		116.10
Saturation %		84.4%		97.3%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	7/23/2010
Sample ID:	AM-25
Sample Description:	Brown Sandy Clay

L_i =	7.71	cm	**Hydraulic System Constants**	
L_f =	7.57	cm	**Mercury U-Tube Manometer**	
Dia =	10.2	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	26.1	C	Area permometer tube, a_p (cm^2)	0.031416
R_i =	0.8679		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_f (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.59	60
10^{-5} - 10^{-6}	10	7.49	60
10^{-6} - 10^{-7}	20	13.28	60
< 10^{-7}	30	19.07	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	ML	7/23/2010	0				24.70	1.70	313.03	41.3		
1	ML	7/23/2010	20	1200	60	65	23.60	1.65	298.67	39.4	2.40E-08	2.08E-08
			20				23.60	1.65	298.67	39.4		
2	ML	7/23/2010	30	1800	60	65	23.30	1.64	294.76	38.9	2.051E-08	1.78E-08
			30				23.30	1.64	294.76	38.9		
3	ML	7/23/2010	40	2400	60	65	22.70	1.62	286.92	37.9	2.23E-08	1.94E-08
			40				22.70	1.62	286.92	37.9		
4	ML	7/23/2010	50	3000	60	65	22.20	1.60	280.40	37.0	2.258E-08	1.96E-08
			50				22.20	1.60	280.40	37.0		
5	ML	7/23/2010	60	3600	60	65	21.70	1.58	273.87	36.2	2.286E-08	1.98E-08

Project Manager

7/26/2010
Date

Average K:	2.245E-08	1.9486E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	7/23/2010
Sample ID:	AM-25
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.21		10.21	
Sample Length (cm)	7.71		7.57	
Sample Volume (cm^3)	631.3		620.2	
Tare Number	EE		EE	
Tare Weight (gm)	49.9		50	
Wet Soil + Tare (gm)	302.6		409.3	
Dry Soil + Tare (gm)	270.4		359.8	
Water Weight (gm)		32.2		49.5
Dry Soil Weight (gm)		220.5		309.8
Moisture Content (%)		14.6%		16.0%
Wet Weight Sample (gm)	1331.7		1338.3	
Wet Density Sample (pcf)		131.42		134.42
Dry Density Sample (pcf)		114.68		115.90
Saturation %		84.0%		95.1%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	8/3/2010
Sample ID:	AM-29
Sample Description:	Brown Sandy Clay

L_i =	7.71	cm	**Hydraulic System Constants**	
L_f =	7.66	cm	**Mercury U-Tube Manometer**	
Dia =	10.3	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	25.0	C	Area permometer tube, a_p (cm^2)	0.031416
R_i =	0.88996		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting			
Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.63	60
10^{-5} - 10^{-6}	10	7.56	60
10^{-6} - 10^{-7}	20	13.41	60
< 10^{-7}	30	19.27	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	OG	8/3/2010	0				21.90	1.70	274.92	35.9		
1	OG	8/3/2010	30	1800	60	65	20.40	1.64	255.34	33.3	2.53E-08	2.25E-08
			30				20.40	1.64	255.34	33.3		
2	OG	8/3/2010	40	2400	60	65	19.40	1.60	242.29	31.6	3.248E-08	2.89E-08
			40				19.40	1.60	242.29	31.6		
3	OG	8/3/2010	50	3000	60	65	18.80	1.57	234.46	30.6	3.279E-08	2.92E-08
			50				18.80	1.57	234.46	30.6		
4	OG	8/3/2010	60	3600	60	65	18.20	1.55	226.63	29.6	3.321E-08	2.96E-08
			60				18.20	1.55	226.63	29.6		
5	OG	8/3/2010	70	4200	60	65	17.80	1.53	221.41	28.9	3.194E-08	2.84E-08

Project Manager

8/4/2010
Date

Average K:	3.113E-08	2.7707E-08
Specification:	< 1.00E-07	

HYDRAULIC CC JCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	8/3/2010
Sample ID:	AM-29
Sample Description:	Brown Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.26		10.26	
Sample Length (cm)	7.71		7.66	
Sample Volume (cm^3)	637.6		633.9	
Tare Number	N		N	
Tare Weight (gm)	49.8		49.8	
Wet Soil + Tare (gm)	404.5		361.2	
Dry Soil + Tare (gm)	350.9		310.1	
Water Weight (gm)		53.6		51.1
Dry Soil Weight (gm)		301.1		260.3
Moisture Content (%)		17.8%		19.6%
Wet Weight Sample (gm)	1304.4		1323.4	
Wet Density Sample (pcf)		127.46		130.07
Dry Density Sample (pcf)		108.20		108.73
Saturation %		86.3%		96.5%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	8/12/2010
Sample ID:	AM-33
Sample Description:	Gray Sandy Clay

L_i =	7.71	cm	**Hydraulic System Constants**	
L_f =	7.65	cm	**Mercury U-Tube Manometer**	
Dia =	10.3	cm	Area annulus, a_a (cm^2)	0.76712
Temp =	27.8	C	Area permometer tube, a_p (cm^2)	0.031416
R_t =	0.83631		Delta Hg at equilibrium (cm)	1.70

B Coefficient	0.95	**Specific Gravity of Water, Gw**	1
Effective Stress	5		

Mercury Head Setting

Estimated k_t (cm/sec)	Max Gradient i_o=h/L	Permometer Setting (cm)	Min. Cell Pressure (psi)
10^{-4} - 10^{-5}	5	4.63	60
10^{-5} - 10^{-6}	10	7.55	60
10^{-6} - 10^{-7}	20	13.40	60
< 10^{-7}	30	19.25	60

Test No.	Readings by:	Date:	Time mins	Cumulative t secs	Pressure Cell psi	Pressure Back psi	Mercury Head Tail cm Hg	Mercury Head Head cm Hg	Total Head Loss cm H_2O	Hyd Gradient Prel/final	Hydraulic Conductivity K cm/sec	Hydraulic Conductivity K_{20} cm/sec
	OG	8/3/2010	0				21.10	1.70	264.03	34.5		
1	OG	8/3/2010	20	1200	60	65	19.80	1.65	247.07	32.3	3.40E-08	2.84E-08
			20				19.80	1.65	247.07	32.3		
2	OG	8/3/2010	30	1800	60	65	19.20	1.62	239.23	31.3	3.372E-08	2.82E-08
			30				19.20	1.62	239.23	31.3		
3	OG	8/3/2010	40	2400	60	65	18.90	1.61	235.32	30.7	2.954E-08	2.47E-08
			40				18.90	1.61	235.32	30.7		
4	OG	8/3/2010	50	3000	60	65	18.60	1.60	231.40	30.2	2.71E-08	2.27E-08
			50				18.60	1.60	231.40	30.2		
5	OG	8/3/2010	60	3600	60	65	18.50	1.59	230.10	30.1	2.356E-08	1.97E-08

Project Manager

8/13/2010
Date

Average K:	2.959E-08	2.4743E-08
Specification:	< 1.00E-07	

HYDRAULIC CONDUCTIVITY TEST
ASTM 5084, METHOD F
Constant volume, Falling Head Hydraulic System

ENVIROTECH
ENGINEERING & CONSULTING INC

Submittal:	05-18D: Admix Laboratory Data Sheets		
Project Name:	Hanford-ERDF Cells 9 & 10		
Poject Number:	S013213A00	**Permeameter:**	6

Date:	8/12/2010
Sample ID:	AM-33
Sample Description:	Gray Sandy Clay

Item	Initial		Final	
Sample Diameter (cm)	10.26		10.26	
Sample Length (cm)	7.71		7.65	
Sample Volume (cm^3)	637.6		633.1	
Tare Number	A-6		E2	
Tare Weight (gm)	50.3		50.3	
Wet Soil + Tare (gm)	362.3		351.8	
Dry Soil + Tare (gm)	312.7		300.2	
Water Weight (gm)		49.6		51.6
Dry Soil Weight (gm)		262.4		249.9
Moisture Content (%)		18.9%		20.6%
Wet Weight Sample (gm)	1292.2		1305.3	
Wet Density Sample (pcf)		126.27		128.45
Dry Density Sample (pcf)		106.19		106.47
Saturation %		87.0%		95.7%

Specific Gravity	2.7		Tested		Assumed	x
Sample Results:	**Meets Specifications**					

G.4

SOIL CLASSIFICATIONS

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4102

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-01
Project:	S013213A00			Sample Description:	Admix from Test Pad
Project Location:	ERDF Cells 9-10			Sampling Date:	4/5/2010
Tested By:	L. Hay	Date:	4/12/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	4/13/2010	Date Received:	4/5/2010

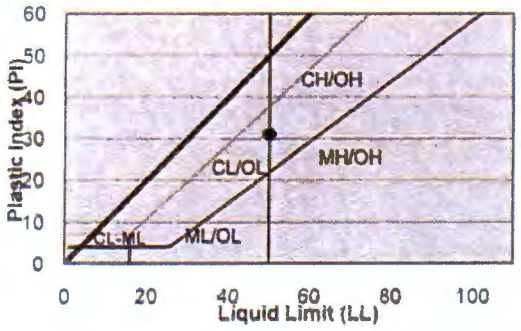
Natural Moisture Content

Natural Moisture	14.8%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-7	Spec
Liquid Limit	50	
Plastic Limit	19	
Plasticity Index	31	

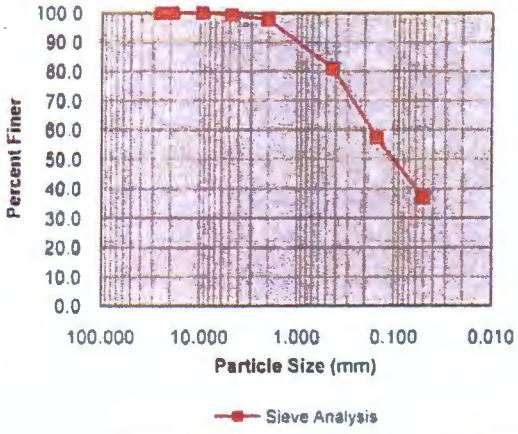
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.3	
No. 10	2.000	97.6	
No. 40	0.425	80.8	
No. 100	0.150	57.4	
No. 200	0.050	36.9	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5/14/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580 234-8780 | Fax 580 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-02
Project:	S013213A00			Sample Description	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	4/28/2010
Tested By:	L. Hay	Date:	4/12/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	4/13/2010	Date Received:	4/28/2010

Natural Moisture Content

Natural Moisture	14.6%

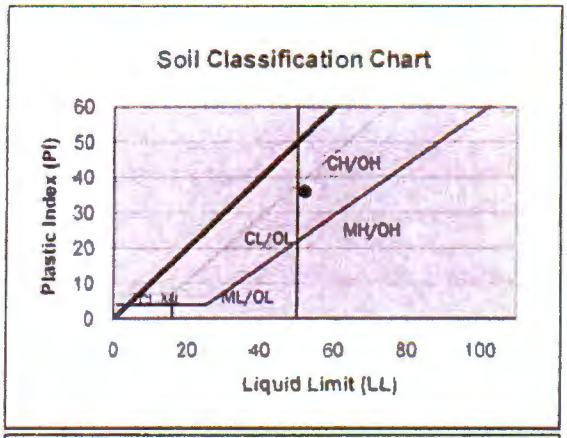
Atterberg Limits Test Results (ASTM D-4318)

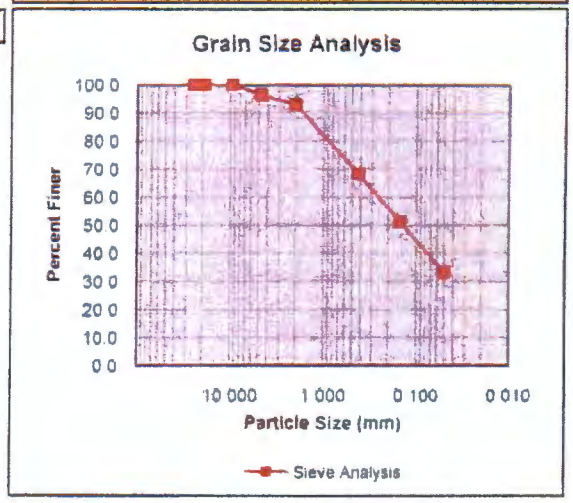
		Spec
Flow Index	-1	
Liquid Limit	52	
Plastic Limit	16	
Plasticity Index	36	

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	96.4	
No. 10	2.000	92.7	
No. 40	0.425	68.2	
No. 100	0.150	51.1	
No. 200	0.050	33.3	

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5/6/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580. 234-8780 | Fax 580. 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-03
Project:	S013213A00			Sample Description	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/3/2010
Tested By:	L. Hay	Date:	5/5/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	5/6/2010	Date Received:	5/3/2010

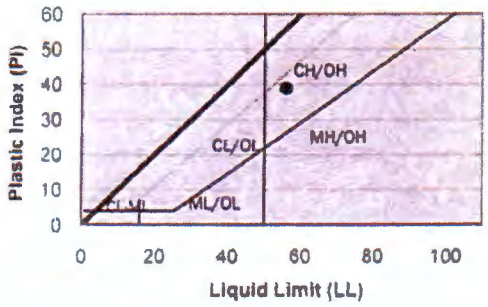
Natural Moisture Content

Natural Moisture	19.0%

Atterberg Limits Test Results (ASTM D-4318)

		Spec
Flow Index	-8	
Liquid Limit	56	
Plastic Limit	17	
Plasticity Index	39	

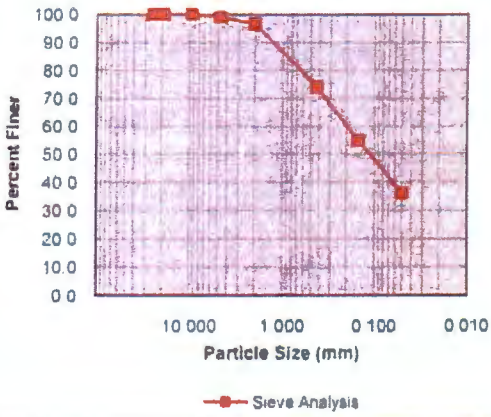
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.0	
No. 10	2.000	96.5	
No. 40	0.425	73.9	
No. 100	0.150	54.8	
No. 200	0.050	36.2	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5/6/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

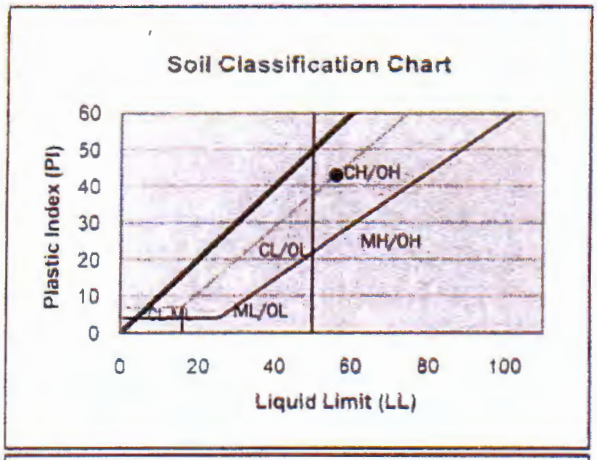
Contact Name:	Charlie Skiba			Sample ID:	AM-04
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/6/2010
Tested By:	T. Williams	Date:	5/7/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	5/10/2010	Date Received:	5/6/2010

Natural Moisture Content

Natural Moisture	17.1%

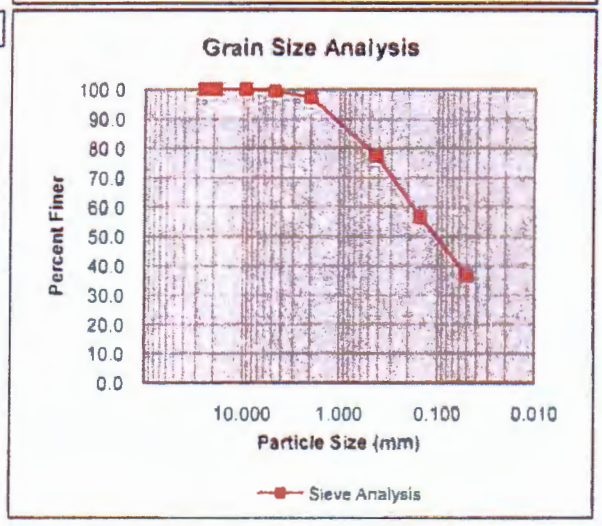
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-4	Spec
Liquid Limit	56	
Plastic Limit	13	
Plasticity Index	43	



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.4	
No. 10	2.000	97.2	
No. 40	0.425	77.4	
No. 100	0.150	56.6	
No 200	0.050	36.5	



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5-12-10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

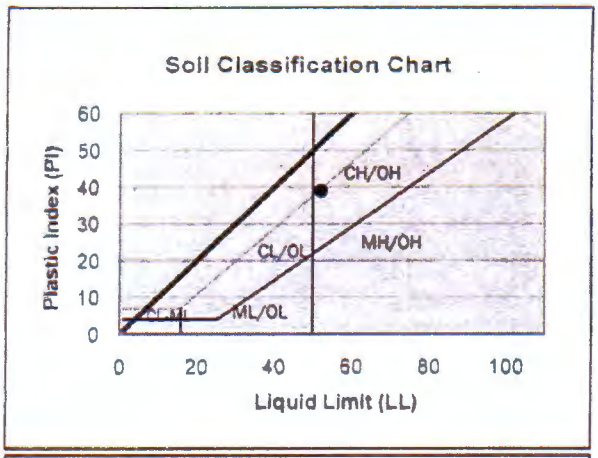
Contact Name:	Charlie Skiba			Sample ID:	AM-05
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/12/2010
Tested By:	J. Stallings	Date:	5/14/2010	Sampled By:	T. Williams
Reviewed By:	T Williams	Date:	5/17/2010	Date Received:	5/12/2010

Natural Moisture Content

Natural Moisture	17.9%

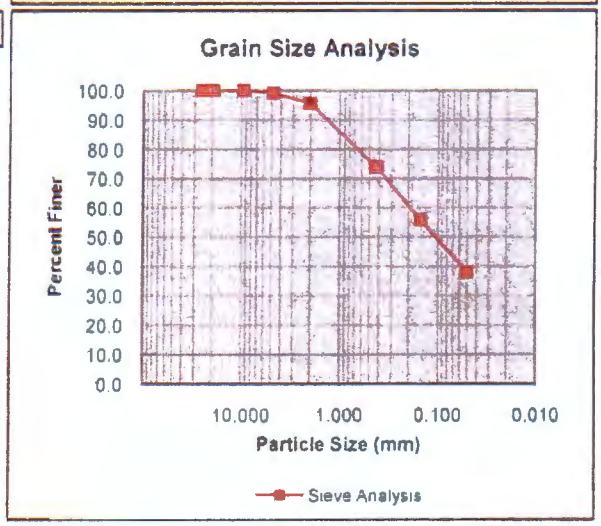
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-8	Spec
Liquid Limit	52	
Plastic Limit	13	
Plasticity Index	39	



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100 0	
3/8 "	9.500	100 0	
No 4	4.750	99.0	
No. 10	2.000	95 6	
No. 40	0.425	74.0	
No. 100	0.150	55.8	
No. 200	0.050	37 8	



Cu	6.05
Cc	0.62

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5-19-10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-06
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/17/2010
Tested By:	L. Hay	Date:	5/18/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	5/19/2010	Date Received:	5/17/2010

Natural Moisture Content

Natural Moisture	18.7%

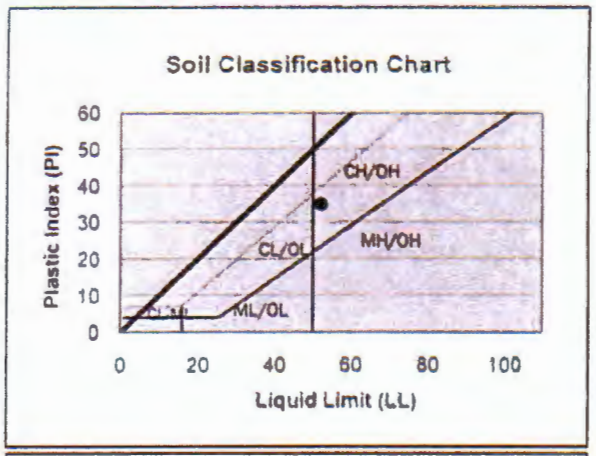
Atterberg Limits Test Results (ASTM D-4318)

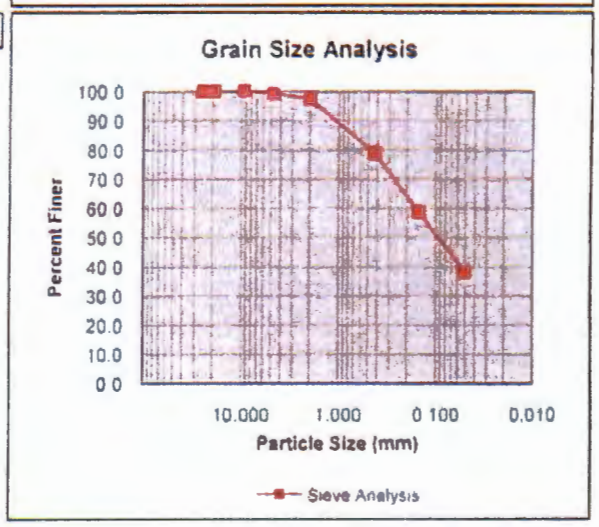
Flow Index	-14	Spec
Liquid Limit	52	
Plastic Limit	17	
Plasticity Index	35	

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.1	
No. 10	2.000	97.1	
No. 40	0.425	78.5	
No. 100	0.150	58.3	
No. 200	0.050	37.8	

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5-24-2010
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-07
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/18/2010
Tested By:	T. Williams	Date:	5/20/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	5/21/2010	Date Received:	5/18/2010

Natural Moisture Content

Natural Moisture	18.4%

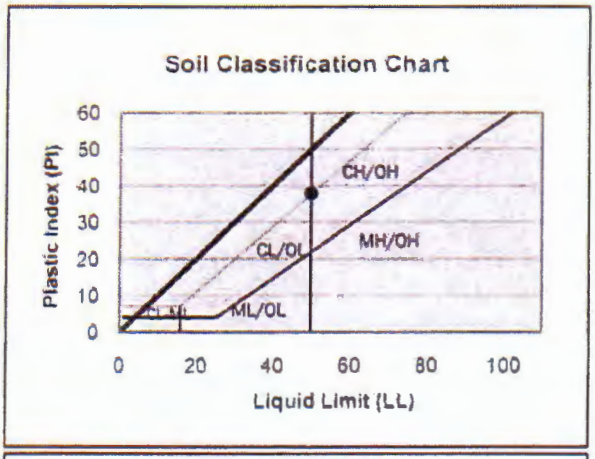
Atterberg Limits Test Results (ASTM D-4318)

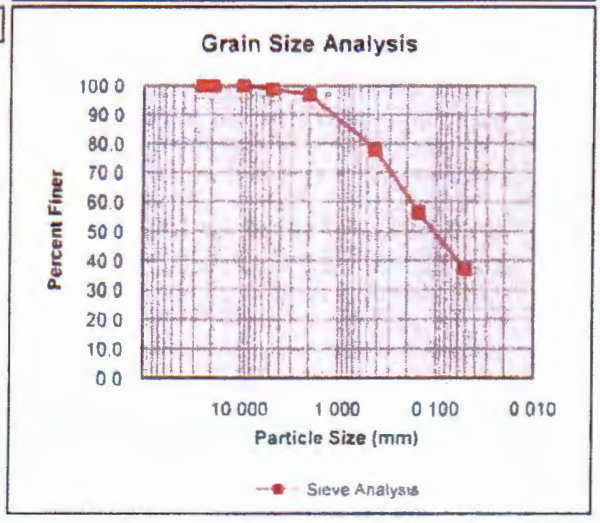
Flow Index	-9	Spec
Liquid Limit	50	
Plastic Limit	12	
Plasticity Index	38	

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	98.8	
No. 10	2.000	96.8	
No. 40	0.425	78.0	
No. 100	0.150	56.2	
No. 200	0.050	37.1	

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5-24-2010
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-08
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/19/2010
Tested By:	T. Williams	Date:	5/21/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	5/26/2010	Date Received:	5/19/2010

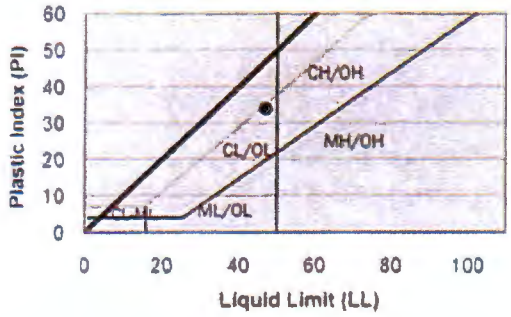
Natural Moisture Content

Natural Moisture	15.4%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-9	Spec
Liquid Limit	47	
Plastic Limit	13	
Plasticity Index	34	

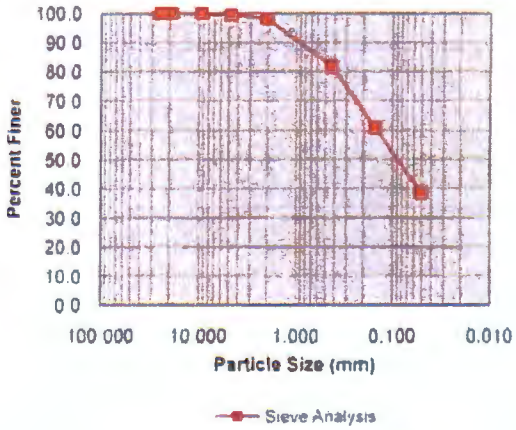
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.5	
No. 10	2.000	98.0	
No. 40	0.425	81.5	
No. 100	0.150	60.7	
No. 200	0.050	38.4	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-09
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/24/2010
Tested By:	T. Williams	Date:	5/25/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	5/26/2010	Date Received:	5/24/2010

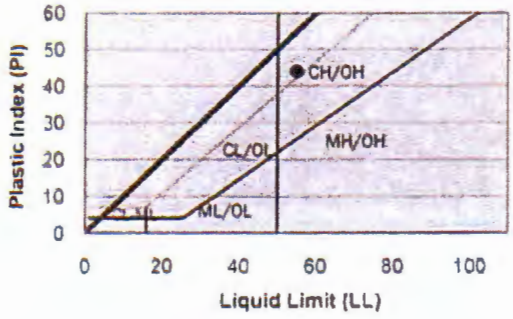
Natural Moisture Content

Natural Moisture	18.7%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-5	Spec
Liquid Limit	55	
Plastic Limit	11	
Plasticity Index	44	

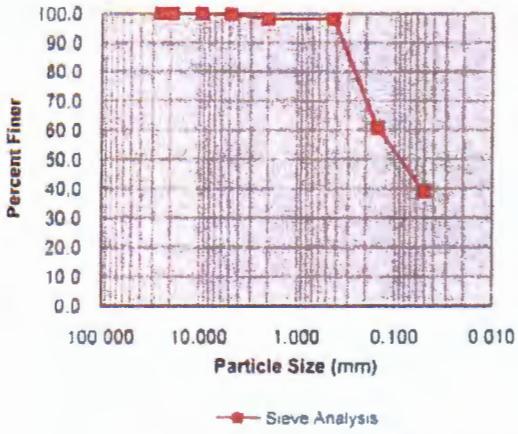
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.7	
No. 10	2.000	98.2	
No. 40	0.425	98.0	
No. 100	0.150	60.9	
No. 200	0.050	38.8	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

8/20/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-10
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	5/25/2010
Tested By:	T. Williams	Date:	5/26/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date	5/27/2010	Date Received:	5/25/2010

Natural Moisture Content

Natural Moisture	17.5%
Percent -200	38.3%

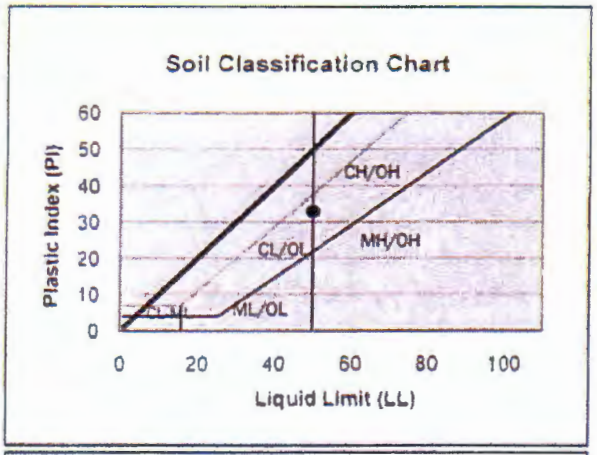
Atterberg Limits Test Results (ASTM D-4318)

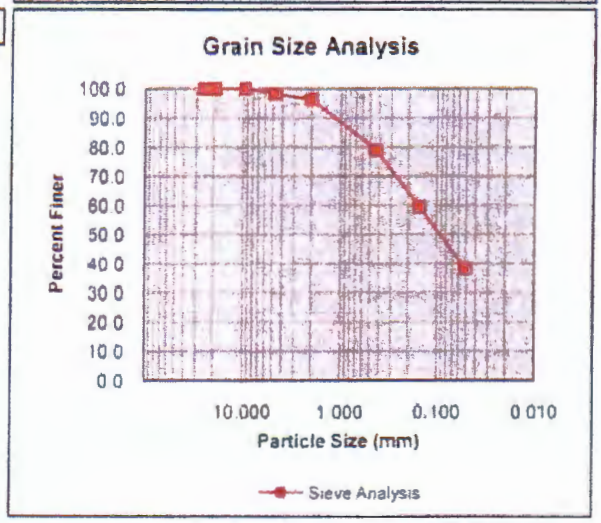
		Spec
Flow Index	-6	
Liquid Limit	50	
Plastic Limit	17	
Plasticity Index	33	

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	98.2	
No. 10	2.000	96.4	
No. 40	0.425	79.1	
No. 100	0.150	59.7	
No. 200	0.050	38.3	

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

5/27/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: **Washington Closure Hanford**
Submittal: **05-18D Admix Lab Data**

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-11
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/1/2010
Tested By:	T. Williams	Date:	6/2/2010	Sampled By:	T. Williams
Reviewed By:	J. Voss	Date:	6/3/2010	Date Received:	6/1/2010

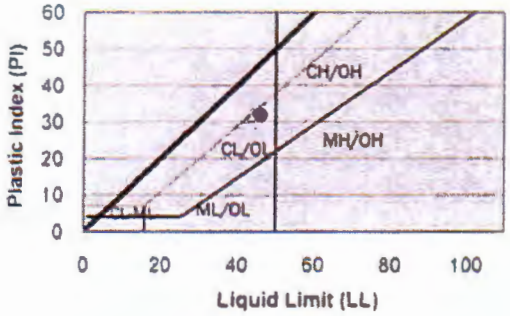
Natural Moisture Content

Natural Moisture	17.3%
Percent -200	33.2%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-10	Spec
Liquid Limit	46	
Plastic Limit	14	
Plasticity Index	32	

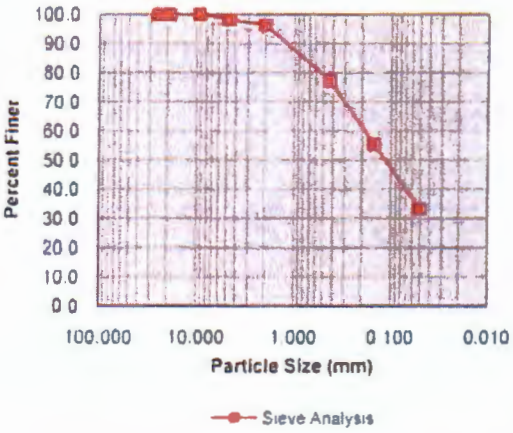
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1"	25.000	100.0	
3/4"	19.000	100.0	
3/8"	9.500	100.0	
No.4	4.750	98.2	
No. 10	2.000	96.3	
No. 40	0.425	77.0	
No. 100	0.150	55.4	
No. 200	0.050	33.2	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-12
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/3/2010
Tested By:	M. Lunday	Date:	6/7/2010	Sampled By:	T. Williams
Reviewed By:	T. Williams	Date:	6/8/2010	Date Received:	6/3/2010

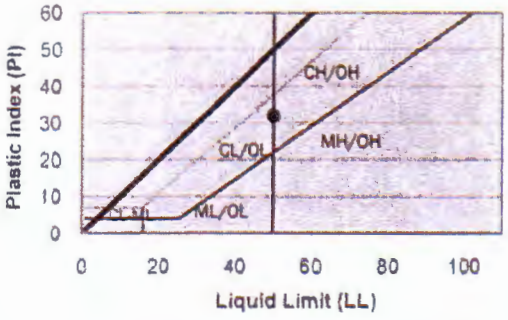
Natural Moisture Content

Natural Moisture	18.2%
Percent -200	35.5%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-6	Spec
Liquid Limit	50	
Plastic Limit	18	
Plasticity Index	32	

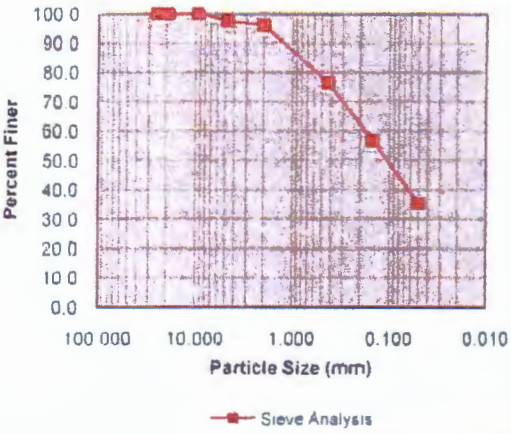
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	97.4	
No. 10	2.000	96.0	
No. 40	0.425	76.4	
No. 100	0.150	56.9	
No. 200	0.050	35.5	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

11/9/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-13
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/7/2010
Tested By:	M. Lunday	Date:	6/8/2010	Sampled By:	M. Lunday
Reviewed By:	J. Voss	Date:	6/9/2010	Date Received:	6/7/2010

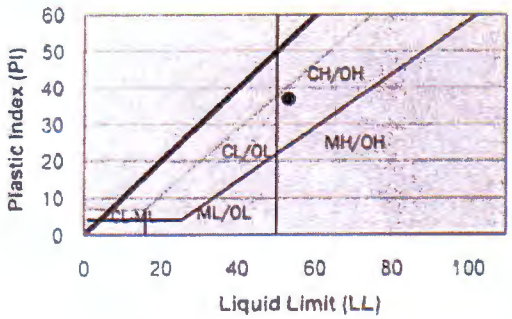
Natural Moisture Content

Natural Moisture	18.8%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-7	Spec
Liquid Limit	53	
Plastic Limit	16	
Plasticity Index	37	

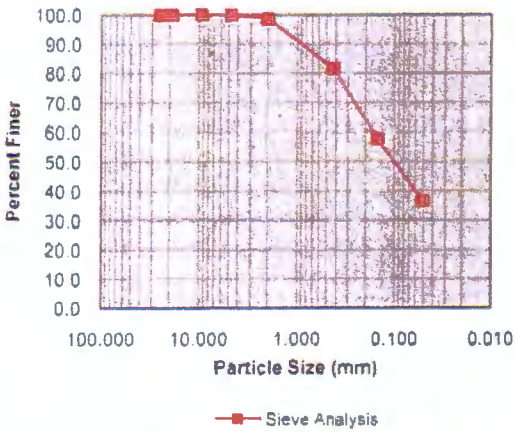
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.9	
No. 10	2.000	98.5	
No. 40	0.425	81.5	
No. 100	0.150	57.7	
No. 200	0.050	36.6	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

11/9/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4102

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-14
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/14/2010
Tested By:	L. Hay	Date:	6/15/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	6/16/2010	Date Received:	6/14/2010

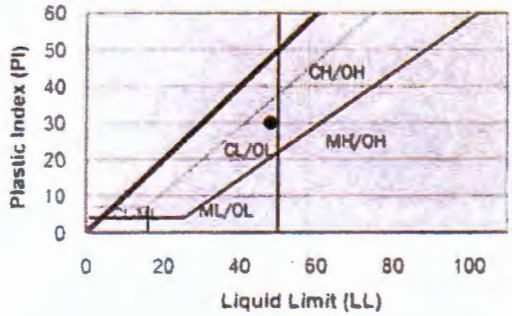
Natural Moisture Content

Natural Moisture	20.0%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-5	Spec
Liquid Limit	48	
Plastic Limit	18	
Plasticity Index	30	

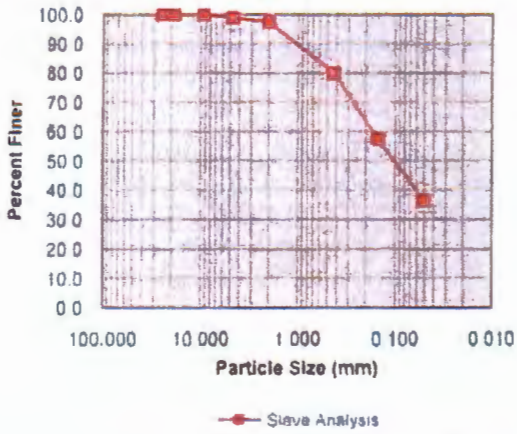
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.1	
No. 10	2.000	97.4	
No. 40	0.425	79.7	
No. 100	0.150	57.3	
No. 200	0.050	36.3	

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
580) 234-8780 | Fax (580) 237-4102

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-15
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/17/2010
Tested By:	L. Hay	Date:	6/21/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	6/22/2010	Date Received:	6/17/2010

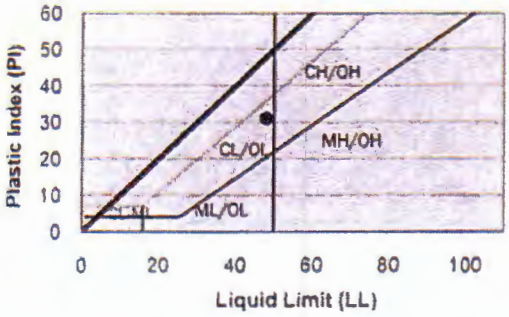
Natural Moisture Content

Natural Moisture	15.7%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-10	Spec
Liquid Limit	48	>30
Plastic Limit	17	
Plasticity Index	31	>15

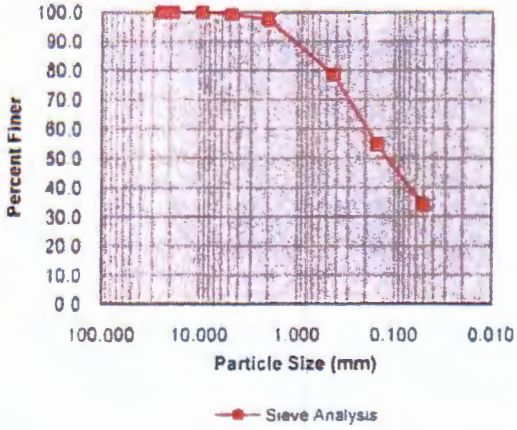
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.2	
No. 10	2.000	97.5	
No. 40	0.425	78.3	
No. 100	0.150	54.6	
No. 200	0.050	33.8	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-16
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/21/2010
Tested By:	L. Hay	Date	6/23/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	6/24/2010	Date Received:	6/21/2010

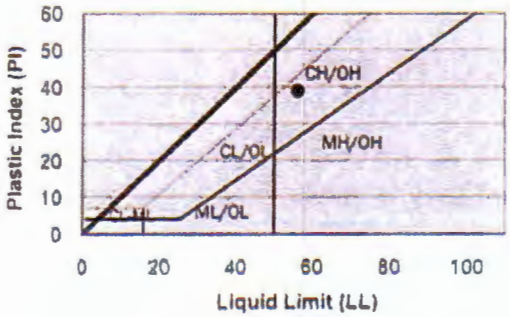
Natural Moisture Content

Natural Moisture	20.3%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-8	Spec
Liquid Limit	56	>30
Plastic Limit	17	
Plasticity Index	39	>15

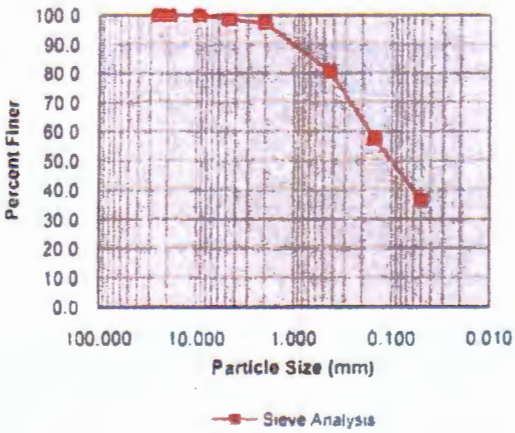
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	98.7	
No. 10	2.000	97.3	
No. 40	0.425	80.3	
No. 100	0.150	57.4	
No. 200	0.050	36.3	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-17
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/23/2010
Tested By:	L. Hay	Date:	6/24/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	6/29/2010	Date Received:	6/23/2010

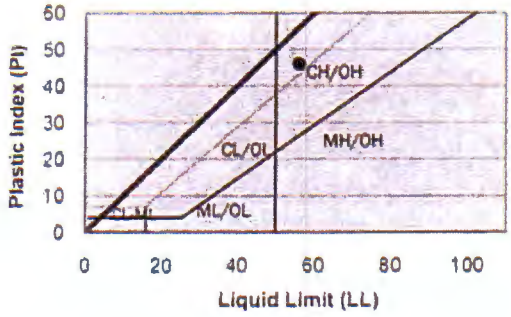
Natural Moisture Content

Natural Moisture	15.7%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-13	Spec
Liquid Limit	56	>30
Plastic Limit	10	
Plasticity Index	46	>15

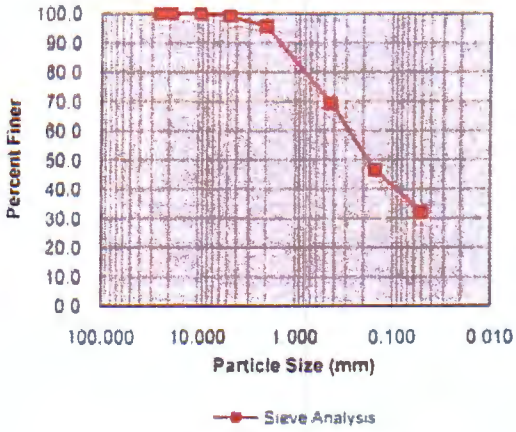
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.2	
No. 10	2.000	95.5	
No. 40	0.425	69.2	
No. 100	0.150	46.4	
No. 200	0.050	32.1	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

8/20/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-18
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	6/28/2010
Tested By:	L. Hay	Date:	6/30/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	7/2/2010	Date Received	6/28/2010

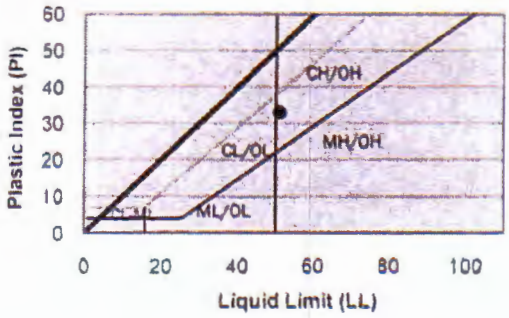
Natural Moisture Content

Natural Moisture	19.5%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-2	Spec
Liquid Limit	51	>30
Plastic Limit	18	
Plasticity Index	33	>15

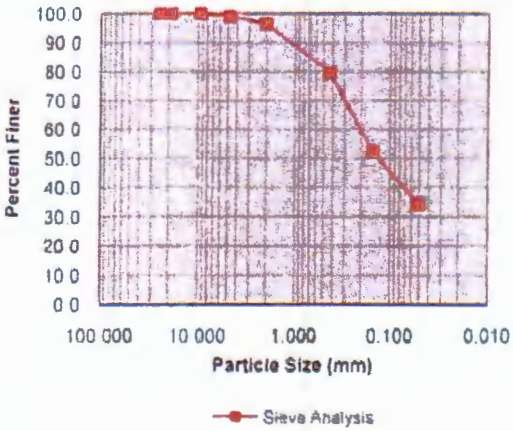
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	99.0	
No. 10	2.000	96.6	
No. 40	0.425	79.4	
No. 100	0.150	52.1	
No. 200	0.050	34.0	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

8/20/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
ENGINEERING & TESTING
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID.	AM-19
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/1/2010
Tested By:	L. Hay	Date:	7/6/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	7/8/2010	Date Received:	7/1/2010

Natural Moisture Content

Natural Moisture	17.7%

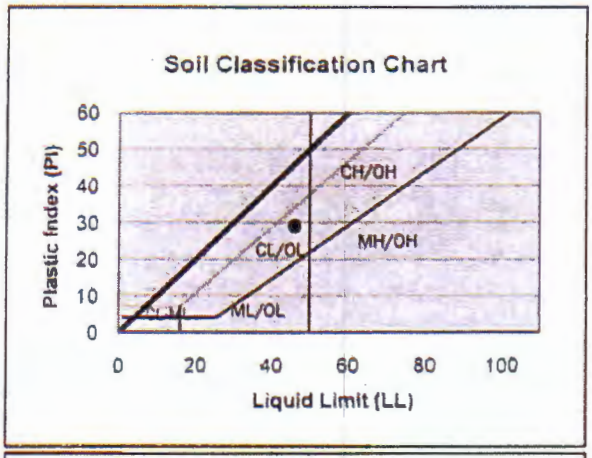
Atterberg Limits Test Results (ASTM D-4318)

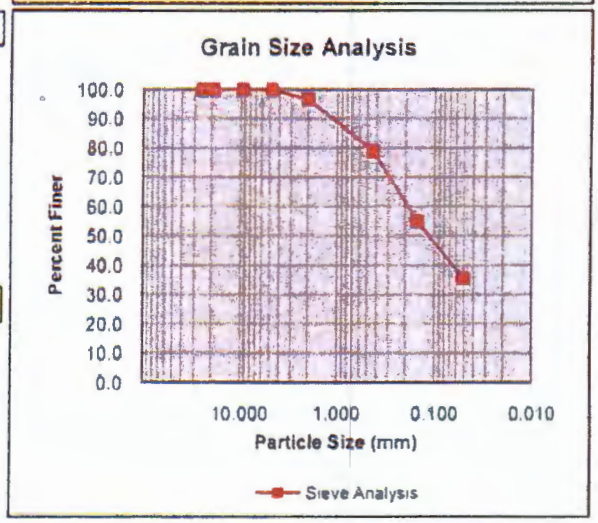
Flow Index	-5	Spec
Liquid Limit	46	>30
Plastic Limit	17	
Plasticity Index	29	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	96.6	
No. 40	0.425	78.8	
No. 100	0.150	55.2	
No. 200	0.050	35.7	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/10/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

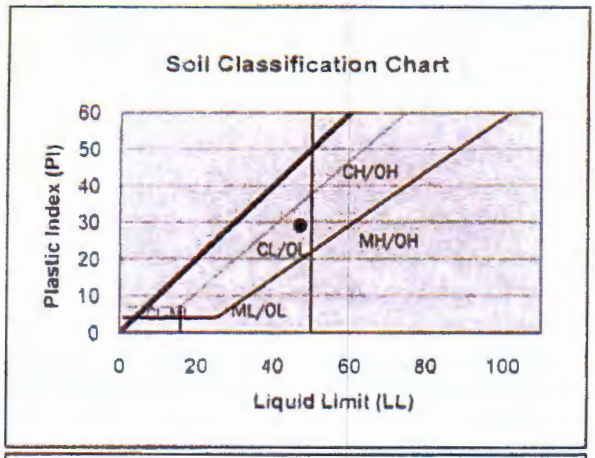
Contact Name:	Charlie Skiba			Sample ID:	AM-20
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/6/2010
Tested By:	L. Hay	Date:	7/7/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	7/8/2010	Date Received:	7/6/2010

Natural Moisture Content

Natural Moisture	16.8%

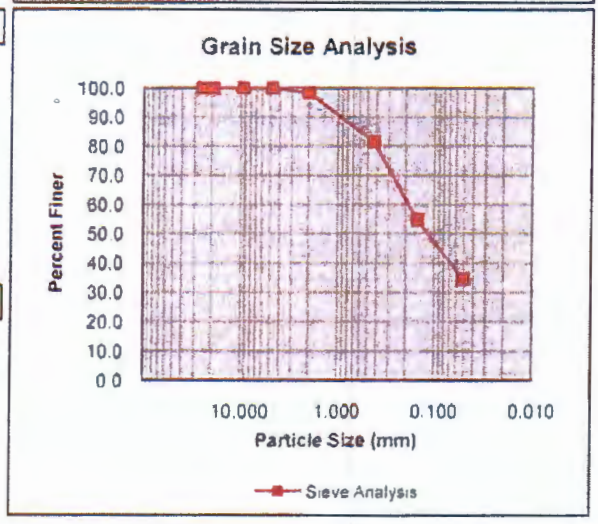
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-3	Spec
Liquid Limit	47	>30
Plastic Limit	18	
Plasticity Index	29	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	98.4	
No. 40	0.425	81.6	
No. 100	0.150	55.0	
No. 200	0.050	34.8	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/10/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-21
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/7/2010
Tested By:	L. Hay	Date:	7/8/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	7/12/2010	Date Received:	7/7/2010

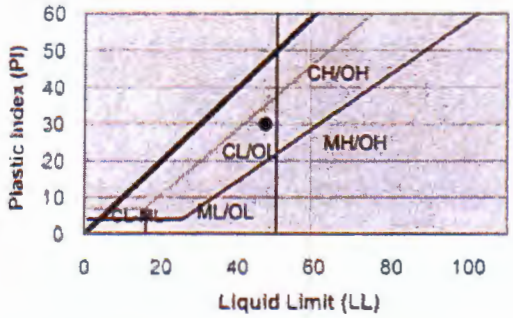
Natural Moisture Content

Natural Moisture	14.3%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-6	Spec
Liquid Limit	47	>30
Plastic Limit	17	
Plasticity Index	30	>15

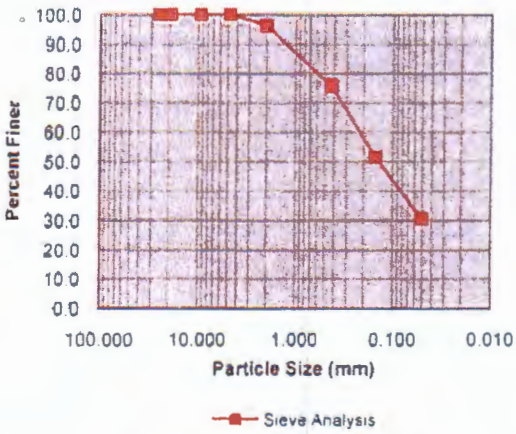
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	96.1	
No. 40	0.425	75.7	
No. 100	0.150	51.6	
No. 200	0.050	30.7	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/12/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH
2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

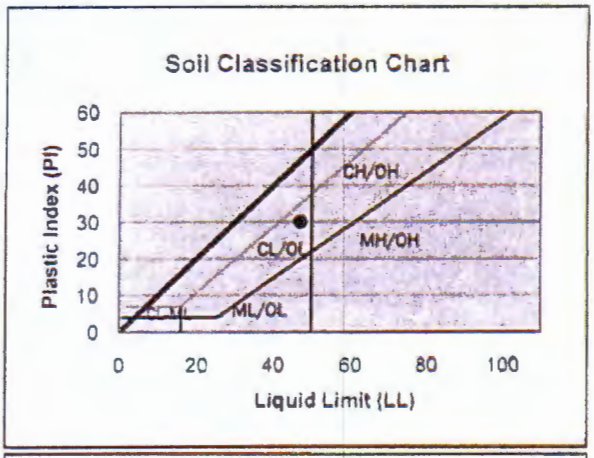
Contact Name:	Charlie Skiba			Sample ID:	AM-22
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/9/2010
Tested By:	L. Hay	Date:	7/12/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	7/13/2010	Date Received:	7/9/2010

Natural Moisture Content

Natural Moisture	15.9%

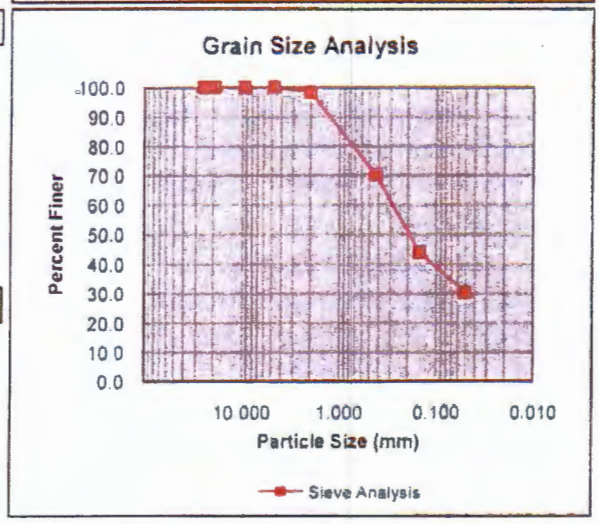
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-6	Spec
Liquid Limit	47	>30
Plastic Limit	17	
Plasticity Index	30	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	98.1	
No. 40	0.425	69.8	
No. 100	0.150	43.8	
No. 200	0.050	30.2	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/31/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
580) 234 8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

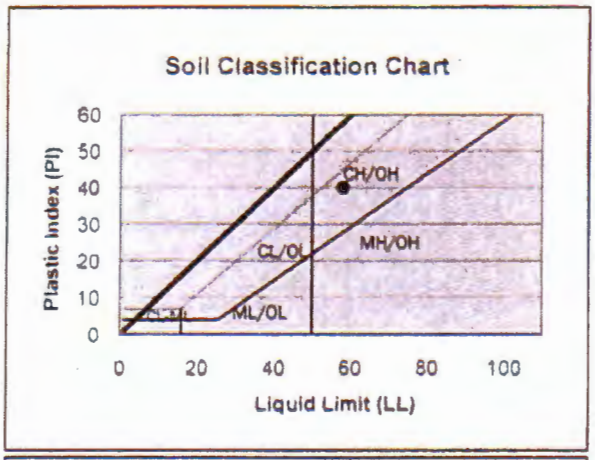
Contact Name:	Charlie Skiba			Sample ID:	AM-23
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/10/2010
Tested By:	L. Hay	Date:	7/12/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	7/13/2010	Date Received:	7/10/2010

Natural Moisture Content

Natural Moisture	16.7%

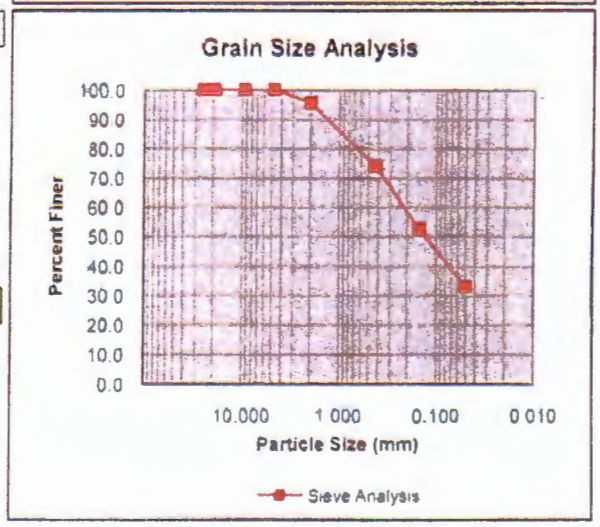
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-7	Spec
Liquid Limit	58	>30
Plastic Limit	18	
Plasticity Index	40	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	95.5	
No. 40	0.425	74.0	
No. 100	0.150	52.7	
No. 200	0.050	33.1	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CH: Sandy Fat Clay

Deviations from ASTM: None

Envirotech

7/15/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-24
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/14/2010
Tested By:	L. Hay	Date:	7/19/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	7/21/2010	Date Received:	7/14/2010

Natural Moisture Content

Natural Moisture	19.1%

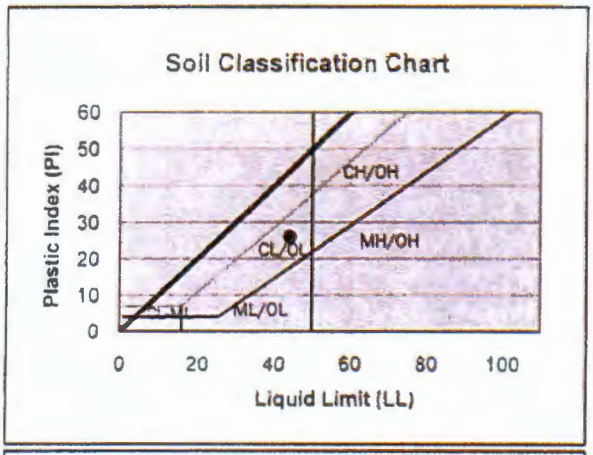
Atterberg Limits Test Results (ASTM D-4318)

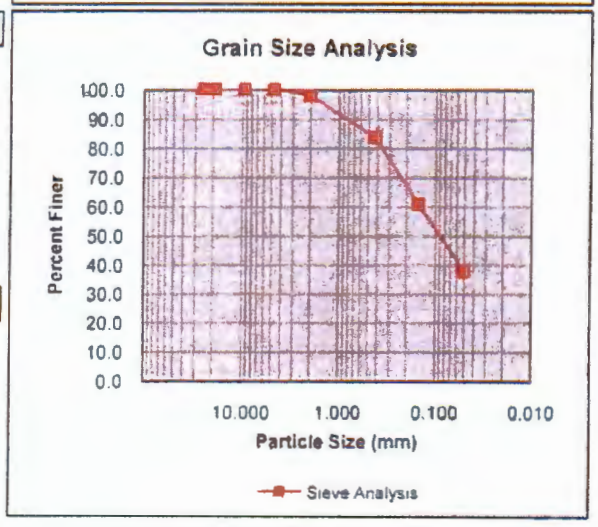
Flow Index	-4	Spec
Liquid Limit	44	>30
Plastic Limit	18	
Plasticity Index	26	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	98.0	
No. 40	0.425	83.6	
No. 100	0.150	60.8	
No 200	0.050	37.8	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/26/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: **Washington Closure Hanford**
Submittal: **05-18D Admix Lab Data**

Sample Information

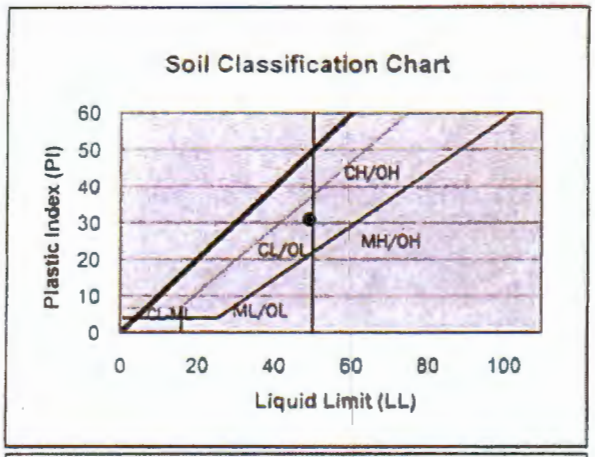
Contact Name:	Charlie Skiba			Sample ID:	AM-25
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/15/2010
Tested By:	L. Hay	Date:	7/19/2010	Sampled By:	L. Hay
Reviewed By:	T. Williams	Date:	7/21/2010	Date Received:	7/15/2010

Natural Moisture Content

Natural Moisture	16.7%

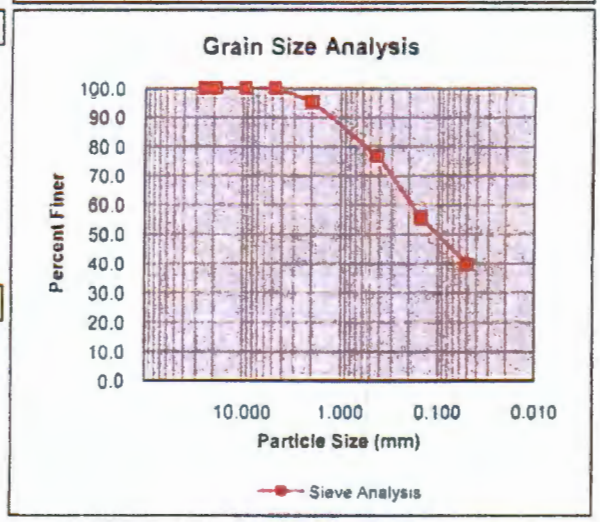
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-8	Spec
Liquid Limit	49	>30
Plastic Limit	18	
Plasticity Index	31	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	95.3	
No. 40	0.425	76.7	
No. 100	0.150	55.4	
No. 200	0.050	39.7	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

7/26/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

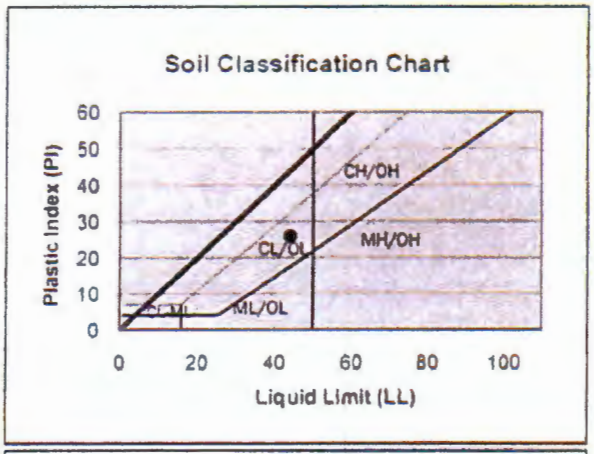
Contact Name:	Charlie Skiba			Sample ID:	AM-26
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/20/2010
Tested By:	L. Hay	Date:	7/21/2010	Sampled By:	L. Hay
Reviewed By:	J. Voss	Date:	7/22/2010	Date Received:	7/20/2010

Natural Moisture Content

Natural Moisture	14.8%

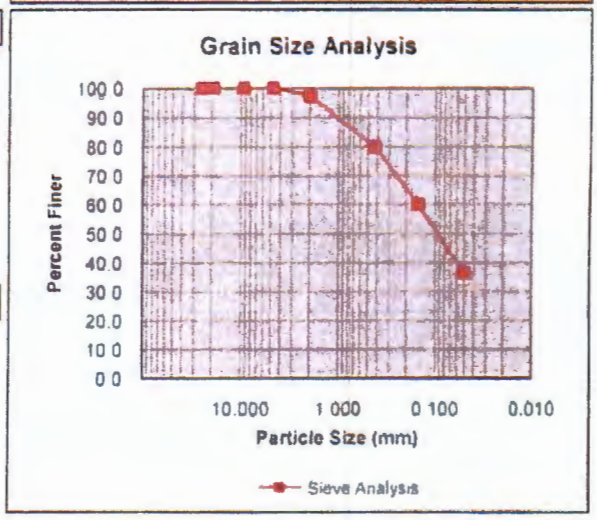
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-8	Spec
Liquid Limit	44	>30
Plastic Limit	18	
Plasticity Index	26	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	97.2	
No. 40	0.425	79.7	
No. 100	0.150	60.0	
No. 200	0.050	36.3	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/2/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-27
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/26/2010
Tested By:	R. Swenson		7/28/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	7/29/2010	Date Received:	7/26/2010

Natural Moisture Content

Natural Moisture	18.6%

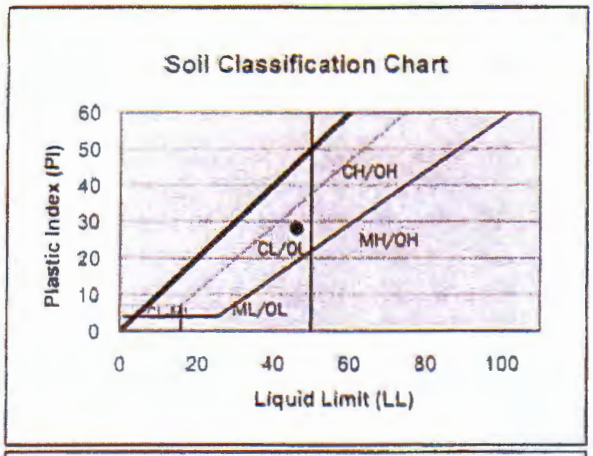
Atterberg Limits Test Results (ASTM D-4318)

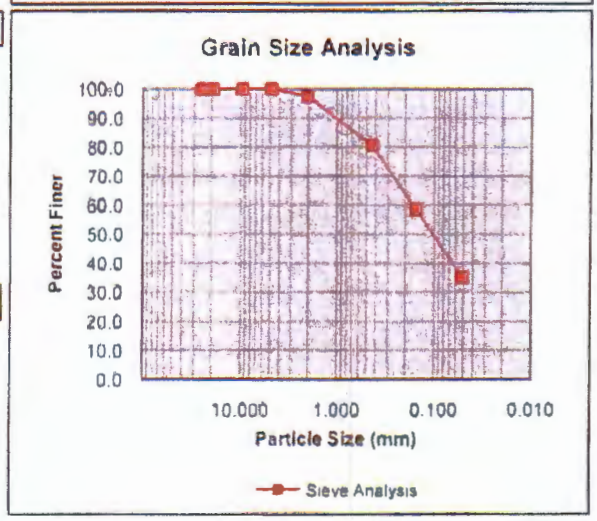
Flow Index	-4	Spec
Liquid Limit	46	>30
Plastic Limit	18	
Plasticity Index	28	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	97.4	
No. 40	0.425	80.6	
No. 100	0.150	58.3	
No. 200	0.050	35.1	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-28
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/27/2010
Tested By:	R. Swenson		7/28/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	7/29/2010	Date Received:	7/27/2010

Natural Moisture Content

Natural Moisture	17.0%

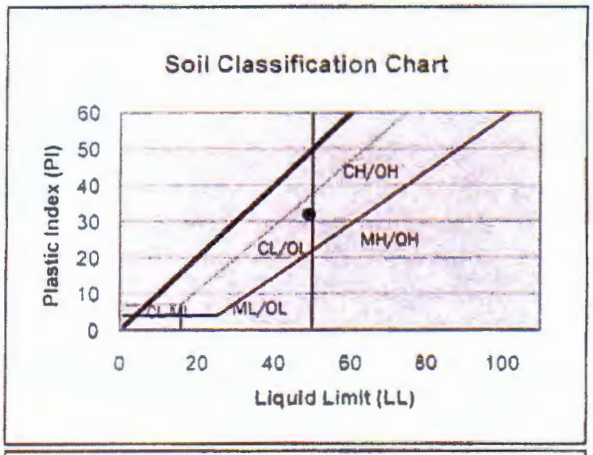
Atterberg Limits Test Results (ASTM D-4318)

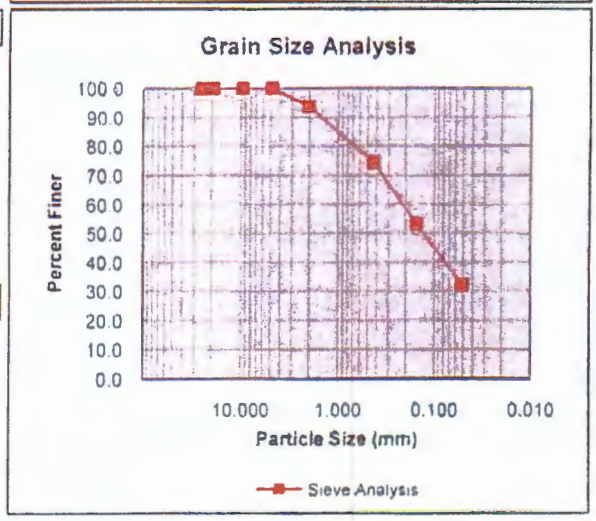
Flow Index	-7	Spec
Liquid Limit	49	>30
Plastic Limit	17	
Plasticity Index	32	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4."	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	93.7	
No. 40	0.425	74.5	
No. 100	0.150	53.3	
No. 200	0.050	32.0	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

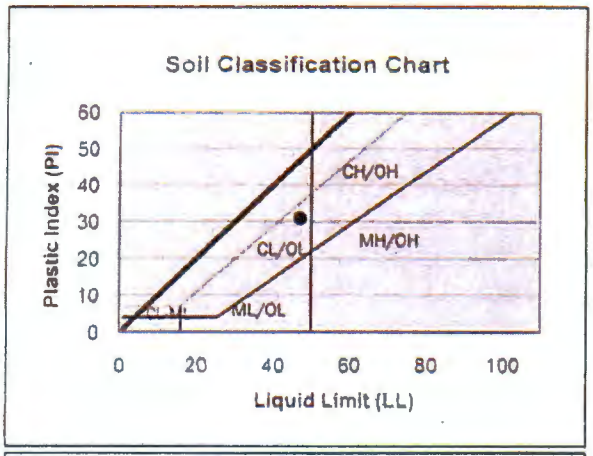
Contact Name:	Charlie Skiba			Sample ID:	AM-29
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/28/2010
Tested By:	R. Swenson		7/29/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	7/30/2010	Date Received:	7/28/2010

Natural Moisture Content

Natural Moisture	17.1%

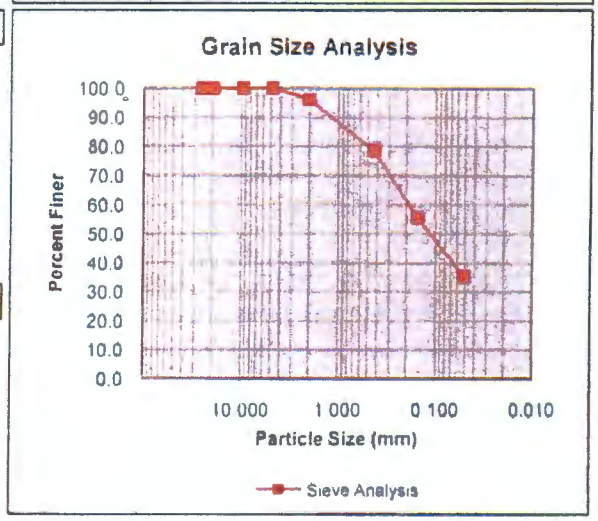
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-5	Spec
Liquid Limit	47	>30
Plastic Limit	16	
Plasticity Index	31	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	96.1	
No. 40	0.425	78.4	
No. 100	0.150	55.7	
No. 200	0.050	35.2	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-30
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	7/30/2010
Tested By:	R. Swenson		8/2/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	8/3/2010	Date Received:	7/30/2010

Natural Moisture Content

Natural Moisture	17.6%

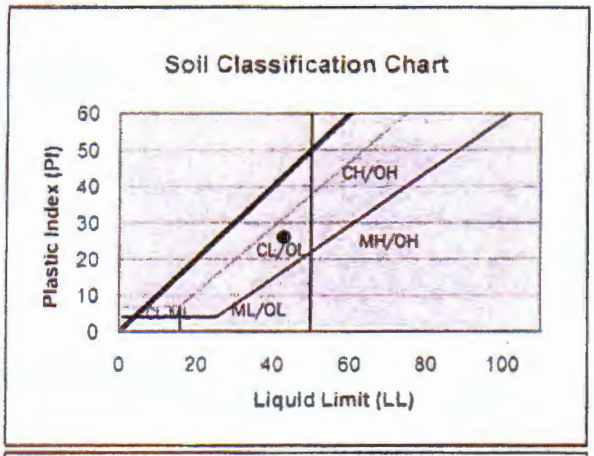
Atterberg Limits Test Results (ASTM D-4318)

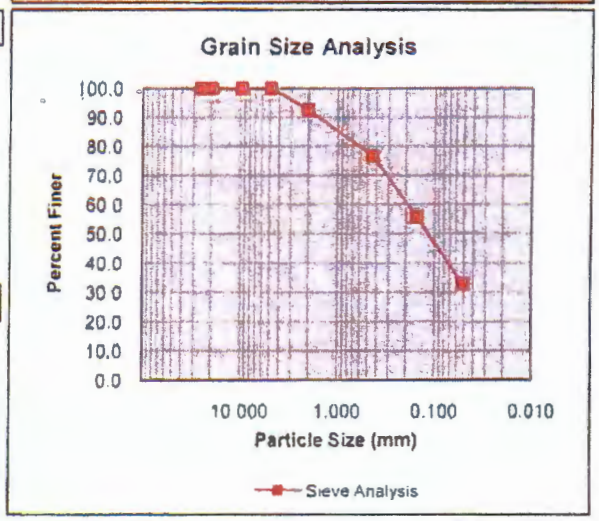
Flow Index	-5	Spec
Liquid Limit	43	>30
Plastic Limit	17	
Plasticity Index	26	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	92.6	
No. 40	0.425	76.7	
No. 100	0.150	55.5	
No. 200	0.050	32.9	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-31
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	8/2/2010
Tested By:	R. Swenson		8/3/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	8/4/2010	Date Received:	8/2/2010

Natural Moisture Content

Natural Moisture	18.6%

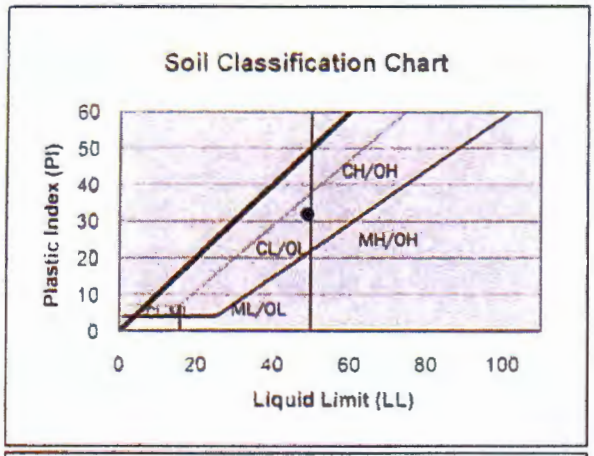
Atterberg Limits Test Results (ASTM D-4318)

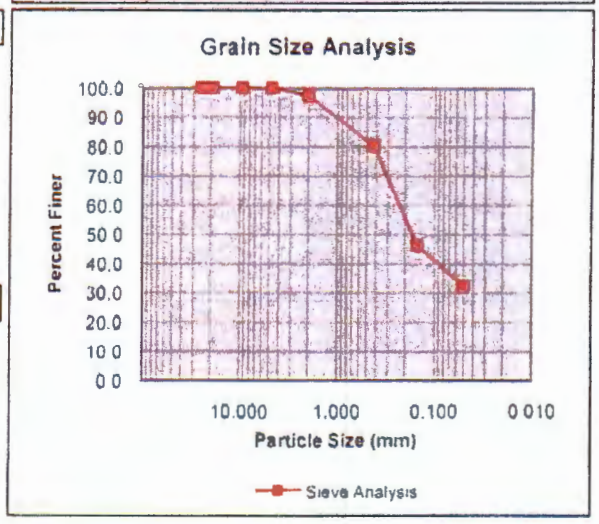
Flow Index	-6	Spec
Liquid Limit	49	>30
Plastic Limit	17	
Plasticity Index	32	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	97.2	
No. 40	0.425	80.3	
No. 100	0.150	46.2	
No. 200	0.050	32.1	>30

Cu	N/A
Cc	N/A





Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4302

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

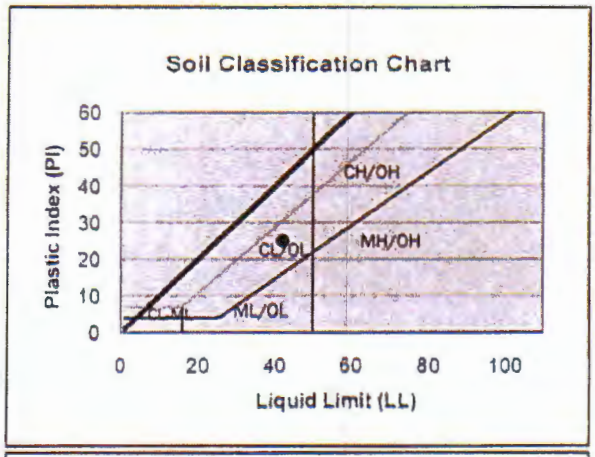
Contact Name:	Charlie Skiba			Sample ID:	AM-32
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	8/3/2010
Tested By:	R. Swenson		8/4/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	8/5/2010	Date Received:	8/3/2010

Natural Moisture Content

Natural Moisture	16.9%

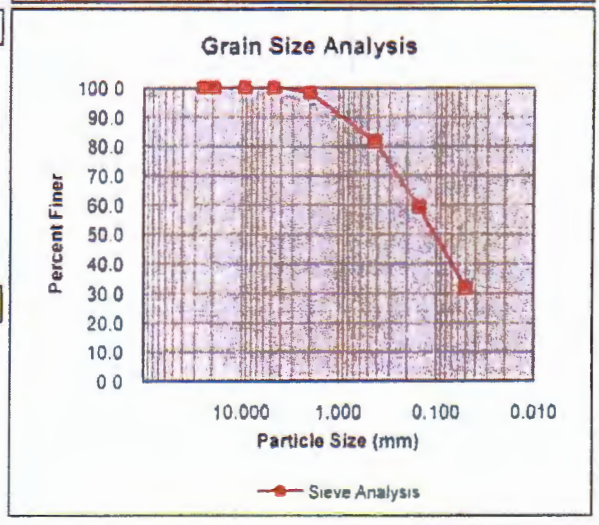
Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-6	Spec
Liquid Limit	42	>30
Plastic Limit	17	
Plasticity Index	25	>15



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	98.2	
No. 40	0.425	81.2	
No. 100	0.150	59.0	
No. 200	0.050	31.7	>30



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/5/10

Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4102

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-33
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	8/5/2010
Tested By:	R. Swenson		8/9/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date:	8/10/2010	Date Received:	8/5/2010

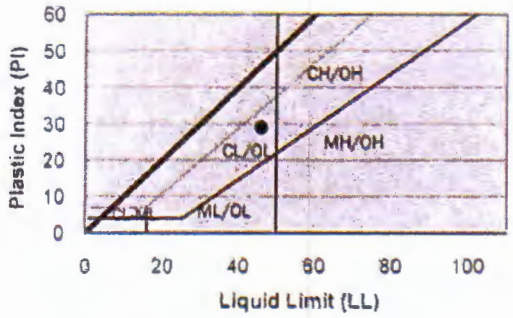
Natural Moisture Content

Natural Moisture	19.8%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-6	Spec
Liquid Limit	46	>30
Plastic Limit	17	
Plasticity Index	29	>15

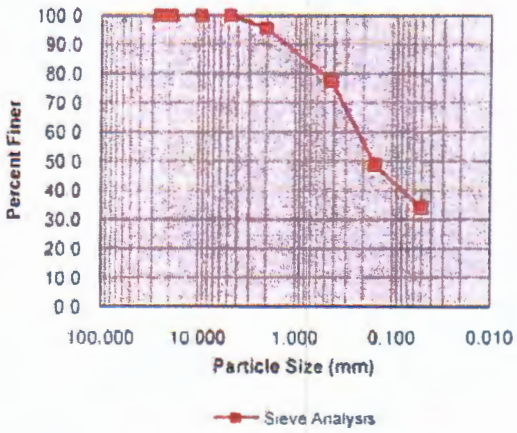
Soil Classification Chart



Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No.4	4.750	100.0	
No. 10	2.000	95.5	
No. 40	0.425	77.5	
No. 100	0.150	48.8	
No. 200	0.050	33.9	>30

Grain Size Analysis



Cu	N/A
Cc	N/A

Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Envirotech

8/11/10
Date

SOIL CLASSIFICATION (ASTM D-2487)

ENVIROTECH

2500 N. 11th Street | Enid, OK 73701
(580) 234-8780 | Fax (580) 237-4102

Client: Washington Closure Hanford
Submittal: 05-18D Admix Lab Data

Sample Information

Contact Name:	Charlie Skiba			Sample ID:	AM-34
Project:	S013213A00			Sample Description:	Admix
Project Location:	ERDF Cells 9-10			Sampling Date:	8/9/2010
Tested By:	R. Swenson		8/10/2010	Sampled By:	R. Swenson
Reviewed By:	J. Voss	Date	8/11/2010	Date Received:	8/9/2010

Natural Moisture Content

Natural Moisture	18.3%

Atterberg Limits Test Results (ASTM D-4318)

Flow Index	-8	Spec
Liquid Limit	44	>30
Plastic Limit	18	
Plasticity Index	26	>15

Particle Size Anaylsis (ASTM D-422)
200 Wash Sieve Analysis (ASTM D-1140)

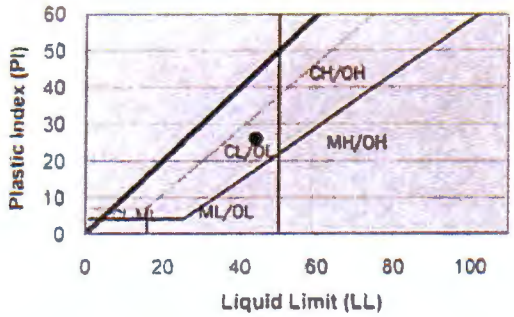
Sieve No	Sieve Opening	% Passing	Spec
1 "	25.000	100.0	
3/4 "	19.000	100.0	
3/8 "	9.500	100.0	
No 4	4.750	100.0	
No. 10	2.000	96.2	
No 40	0.425	75.9	
No 100	0.150	48.4	
No 200	0.050	31.7	>30

Cu	N/A
Cc	N/A

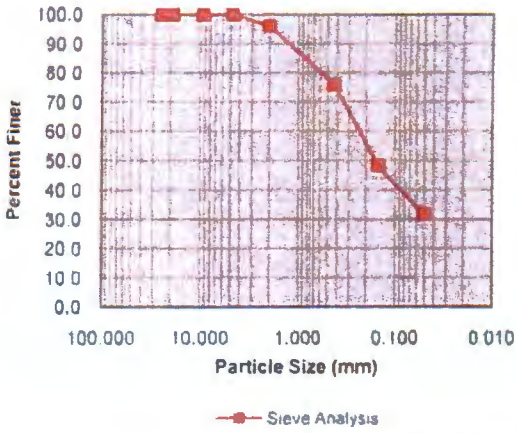
Unified Soil Classification (ASTM D-2487)
CL: Sandy Lean Clay

Deviations from ASTM: None

Soil Classification Chart



Grain Size Analysis



Envirotech

8/13/10
Date

G.5

PUGMILL BELT SCALES

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING INC.

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
Test Pad Admix Liner Production															
4/2/2010 10:37	72200	67240	51500	47060	6.0	378	6.5	30.1	450	47	353.4	13.3%	455.1	12.8%	17.9%
4/2/2010 12:50	47700	43580			6.0	351	7.8	25.3	415	20.6	323.6	6.4%	396.9	13.7%	17.0%
The west silo was emptied of bentonite and was not restarted until 14:30															
4/2/2010 14:41	85000	80240	84160	80580	6.0	349	7.8	23.9	410	41.7	321.8	13.0%	414.6	13.1%	14.9%
4/2/2010 15:50	82000	77680			6.0	341	7.8	23	395	21.6	314.4	6.9%	385.6	13.3%	14.7%
The west silo was emptied of bentonite and was not restarted.															
4/5/2010 9:45	52640	48620	67600	63900	6.0	350	7	27.6	419	38.6	325.5	11.9%	416.2	13.2%	15.0%
Start Admix Liner Production															
4/27/2010 9:40	71620	67600	40200	36140	6.0	353	7	30.7	425	40.4	328.3	12.3%	424.1	13.8%	N/A
4/27/2010 12:30	34200	30260	71800	67620	6.0	360	7	30.6	432	40.6	334.8	12.1%	431.2	13.7%	16.5%
4/27/2010 14:10	43180	39140	60240	55580	6.0	353	9	30.9	425	43.5	321.2	13.5%	427.4	15.4%	18.0%
4/28/2010 8:15	66160	61860	75680	72300	6.0	357	7	30.6	426	38.4	332.0	11.6%	426.0	13.7%	14.0%
4/28/2010 10:40	79680	75780	54300	50380	6.0	365	9	32	432	39.1	332.2	11.8%	436.1	15.6%	18.1%
4/28/2010 14:40	72700	68480	73340	69360	6.0	362	7.5	33.3	436	41	334.9	12.2%	436.3	14.6%	14.7%
4/29/2010 9:20	68620	64240	42400	38220	6.0	360	7.5	34.1	435	42.8	333.0	12.9%	436.9	14.7%	17.6%
4/29/2010 12:00	60220	55780	58200	53700	6.0	377	7.4	38.4	459	44.7	349.1	12.8%	460.1	15.1%	13.7%
4/29/2010 15:10	66400	62000	61560	57040	6.0	418	5	40	498	44.6	397.1	11.2%	502.6	12.8%	15.2%
4/30/2010 8:30	82000	77440	76060	71600	6.0	352	7.6	33.2	430	45.1	325.2	13.9%	430.3	14.7%	14.3%
4/30/2010 11:30	83600	79600	75460	71640	6.0	352	6.5	37.8	433	39.1	329.1	11.9%	428.9	14.8%	16.6%
5/3/2010 7:30	83960	79900	77700	73980	6.0	344	4.2	43.3	435	38.9	329.6	11.8%	426.2	14.2%	21.5%
5/3/2010 10:40			70600	66460	6.0	172	4.1	22	216	20.7	164.9	12.5%	214.7	14.3%	18.4%
5/3/2010 14:45			69100	62340	6.0	280	5	38.8	345	33.8	266.0	12.7%	352.6	15.7%	19.0%
5/4/2010 8:30			69100	62340	6.0	292	6	32.3	365	33.8	274.5	12.3%	358.1	14.6%	18.3%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING INC

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
5/4/2010 12:00			48400	42280	6.0	282	7.6	27.4	341	30.6	260.6	11.7%	340.0	15.0%	18.8%
5/4/2010 15:00			54320	48040	6.0	282	7.2	35	351	31.4	261.7	12.0%	348.4	16.6%	18.0%
5/5/2010 8:30			59000	52780	6.0	275	8.3	33	339	31.1	252.2	12.3%	339.1	17.2%	20.7%
5/5/2010 11:15			80100	73240	6.0	275	6	30	339	34.3	258.5	13.3%	339.3	14.5%	19.4%
5/5/2010 15:15			75260	68600	6.0	297	8	37.5	369	33.3	273.2	12.2%	367.8	17.3%	19.9%
5/6/2010 7:45			79640	68600	6.0	297	5.6	37.5	470	55.2	280.4	19.7%	389.7	15.0%	19.0%
5/6/2010 12:30	71160	67000	67240	62660	6.0	387	6.7	39	470	43.7	361.1	12.1%	469.7	14.5%	17.9%
5/6/2010 15:30	77700	73340	69780	65400	6.0	377	8	42.4	460	43.7	346.8	12.6%	463.1	16.4%	19.2%
5/7/2010 7:15	73320	69280	73080	69000	6.0	314	6.6	38.7	399	40.6	293.3	13.8%	393.3	15.9%	22.0%
5/7/2010 13:30	72140	68260	76280	72380	6.0	382	6.1	40	455	38.9	358.7	10.8%	460.9	14.4%	#N/A
5/7/2010 13:40	65100	61040	69520	65220	6.0	382	6.1	40	450	41.8	358.7	11.7%	463.8	14.3%	19.5%
Note: 10 minutes after the bentonite % indicated a failing number, the ratio was re-adjusted above 11%. Comparison of the calculated moisture content to the actual moisture content indicated that the assumed moisture of the base soil was lower than the actual moisture. Assuming a higher percentage moisture in the base soil:															
5/7/2010 13:30	72140	68260	76280	72380	6.0	382	8.1	40	455	38.9	351.1	11.1%	460.9	16.0%	#N/A
5/7/2010 15:10	80300	76020	63680	59240	6.0	375	8.1	41.8	463	43.6	344.6	12.7%	460.4	16.4%	17.2%
5/10/2010 9:00	66080	61520	70400	66320	6.0	387	7.3	41	468	43.2	358.7	12.0%	471.2	15.4%	18.7%
5/10/2010 12:00	81240	76860	67180	63040	6.0	368	6.6	41	448	42.6	343.7	12.4%	451.6	15.2%	20.4%
5/10/2010 16:00	77640	73260	52300	47780	6.0	386	7.2	40	466	44.5	358.2	12.4%	470.5	15.1%	19.6%
5/11/2010 8:40	74400	70240	65020	60920	6.0	355	7.2	40	434	41.3	329.4	12.5%	436.3	15.7%	19.3%
5/11/2010 12:30	83780	79860	84240	79820	6.0	364	7.6	42.7	444	41.7	336.3	12.4%	448.4	16.4%	21.6%
5/11/2010 15:45	79300	75300	81200	77180	6.0	356	8	39	439	40.1	327.5	12.2%	435.1	16.2%	19.4%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING, INC

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF **Cells 9-10**		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
5/12/2010 8:00	74300	70000	74060	69940	6.0	383	7.2	40.3	465	42.1	355.4	11.8%	465.4	15.3%	18.1%
5/12/2010 12:00	84500	79900	80900	76980	6.0	360	5.3	40.7	443	42.6	340.9	12.5%	443.3	14.2%	19.4%
5/12/2010 15:15	77760	73580	76040	71880	6.0	362	6.5	43	445	41.7	338.5	12.3%	446.7	15.6%	20.8%
5/13/2010 7:55	79420	77180	78720	76360	3.0	384	6.6	39.7	464	46	358.7	12.8%	469.7	14.6%	16.9%
5/13/2010 13:00	78660	74320	84320	80320	6.0	384	7.6	40.5	458	41.7	354.8	11.8%	466.2	15.6%	21.6%
5/13/2010 15:00	70700	66240	71240	67220	6.0	380	7.2	43	470	42.4	352.6	12.0%	465.4	15.8%	18.0%
5/14/2010 8:15	57800	53520	59120	55020	6.0	381	7.5	43	462	41.9	352.4	11.9%	465.9	16.0%	19.5%
5/14/2010 12:30	86200	81880	80140	75580	6.0	375	9.1	42.6	456	44.4	340.9	13.0%	462.0	17.3%	19.3%
5/14/2010 14:00	70800	66300	37800	34130	6.0	378	7.6	40.8	455	40.85	349.3	11.7%	459.7	15.8%	17.3%
5/17/2010 8:30	42940	38440	46940	42380	6.0	382	6.3	43.6	468	45.3	357.9	12.7%	470.9	15.1%	21.1%
5/17/2010 12:30	38000	33820	50440	46240	6.0	360	8.9	35.5	433	41.9	328.0	12.8%	437.4	16.2%	19.2%
5/17/2010	Pugmill was shut down at 13:30 for repairs														
5/18/2010 10:45	74200	69980	71300	67240	6.0	385	8.8	41	477	41.4	351.1	11.8%	467.4	16.7%	18.3%
5/18/2010 13:15	84740	80580	82880	78540	6.0	376	8.9	37	449	42.5	342.5	12.4%	455.5	16.2%	18.4%
5/19/2010 8:30	70100	66060	77680	73720	6.0	368	8.2	41.9	448	40	337.8	11.8%	449.9	16.7%	20.8%
5/19/2010 12:30	83500	79260	77600	73740	6.0	364	7.8	38.7	440	40.5	335.6	12.1%	443.2	15.8%	19.6%
5/19/2010 15:00	79600	75620	84800	81200	6.0	350	5.2	38	424	37.9	331.8	11.4%	425.9	13.9%	18.3%
5/20/2010 8:15	69700	65440	73720	69700	6.0	371	6.7	38	449	41.4	346.1	12.0%	450.4	14.7%	17.8%
5/20/2010 13:20	81180	77040	72520	68640	6.0	364	8.1	40	438	40.1	334.5	12.0%	444.1	16.3%	21.0%
5/20/2010 16:15	88700	84440	84620	80500	6.0	368	8.8	35.5	441	41.9	335.6	12.5%	445.4	16.0%	18.4%
5/21/2010 9:00	65200	61240	58880	54880	6.0	369	8.7	33	443	39.8	336.9	11.8%	441.8	15.4%	17.9%
5/21/2010 12:30	75500	71680	42600	38920	6.0	354	7.5	33.8	420	37.5	327.5	11.5%	425.3	14.9%	19.3%
5/24/2010 7:35	79200	77340	76500	74580	3.0	355	7.9	38.7	433	37.8	327.0	11.6%	431.5	16.1%	17.7%
5/24/2010 11:30	80400	75800	73060	68420	6.0	388	8.3	40.5	466	46.2	355.8	13.0%	474.7	16.1%	19.7%
5/24/2010 16:15	76100	71820	82340	78240	6.0	376	6.8	41.9	455	41.9	350.4	12.0%	459.8	15.4%	19.9%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING INC.

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
5/25/52010 8:15	73620	69380	72060	68220	6.0	390	9	37	467	40.4	354.9	11.4%	467.4	16.1%	17.5%
5/25/2010 13:15	73700	69100	78700	74360	6.0	400	8.5	43	490	44.7	366.0	12.2%	487.7	16.5%	18.1%
5/25/201016:20	68460	64240	85120	80880	6.0	388	7.5	40.3	466	42.3	358.9	11.8%	470.6	15.4%	17.4%
5/26/2010 7:05	71900	67740	73140	69700	6.0	366	9	36.1	437	38	333.1	11.4%	440.1	16.3%	19.4%
5/26/2010 12:08	80640	76740	70120	66160	6.0	372	8.9	35.2	439	39.3	338.9	11.6%	446.5	16.0%	18.3%
5/27/2010 14:30	77000	72920	73560	69560	6.0	370	7.6	38.4	448	40.4	341.9	11.8%	448.8	15.5%	18.9%
6/1/2010 8:30	85600	81680	80160	76380	6.0	361	7.7	39.9	440	38.5	333.2	11.6%	439.4	16.1%	16.8%
6/1/2010 12:30	79000	74920	86680	82700	6.0	356	4.9	39	430	40.3	338.6	11.9%	435.3	13.7%	17.7%
6/1/2010 15:15	72400	68360	87380	83360	6.0	372	5.6	45.5	465	40.3	351.2	11.5%	457.8	15.2%	18.6%
6/2/2010 8:40	77640	75700	80440	78320	3.0	372	8.8	36	455	40.6	339.3	12.0%	448.6	16.0%	19.4%
6/2/2010 13:00	89600	85760	88660	84840	6.0	356	7.7	34.4	415	38.3	328.6	11.7%	428.7	15.1%	17.9%
6/2/2010 14:45	82220	78620	91160	87420	6.0	349	8.1	32.5	407	36.7	320.7	11.4%	418.2	15.2%	22.4%
6/3/2010 9:30	73600	69640	62860	59000	6.0	342	9.2	37.4	414	39.1	310.5	12.6%	418.5	17.2%	21.6%
6/3/2010 13:00	57560	53440	57000	53000	6.0	369	8.5	37.4	437	40.6	337.6	12.0%	447.0	16.1%	17.7%
6/4/2010 8:00			66440	59860	6.0	234	10.5	21.6	293	32.9	209.4	15.7%	288.5	16.9%	#N/A
Note: Upon taking the initial belt scale reading the bentonite content was calculated at 15.7%. Due to the relativly small amount of admix already produced, TWS incorperated the high bentonite content admix with the remainded of the pile, re-adjust the admix mixture and continue production.															
6/4/2010 10:00			82320	75760	6.0	312	8.2	30.8	380	32.8	286.4	11.5%	375.6	15.7%	18.9%
6/4/2010 13:00			88700	81980	6.0	310	8.3	30.1	374	33.6	284.3	11.8%	373.7	15.6%	18.6%
6/4/2010 15:30			72880	66120	6.0	304	8.8	29	366	33.8	277.2	12.2%	366.8	15.9%	19.8%
6/7/2010 7:39			80560	73900	6.0	317	5.5	39.3	392	33.3	299.6	11.1%	389.6	15.2%	17.8%
6/7/2010 12:30			81000	73760	6.0	305	5.7	37.9	382	36.2	287.6	12.6%	379.1	15.3%	19.5%

Belt Scale Measurements

Submittal: 5-18E Admix Belt Scale Measurments

ENVIROTECH ENGINEERING & CONSULTING, INC

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
6/7/2010 15:45			83900	77200	6.0	310	7.9	35.2	385.5	33.5	285.5	11.7%	378.7	16.4%	17.1%
6/8/2010 7:45			80600	73440	6.0	307.8	8.7	35.8	381	35.8	281.0	12.7%	379.4	17.2%	20.0%
6/8/2010 12:43	71740	67340	75540	71100	6.0	378	7.5	36.9	457.6	44.2	349.7	12.6%	459.1	14.9%	20.1%
6/8/2010 15:47	81380	77340	75000	70720	6.0	378.2	8.6	38.6	447.3	41.6	345.7	12.0%	458.4	16.2%	18.8%
6/9/2010 7:45	85620	81680	70360	65530	6.0	380.6	8.6	40	458	43.85	347.9	12.6%	464.5	16.4%	17.8%
6/9/2010 11:48	80840	76500	67200	63300	6.0	382.5	5.1	48.7	472.4	41.2	363.0	11.4%	472.4	15.1%	18.6%
6/9/2010 15:00	84000	79640	74800	71060	6.0	370	5.3	51.7	465	40.5	350.4	11.6%	462.2	16.1%	19.8%
6/14/2010 11:45	79520	75740	70900	67240	6.0	330	8.5	32.2	393	37.2	302.0	12.3%	399.4	15.8%	17.5%
6/14/2010 14:45	78400	74660	78300	74880	6.0	331	7.2	34.4	382	35.8	307.2	11.7%	401.2	15.2%	20.0%
6/15/2010 8:20	51340	47280	59960	55100	6.0	353	5.2	42.7	436	44.6	334.6	13.3%	440.3	14.6%	17.9%
6/15/2010 12:00	77940	74020	82680	78920	6.0	354	5.6	47.2	436	38.4	334.2	11.5%	439.6	15.9%	17.2%
6/15/2010 16:10	78220	74540	77460	73380	6.0	355	5.3	45.8	430	38.8	336.2	11.5%	439.6	15.4%	19.3%
6/16/2010 12:15	78820	74960	80120	76340	6.0	358	7.9	37	428	38.2	329.7	11.6%	433.2	15.7%	19.0%
6/16/2010 14:24	82260	78420	79800	76180	6.0	355	8.8	33.5	415	37.3	323.8	11.5%	425.8	15.9%	20.7%
6/16/2010 17:15	88120	84320	94240	91180	6.0	340	8.3	35.3	403	34.3	311.8	11.0%	409.6	16.1%	17.1%
6/17/2010 11:50	82320	78240	85960	82240	6.0	376	6.7	43	452	39	350.8	11.1%	458.0	15.5%	15.7%
6/17/2010 14:15	6100	754	5580	1900	6.0	367	5	48.7	471	45.13	348.7	12.9%	460.8	15.3%	18.1%
6/18/2010 13:00	71160	67400	64600	60460	6.0	345	5.6	45.2	425	39.5	325.7	12.1%	429.7	15.7%	16.5%
6/21/2010 10:40	71680	67920	64020	60380	6.0	340	7.7	37.3	415	37	313.8	11.8%	414.3	16.0%	20.3%
6/21/2010 13:45	82200	78500	80700	76820	6.0	345	7.2	36.5	410	37.9	320.2	11.8%	419.4	15.3%	19.8%
6/21/2010 16:10	78300	74420	77480	73620	6.0	343	8.4	35.6	409	38.7	314.2	12.3%	417.3	16.1%	17.7%
6/22/2010 9:15	80180	76780	77400	73660	6.0	353	8.6	36.5	418	35.7	322.6	11.1%	425.2	16.4%	20.2%
6/22/2010 12:20	85260	81300	84120	80080	6.0	365	5.8	36.5	435	40	343.8	11.6%	441.5	13.8%	19.1%
6/22/2010 16:00	83780	79640	83400	79100	6.0	395	6.5	47.8	475	42.2	369.3	11.4%	485.0	15.8%	17.3%
6/23/2010 10:15	79480	75480	73320	68920	6.0	382	6.6	45.4	456	42	356.8	11.8%	469.4	15.7%	15.7%

Belt Scale Measurements

Submittal: 5-18E Admix Belt Scale Measurments

ENVIROTECH ENGINEERING & CONSULTING, INC

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
6/23/2010 14:30	78440	74280	82420	78040	6.0	400	5.6	48.3	485	42.7	377.6	11.3%	491.0	15.1%	18.6%
6/23/2010 16:10	77430	73290	68540	64190	6.0	389	5.7	47.6	481	42.45	366.8	11.6%	479.1	15.2%	16.6%
6/24/2010 10:00	81140	77080	76640	72420	6.0	387	5.8	45.7	469	41.4	364.6	11.4%	474.1	15.0%	19.6%
6/24/2010 13:00	86480	82280	81600	77260	6.0	373	5.3	48	458	42.7	353.2	12.1%	463.7	15.3%	19.7%
6/25/2010 8:45			77900	70240	6.0	342	5.1	43.7	417	38.3	324.6	11.8%	424.0	15.1%	17.4%
6/25/2010 10:30			82000	74520	6.0	340	8.7	43	412	37.4	310.4	12.0%	420.4	17.9%	14.1%
6/25/2010 13:00			86180	78880	6.0	346	6	42.6	420	36.5	325.2	11.2%	425.1	15.6%	17.9%
6/26/2010 8:15			85340	77720	6.0	362	5.1	47	447	38.1	343.5	11.1%	447.1	15.3%	17.4%
6/26/2010 11:45			87700	79640	6.0	367	4.8	49.5	450	40.3	349.4	11.5%	456.8	15.4%	14.1%
6/26/2010 14:00			86800	78800	6.0	365	6.4	47.8	447	40	341.6	11.7%	452.8	16.4%	17.9%
6/28/2010 9:30			77000	69060	6.0	367	5.2	48.2	462	39.7	347.9	11.4%	454.9	15.5%	19.5%
6/28/2010 13:10			80700	72600	6.0	375	8	48.2	457	40.5	345.0	11.7%	463.7	17.5%	21.1%
6/28/2010 15:45			87160	79300	6.0	373	7.8	44.4	456	39.3	343.9	11.4%	456.7	16.7%	17.5%
6/29/2010 8:30			75080	67580	6.0	368	8.5	41.7	450	37.5	336.7	11.1%	447.2	17.0%	21.6%
6/29/2010 11:40			76160	68000	6.0	385	7	45.6	470	40.8	358.1	11.4%	471.4	16.0%	17.2%
6/29/2010 16:10			86620	78700	6.0	380	7.3	44.2	469	39.6	352.3	11.2%	463.8	16.2%	18.9%
6/30/2010 8:45			69800	61700	6.0	376	7.6	40	460	40.5	347.4	11.7%	456.5	15.7%	19.3%
6/30/2010 13:00	82520	78660	78680	74720	6.0	373	8.4	37.7	440	39.1	341.7	11.4%	449.8	16.0%	18.6%
6/30/2010 15:00	88370	84620	86000	82180	6.0	368	6.8	38.8	440	37.85	343.0	11.0%	444.7	15.0%	18.8%
7/1/2010 8:30	81900	80060	77340	75420	3.0	346	8.9	34.7	418	37.6	315.2	11.9%	418.3	16.3%	17.8%
7/1/2010 12:50	78800	76880	83200	81280	3.0	370	8.8	37	445	38.4	337.4	11.4%	445.4	16.3%	17.7%
7/1/2010 16:10	83600	81660	81960	80020	3.0	361	7.2	37	437	38.8	335.0	11.6%	436.8	15.1%	16.8%
7/2/2010 7:45	76540	74660	63200	61120	3.0	358	6.5	43.8	446	39.6	334.7	11.8%	441.4	15.9%	17.0%
7/2/2010 14:15	76860	74920	73700	71880	3.0	346	6.3	43.3	431	37.6	324.2	11.6%	426.9	15.9%	19.7%
7/6/2010 8:40	75880	74140	75960	74220	3.0	318	8.3	34.7	339	34.8	291.6	11.9%	387.5	16.4%	16.8%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING, INC.

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
7/6/2010 13:00	78460	76760	79700	77980	3.0	316	8.4	32.3	378	34.2	289.5	11.8%	382.5	16.1%	18.4%
7/6/2010 15:45	84900	83160	85900	84180	3.0	332	6.9	34.4	407	34.6	309.1	11.2%	401.0	14.9%	19.7%
7/7/2010 9:00	79620	77700	76680	74820	3.0	352	9.2	31.6	420	37.8	319.6	11.8%	421.4	15.9%	14.3%
7/7/2010 13:00	77720	75920	77040	75180	3.0	337	5.1	34.7	410	36.6	319.8	11.4%	408.3	13.4%	17.3%
7/8/2010 8:20	82460	80300	79380	77120	3.0	420	7.1	46.7	504	44.2	390.2	11.3%	510.9	15.6%	17.9%
7/8/2010 12:30	82020	77720	79240	74980	6.0	412	8.2	43.3	496	42.8	378.2	11.3%	498.1	16.1%	18.1%
7/8/2010 16:10	77340	73020	82180	77820	6.0	412	7.6	43.8	491	43.4	380.7	11.4%	499.2	15.7%	19.9%
7/9/2010 9:30	75000	72740	72300	70120	3.0	410	9.8	43.5	498	44.4	369.8	12.0%	497.9	17.5%	15.9%
7/9/2010 13:00	75980	73680	73160	71060	3.0	420	7.2	45.6	505	44	389.8	11.3%	509.6	15.5%	17.7%
7/9/2010 15:45	76300	74280	76940	74880	3.0	382	7.2	41.2	465	40.8	354.5	11.5%	464.0	15.5%	13.5%
7/10/2010 7:45	85180	81180	83900	79980	6.0	348	5.9	45.7	440	39.6	327.5	12.1%	433.3	16.0%	19.0%
7/10/2000 10:50	80800	76640	78340	74200	6.0	385	5.4	47.1	480	41.5	364.2	11.4%	473.6	15.0%	15.9%
7/10/2010 14:00	81600	77520	74800	70720	6.0	390	6.6	47	483	40.8	364.3	11.2%	477.8	15.9%	17.7%
7/12/2010 9:30	74200	72180	72140	70080	3.0	398	8.6	38.7	470	40.8	363.8	11.2%	477.5	15.9%	17.1%
7/12/2010 14:00	76840	74620	73520	71240	3.0	423	8.1	38.1	504	45	388.7	11.6%	506.1	15.0%	16.3%
7/12/2010 16:00	81270	79150	80540	78330	3.0	419	8	37.8	496	43.3	385.5	11.2%	500.1	14.9%	17.2%
7/13/2010 9:00	84640	82380	82900	80640	3.0	419	6.8	42.4	505	45.2	390.5	11.6%	506.6	14.7%	15.4%
7/13/2010 13:00	77980	75740	77920	75660	3.0	421	5.8	43.1	512	45	396.6	11.3%	509.1	13.9%	17.0%
7/13/2010 15:45	82700	80440	79860	77480	3.0	416	6	42.1	500	46.4	391.0	11.9%	504.5	14.0%	16.9%
7/14/2010 9:22	75440	71060	72740	68400	6.0	417	8.3	35	482	43.6	382.4	11.4%	495.6	14.7%	16.4%
7/14/2010 12:50	67660	64520	70140	67160	4.0	448	8.1	43	530	45.9	411.7	11.1%	536.9	15.4%	19.1%
7/14/2010 16:15	84400	79640	78760	74060	6.0	411	7.8	40	491	47.3	378.9	12.5%	498.3	15.2%	17.7%
7/15/2010 9:57	81320	76860	80500	75800	6.0	415	8.5	42	500	45.8	379.7	12.1%	502.8	16.1%	18.9%
7/15/2010 13:25	86860	84620	81360	79140	3.0	418	7.8	38.6	499	44.6	385.4	11.6%	501.2	14.9%	16.5%
7/15/2010 15:55	78260	76020	75360	73100	3.0	431	7.9	41.5	510	45	397.0	11.3%	517.5	15.3%	16.7%

Belt Scale Measurements

Submittal: 5-18E Admix Belt Scale Measurments

ENVIROTECH ENGINEERING & CONSULTING INC.

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
7/16/2010 9:41	71060	68800	66320	64180	3.0	413	5.8	47	512	44	389.0	11.3%	504.0	14.7%	19.2%
7/16/2010 13:22	68460	64700	73720	70300	5.0	419	7.4	41.9	508	43.08	388.0	11.1%	504.0	15.1%	18.9%
7/16/2010 16:07	72380	70200	72220	70000	3.0	414	7.7	38.7	498	44	382.1	11.5%	496.7	14.9%	18.1%
7/19/10 8:16	67960	65580	74800	72620	3.0	412	6.7	41.9	501	45.6	384.4	11.9%	499.5	14.6%	18.8%
7/19/10 13:38	75100	72820	70520	68140	3.0	408	4.8	51.3	511	46.6	388.4	12.0%	505.9	14.7%	19.8%
7/19/10 16:39	75280	72880	70300	67980	3.0	415	8.7	39.1	489	47.2	378.9	12.5%	501.3	15.7%	19.2%
7/20/2010 9:00	84160	79720	80660	76200	6.0	422	8	38.7	502	44.5	388.2	11.5%	505.2	15.0%	17.1%
7/20/2010 11:00	82440	77980	79480	75060	6.0	424	8.8	34	493	44.4	386.7	11.5%	502.4	14.9%	16.5%
7/20/2010 16:51	79040	76780	91040	88660	3.0	422	9	34.4	508	46.4	384.0	12.1%	502.8	15.1%	16.0%
7/21/2010 7:45	76500	72080	76700	71940	6.0	405	5.5	50.3	496	45.9	382.7	12.0%	501.2	15.2%	17.4%
7/21/2010 11:45	81040	76600	73560	69020	6.0	407	11.7	33.9	486	44.9	359.4	12.5%	485.8	17.5%	17.5%
7/21/2010 17:00	81540	79240	78900	76800	3.0	419	6	38.7	512	44	393.9	11.2%	501.7	13.4%	18.1%
7/22/10 8:52	70780	66220	69480	64940	6.0	430	8.3	38.8	516	45.5	394.3	11.5%	514.3	15.2%	18.0%
7/22/10 12:00	65940	63820	68860	66780	3.0	427	9.3	37.5	503	42	387.3	10.8%	506.5	15.9%	14.9%
Note: Bentonite content based on dry weight of soil was rounded to the nearest whole number, 11%. However, operator made immediate adjustments to ensure bentonite content remained above 11%. Daily bentonite totals indicated a bentonite percentage of 11.5%.															
7/26/10 7:23	76280	72080	72900	68600	6.0	401	9.1	41.9	484	42.5	364.5	11.7%	485.4	16.8%	18.6%
7/26/10 12:20	80460	76020	78540	73920	6.0	429	8.6	41.9	509	45.3	392.1	11.6%	516.2	15.9%	18.2%
7/26/10 16:04	74020	69640	84380	80060	6.0	405	6.4	42.2	489	43.5	379.1	11.5%	490.7	14.6%	14.9%
7/27/10 8:09	72400	67420	71200	66420	6.0	410	7.8	38.7	495	48.8	378.0	12.9%	497.5	15.0%	18.8%
7/27/00 10:51	81660	77180	80420	75920	6.0	414.0	8.8	38	485	44.9	377.6	11.9%	496.9	15.7%	19.2%
7/27/10 13:26	77160	72600	74980	70340	6.0	420	5.6	48	518	46	396.5	11.6%	514.0	14.6%	17.0%
7/27/10 16:15	79140	75000	76560	72380	6.0	408	7.8	37.7	480	41.6	376.2	11.1%	487.3	14.9%	19.2%
7/28/10 9:16	76560	72420	82020	77680	6.0	400	5.1	45.1	485	42.4	379.6	11.2%	487.5	14.1%	17.7%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING, INC.

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
7/28/10 12:40	82500	78220	81080	76900	6.0	408	8	35.5	480	42.3	375.4	11.3%	485.8	14.7%	20.6%
7/29/10 8:44	78220	73600	79220	74800	6.0	429.0	7.4	42.2	516	45.2	397.3	11.4%	516.4	15.0%	19.5%
7/29/10 13:35	75120	70880	74140	69860	6.0	409.0	8	38	490	42.6	376.3	11.3%	489.6	15.1%	21.3%
7/29/10 16:17	82960	78860	84600	80380	6.0	398	8	33	473	41.6	366.2	11.4%	472.6	14.4%	17.6%
7/30/10 9:12	78780	74440	78180	73740	6.0	405	7.7	37.5	487	43.9	373.8	11.7%	486.4	14.8%	18.9%
7/30/10 13:20	79080	74900	75400	71100	6.0	418	9.4	36	488	42.4	378.7	11.2%	496.4	15.8%	17.6%
7/30/10 16:05	81500	79400	80400	78240	3.0	405	8.8	33	477	42.6	369.4	11.5%	480.6	15.0%	20.6%
7/31/10 11:20	70920	66660	68900	64420	6.0	395	9	32	470	43.7	359.5	12.2%	470.7	15.1%	19.5%
8/2/10 8:50	80940	76480	84600	80280	6.0	422	7.7	35.5	500	43.9	389.5	11.3%	501.4	14.2%	18.6%
8/2/10 11:55	73640	69240	72840	68540	6.0	417.0	7.7	37.2	497	43.5	384.9	11.3%	497.7	14.6%	14.9%
8/2/10 16:12	83800	79440	82900	78520	6.0	414.0	8.9	38	492	43.7	377.2	11.6%	495.7	15.8%	14.5%
8/3/10 9:05	82480	77720	81900	77120	6.0	448	8.8	41	536	47.7	408.6	11.7%	536.7	15.7%	17.0%
8/3/10 12:12	71120	66760	71500	67240	6.0	415	7.7	41.9	499	43.1	383.0	11.3%	500.0	15.4%	18.5%
8/3/10 16:31	74180	69780	75740	71480	6.0	410	9	37.8	490	43.3	373.1	11.6%	491.1	15.9%	16.1%
8/4/10 8:15	82380	74760	0	0	6.0	343	8.2	34.1	424	38.1	314.9	12.1%	415.2	15.7%	18.6%
8/4/10 12:55	83020	74840	0	0	6.0	388	5.3	40	480	40.9	367.4	11.1%	468.9	13.6%	17.0%
8/5/10 7:10	78060	73520	77780	73260	6.0	422	5.3	48.1	526	45.3	399.6	11.3%	515.4	14.3%	19.8%
8/5/10 11:52	85340	81020	83200	78640	6.0	396	5.4	38.1	481	44.4	374.6	11.9%	478.5	13.1%	17.5%
8/5/10 13:24	78440	74060	76260	71880	6.0	425	9	38.8	509	43.8	386.8	11.3%	507.6	15.8%	17.6%
8/6/10 11:47	81600	75140	80540	74340	9.0	404	8.7	34.4	478	42.2	368.9	11.4%	480.6	15.1%	17.2%
8/6/10 13:55	81060	76660	77560	73200	6.0	419	8.1	40.8	505	43.8	385.1	11.4%	503.6	15.5%	18.4%
8/6/10 15:45	86000	81660	82020	77700	6.0	404	7.9	38.2	488	43.3	372.1	11.6%	485.5	15.1%	20.8%
8/7/10 7:00	72420	67640	72160	67840	6.0	395	0.7	45.1	482	45.5	392.2	11.6%	485.6	10.6%	20.2%
8/7/10 12:00	72160	67820	83440	79220	6.0	405	8	35	498	42.8	372.6	11.5%	482.8	14.6%	16.0%
8/7/10 14:10	10000	8000	91060	88880	3.0	384	7.7	39	468	41.8	354.4	11.8%	464.8	15.4%	18.1%

Belt Scale Measurements

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING, INC

Testing Information

Client:	Washington Closure Hanford	Test by:	Luke Hay
Contact Name:	Charlie Skiba	Prepared by:	Joseph Voss
Project:	S013213A00	Reviewed by:	Tyler Williams
Project Location:	ERDF Cells 9-10		

Date/Time:	East Silo		West Silo		Time	Base Soil		Water	Totalizer	Bentonite	Base Dry	Bentonite	Totalizer Check	Moisture (Calc)	Moisture Verify
	Start	Stop	Start:	Stop:		Wet	Moist								
	lb	lb	lb	lb	min	T/hr	%	T/hr	T/hr	T/hr	T/hr	(11-14) %	T/hr	%	%
8/9/10 9:19	76780	68100	0	0	6.0	400	5.7	56.6	500	43.4	377.2	11.5%	500.0	16.5%	17.9%
8/9/10 10:36	82820	72660	0	0	6.0	390	4.9	44.5	490	50.8	370.9	13.7%	485.3	13.9%	18.3%
8/9/10 16:04	77040	69160	0	0	6.0	378	8.5	30.4	454	39.4	345.9	11.4%	447.8	14.6%	17.9%
8/10/10 8:07	67120	60220	0	0	6.0	323	9.1	27.8	395	34.5	293.6	11.8%	385.3	15.5%	15.7%
8/10/10 13:18	57460	50420	0	0	6.0	331	7.8	32	405	35.2	305.2	11.5%	398.2	15.2%	16.6%

Moisture Content

ENVIROTECH ENGINEERING & CONSULTING, INC.

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

Sample Information

Client:	Washington Closure Hanford
Contact Name:	Charlie Skiba
Project:	S013213A00
Project Location:	ERDF Cells 9-10

Test by:	Luke Hay
Prepared by:	Joseph Voss
Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
4/2/2010 10:36	DDD	246.15	233.61	50.04	6.8%	Base Soil
4/2/2010 10:37	L	216.9	191.55	49.86	17.9%	
4/2/2010 12:50	A8	290.48	255.53	50.00	17.0%	
4/2/2010 14:41	A9	197.3	177.98	48.50	14.9%	
4/2/2010 15:50	K	155.24	141.75	50.15	14.7%	
4/2/2010 15:51	E1	362.49	336.54	50.11	9.1%	Base Soil
4/5/2010 9:45	BOO	326.49	290.44	49.98	15.0%	AM-01
4/27/2010 9:40	Belt Scale Measurements - No Moisture				N/A	
4/27/2010 12:30	K	338.36	297.59	50.13	16.5%	
4/27/2010 14:10	A8	345.57	302.15	60.88	18.0%	
4/27/2010 16:00	E	354.12	310.74	50.10	16.6%	
4/28/2010 8:15	L	319.07	286.07	49.85	14.0%	
4/28/2010 10:40	K	336.68	292.83	50.13	18.1%	
4/28/2010 14:40	A8	331.94	295.91	50.00	14.7%	AM-02
4/29/2010 9:20	A5	347.48	302.88	49.44	17.6%	
4/29/2010 12:00	II	323.64	290.56	49.89	13.7%	
4/29/2010 15:10	A12	353.99	313.83	50.06	15.2%	
4/30/2010 8:30	A8	339.73	303.44	50.01	14.3%	
4/30/2010 11:30	A5	300.05	264.34	49.47	16.6%	
4/30/2010 3:45	II	335.71	297.20	49.89	15.6%	
5/3/2010 7:30	A9	380.87	322.06	48.55	21.5%	
5/3/2010 10:40	A12	296.36	258.11	50.04	18.4%	
5/3/2010 14:45	BOO	381.56	328.74	50.02	19.0%	AM-03
5/4/2010 8:30	DDD	304.79	265.44	50.01	18.3%	
5/4/2010 12:00	E1	351.34	303.72	50.14	18.8%	
5/4/2010 15:00	K	403.45	349.59	50.14	18.0%	
5/5/2010 8:30	DDD	359.44	306.31	50.03	20.7%	
5/5/2010 11:15	E1	381.79	327.88	50.14	19.4%	
5/5/2010 15:15	K	448.11	382.04	50.19	19.9%	
5/6/2010 7:45	A12	382.69	329.66	49.93	19.0%	
5/6/2010 12:30	Boo	368.72	320.33	50.15	17.9%	
5/6/2010 15:30	L	374.58	322.32	49.85	19.2%	AM-04
5/7/2010 7:15	M1	367.69	310.51	50.58	22.0%	
5/7/2010 13:40	M2	371.67	319.24	49.99	19.5%	
5/7/2010 15:10	M3	351.72	307.50	50.53	17.2%	
5/10/2010 9:00	M1	385.16	332.34	50.56	18.7%	
5/10/2010 9:00	M4	365.77	341.15	50.39	8.5%	Base Soil
5/10/2010 12:00	M2	360.56	307.85	49.98	20.4%	

Moisture Content

ENVIROTECH ENGINEERING & CONSULTING INC

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

Sample Information

Client:	Washington Closure Hanford		
Contact Name:	Charlie Skiba	Test by:	Luke Hay
Project:	S013213A00	Prepared by:	Joseph Voss
Project Location:	ERDF Cells 9-10	Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
5/10/2010 16:00	M3	407.28	348.71	50.50	19.6%	
5/11/2010 8:40	M1	356.84	307.31	50.55	19.3%	
5/11/2010 12:30	M2	356.56	302.18	50.00	21.6%	
5/11/2010 15:45	M3	416.94	357.43	50.54	19.4%	
5/12/2010 8:00	M1	327.84	285.40	50.57	18.1%	
5/12/2010 12:00	M2	404.06	346.54	50.01	19.4%	AM-05
5/12/2010 15:15	M3	400.00	339.91	50.60	20.8%	
5/13/2010 7:55	M1	340.05	298.19	50.64	16.9%	
5/13/2010 13:00	M2	426.91	360.11	50.14	21.6%	
5/13/2010 15:00	M3	425.85	368.62	50.70	18.0%	
5/14/2010 8:15	M1	369.44	317.52	50.58	19.5%	
5/14/2010 12:30	M2	361.85	311.44	50.06	19.3%	
5/14/2010 14:00	M3	348.36	304.54	50.56	17.3%	
5/17/2010 8:30	M1	435.61	368.56	50.58	21.1%	
5/17/2010 12:30	M2	375.62	323.16	50.03	19.2%	AM-06
5/18/2010 10:45	M1	368.11	318.95	50.61	18.3%	
5/18/2010 13:15	SC	1534.40	1374.30	505.70	18.4%	AM-07
5/19/2010 8:30	M3	411.47	349.22	50.56	20.8%	
5/19/2010 12:30	M4	383.80	329.21	50.38	19.6%	
5/19/2010 15:00	M6	340.68	295.70	49.55	18.3%	AM-08
5/20/2010 8:15	M6	394.07	342.26	50.62	17.8%	
5/20/2010 13:20	M4	379.91	322.61	49.50	21.0%	
5/20/2010 16:15	M3	380.00	328.82	50.40	18.4%	
5/21/2010 9:00	M3	425.93	368.97	50.67	17.9%	
5/21/2010 12:30	M4	423.00	362.65	50.42	19.3%	
5/24/2010 7:35	M2	414.62	359.84	50.05	17.7%	
5/24/2010 11:30	M9	377.91	323.94	49.85	19.7%	AM-09
5/24/2010 16:15	M8	394.48	337.41	50.15	19.9%	
5/25/52010 8:15	M1	427.22	371.10	50.61	17.5%	AM-10
5/25/2010 13:15	M2	361.60	313.90	49.98	18.1%	
5/25/201016:20	M3	387.95	338.02	50.55	17.4%	
5/26/2010 7:05	M10	388.69	333.61	49.98	19.4%	
5/26/2010 12:08	M1	418.77	361.88	50.58	18.3%	
5/27/2010 14:30	M2	382.76	329.90	50.00	18.9%	
6/1/2010 8:30	M3	388.04	339.49	50.53	16.8%	
6/1/2010 12:30	M4	379.02	329.61	50.39	17.7%	AM-11
6/1/2010 15:15	M5	411.69	354.90	50.03	18.6%	
6/2/2010 8:40	M1	387.58	332.71	50.59	19.4%	

Moisture Content

ENVIROTECH ENGINEERING & CONSULTING, INC

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

Sample Information

Client:	Washington Closure Hanford
Contact Name:	Charlie Skiba
Project:	S013213A00
Project Location:	ERDF Cells 9-10

Test by:	Luke Hay
Prepared by:	Joseph Voss
Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
6/2/2010 13:00	M2	361.11	313.81	50.05	17.9%	
6/2/2010 14:45	M3	330.12	279.00	50.47	22.4%	
6/3/2010 9:30	M4	392.06	331.37	50.47	21.6%	
6/3/2010 13:00	M2	358.83	312.33	50.02	17.7%	AM-12
6/4/2010 10:00	M2	371.71	320.57	50.02	18.9%	
6/4/2010 13:00	M1	377.32	325.98	50.63	18.6%	
6/4/2010 15:30	M7	411.04	351.38	50.04	19.8%	
6/7/2010 7:39	M4	404.08	350.73	50.43	17.8%	
6/7/2010 12:30	M10	353.08	303.58	49.99	19.5%	AM-13
6/7/2010 15:45	M3	395.93	345.44	50.53	17.1%	
6/8/2010 7:45	M9	386.61	330.55	49.84	20.0%	
6/8/2010 12:43	M6	377.07	322.30	49.51	20.1%	
6/8/2010 15:47	L	326.22	282.52	49.87	18.8%	
6/9/2010 7:45	M5	363.61	316.15	50.02	17.8%	
6/9/2010 11:48	M1	414.48	357.42	50.56	18.6%	
6/9/2010 15:00	M11	265.38	229.47	48.51	19.8%	
6/14/2010 11:45	M4	282.23	247.74	50.38	17.5%	
6/14/2010 14:45	SC	1785.70	1572.50	505.50	20.0%	AM-14
6/15/2010 8:20	M1	378.35	328.66	50.54	17.9%	
6/15/2010 12:00	M2	362.45	316.64	50.00	17.2%	
6/15/2010 16:10	M3	436.28	373.75	50.52	19.3%	
6/16/2010 12:15	M4	376.27	324.13	50.37	19.0%	
6/16/2010 14:24	M5	324.40	277.42	50.01	20.7%	
6/16/2010 17:15	M6	351.53	307.36	49.51	17.1%	
6/17/2010 11:50	BX	1513.70	1331.80	174.10	15.7%	AM-15
6/17/2010 14:15	M1	338.24	294.15	50.57	18.1%	
6/18/2010 13:00	M2	351.23	308.54	49.98	16.5%	
6/21/2010 10:40	E4	1345.50	1147.80	174.50	20.3%	AM-16
6/21/2010 13:45	M2	321.29	276.43	49.99	19.8%	
6/21/2010 16:10	M1	360.92	314.15	50.62	17.7%	
6/22/2010 9:15	M-3	369.82	316.16	50.59	20.2%	
6/22/2010 12:20	M-1	371.06	319.72	50.63	19.1%	
6/22/2010 16:00	M-2	412.27	358.97	50.00	17.3%	
6/23/2010 10:15	VI	1490.50	1311.50	174.10	15.7%	AM-17
6/23/2010 14:30	M-1	430.36	370.89	50.59	18.6%	
6/23/2010 16:10	M-2	288.37	254.51	49.99	16.6%	
6/24/2010 10:00	M1	379.60	325.68	50.59	19.6%	
6/24/2010 13:00	M2	364.31	312.52	50.00	19.7%	

Moisture Content

ENVIROTECH ENGINEERING & CONSULTING, INC

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

Sample Information

Client:	Washington Closure Hanford
Contact Name:	Charlie Skiba
Project:	S013213A00
Project Location:	ERDF Cells 9-10

Test by:	Luke Hay
Prepared by:	Joseph Voss
Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
6/25/2010 8:45	M1	409.37	356.26	50.39	17.4%	
6/25/2010 10:30	M2	375.87	335.60	50.04	14.1%	
6/25/2010 13:00	M3	390.91	338.87	48.53	17.9%	
6/26/2010 8:15	M4	409.37	356.26	50.39	17.4%	
6/26/2010 11:45	M5	375.87	335.60	50.04	14.1%	
6/26/2010 14:00	M11	390.91	338.87	48.53	17.9%	
6/28/2010 9:30	VI	1124.40	969.60	174.10	19.5%	AM-18
6/28/2010 13:10	M1	391.86	332.36	50.61	21.1%	
6/28/2010 15:45	M2	396.36	344.67	50.02	17.5%	
6/29/10 8:30	M3	426.64	359.79	50.52	21.6%	
6/29/10 11:40	M5	341.97	299.24	50.44	17.2%	
6/29/10 16:10	M5	375.56	323.80	50.04	18.9%	
6/30/2010 8:45	M1	342.47	295.33	50.60	19.3%	
6/30/2010 13:00	M2	378.79	327.31	50.02	18.6%	
6/30/2010 15:00	M3	363.14	313.76	50.50	18.8%	
7/1/10 8:30	M4	363.70	316.25	50.41	17.8%	
7/1/10 12:50	VI	1337.70	1162.80	174.00	17.7%	AM-19
7/1/10 16:10	M5	375.90	329.13	50.02	16.8%	
7/2/10 7:45	M1	377.61	330.01	50.61	17.0%	
7/2/10 14:15	M2	365.83	313.96	50.01	19.7%	
7/6/2010 8:40	E4	1136.40	997.80	174.50	16.8%	AM-20
7/6/2010 13:00	M1	383.37	331.61	50.60	18.4%	
7/6/2010 15:45	M2	379.56	325.43	50.00	19.7%	
7/7/2010 9:00	SC	2141.40	1936.50	505.70	14.3%	AM-21
7/7/2010 13:00	M1	361.60	315.63	50.66	17.3%	
7/8/10 8:20	M1	378.08	328.26	50.63	17.9%	
7/8/10 12:30	M2	381.73	330.81	50.01	18.1%	
7/8/10 16:10	M3	420.40	359.02	50.57	19.9%	
7/9/10 9:30	SC	1686.30	1524.10	505.50	15.9%	AM-22
7/9/10 13:00	M1	357.22	311.12	50.63	17.7%	
7/9/10 15:45	M2	356.81	320.32	50.03	13.5%	
7/10/2010 7:45	M3	304.98	264.31	50.58	19.0%	
7/10/2000 10:50	SC	1686.30	1524.10	505.50	15.9%	AM-23
7/10/2010 14:00	M4	252.88	222.38	50.39	17.7%	
7/12/2010 9:30	M1	357.19	312.46	50.62	17.1%	
7/12/2010 14:00	M2	378.59	332.60	50.00	16.3%	
7/12/2010 16:00	M3	373.04	325.72	50.62	17.2%	
7/13/10 9:00	M1	380.91	336.91	50.59	15.4%	

Moisture Content

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

ENVIROTECH ENGINEERING & CONSULTING, INC

Sample Information

Client:	Washington Closure Hanford
Contact Name:	Charlie Skiba
Project:	S013213A00
Project Location:	ERDF Cells 9-10

Test by:	Luke Hay
Prepared by:	Joseph Voss
Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
7/13/10 13:00	M2	326.36	286.12	50.01	17.0%	
7/13/10 15:45	M3	337.25	295.82	50.58	16.9%	
7/14/2010 9:22	M4	247.98	220.14	50.41	16.4%	
7/14/2010 12:50	SC	1841.10	1627.10	505.60	19.1%	AM-24
7/14/2010 16:15	M3	423.74	367.55	50.58	17.7%	
7/15/2010 9:57	M6	301.90	261.73	49.54	18.9%	
7/15/2010 13:25	M2	343.79	302.13	50.03	16.5%	
7/15/2010 15:55	E2	1450.20	1278.40	246.80	16.7%	AM-25
7/16/2010 9:41	M7	410.66	352.69	50.04	19.2%	
7/16/2010 13:22	M8	361.42	311.99	50.01	18.9%	
7/16/2010 16:07	M9	354.60	308.00	49.87	18.1%	
7/19/10 8:16	M4	347.22	300.28	50.40	18.8%	
7/19/10 13:38	M5	341.70	293.42	50.03	19.8%	
7/19/10 16:39	M6	328.27	283.47	49.55	19.2%	
7/20/2010 9:00	M4	396.51	345.93	50.42	17.1%	
7/20/2010 11:00	M5	301.67	265.95	50.06	16.5%	AM-26
7/20/2010 16:51	M6	346.63	305.58	49.56	16.0%	
7/21/2010 7:45	M4	323.78	283.22	50.42	17.4%	
7/21/2010 11:45	M5	398.69	346.66	50.06	17.5%	
7/21/2010 17:00	M6	324.92	282.63	49.56	18.1%	
7/22/10 8:52	M1	337.68	293.92	50.58	18.0%	
7/22/10 12:00	M6	321.96	286.72	49.53	14.9%	
7/26/10 7:23	VI	1629.40	1401.30	174.00	18.6%	AM-27
7/26/10 12:20	M5	335.82	291.90	50.00	18.2%	
7/26/10 16:04	M6	321.96	286.72	49.53	14.9%	
7/27/10 8:09	M2	374.96	323.53	50.02	18.8%	
7/27/00 10:51	M9	375.67	323.18	49.84	19.2%	
7/27/10 13:26	BX	796.40	706.10	174.10	17.0%	AM-28
7/27/10 16:15	M5	476.20	407.60	50.02	19.2%	
7/28/10 9:16	M3	519.98	449.44	50.54	17.7%	AM-29
7/28/10 12:40	M4	345.32	294.90	50.38	20.6%	
7/29/10 8:44	M5	500.36	426.82	50.06	19.5%	AM-30
7/29/10 13:35	M8	326.07	277.70	50.14	21.3%	
7/29/10 16:17	M9	536.79	463.79	49.87	17.6%	
7/30/10 9:12	M5	384.12	330.97	50.01	18.9%	
7/30/10 13:20	M8	259.09	227.80	50.15	17.6%	
7/30/10 16:05	M9	360.79	307.70	49.86	20.6%	
7/31/10 11:20	M11	315.81	272.14	48.53	19.5%	

Moisture Content

ENVIROTECH ENGINEERING & CONSULTING INC

ASTM (Conv D-2216, Micro D-4643, Wet D-2217)

Submittal: **5-18E Admix Belt Scale Measurments**

Sample Information

Client:	Washington Closure Hanford
Contact Name:	Charlie Skiba
Project:	S013213A00
Project Location:	ERDF Cells 9-10

Test by:	Luke Hay
Prepared by:	Joseph Voss
Reviewed by:	Tyler Williams

Date	Tare No. (g)	Tare +Wet (g)	Tare +Dry (g)	Tare Wt. (g)	Moisture Content (%)	Verification
8/2/10 8:50	Vi	818.00	716.90	174.00	18.6%	AM-31
8/2/10 11:55	M5	452.04	399.94	50.03	14.9%	
8/2/10 16:12	M8	455.78	404.50	50.15	14.5%	
8/3/10 9:05	LH	867.00	766.60	175.40	17.0%	AM-32
8/3/10 12:12	M4	366.92	317.40	50.38	18.5%	
8/3/10 16:31	M9	383.01	336.80	49.85	16.1%	
8/4/10 8:15	M2	334.20	289.54	50.04	18.6%	
8/4/10 12:55	M5	363.48	317.88	50.04	17.0%	
8/5/10 7:10	VI	862.90	748.80	173.90	19.8%	AM-33
8/5/10 11:52	M9	388.16	337.79	49.88	17.5%	
8/5/10 13:24	M1	412.59	358.51	50.57	17.6%	
8/6/10 11:47	M3	384.05	335.18	50.56	17.2%	
8/6/10 13:55	M4	361.26	312.95	50.41	18.4%	
8/6/10 15:45	M5	421.05	357.18	50.04	20.8%	
8/7/10 7:00	M8	416.40	354.71	50.05	20.2%	
8/7/10 12:00	M11	396.84	348.85	48.51	16.0%	
8/7/10 14:10	M2	388.16	336.39	50.18	18.1%	
8/9/10 9:19	M9	350.19	304.50	49.91	17.9%	
8/9/10 10:36	XIII	834.40	733.40	181.10	18.3%	AM-34
8/9/10 16:04	M11	429.83	372.00	48.56	17.9%	
8/10/10 8:07	M5	360.45	318.52	50.60	15.7%	
8/10/10 13:18	M9	351.87	308.81	50.05	16.6%	