NM1 - ___66_____

Operational Infrastructure and Cell E-1 Construction Certification Report

4 of 4

July 2022

APPENDIX H-1-A:
CQA Field Records – East Drying Pad Earthwork

North Ranch
Density Test Log
East Drying Pad - Lift 1

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
EDP-L1-01	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	108.5	10.50	9.68	98.01	119.0	-3.92	3.01	FAIL	XAIS
EDP-L1-01	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	108.2	14.97	13.84	97.74	123.2	0.24	2.74	PASS	XAIS
EDP-L1-02	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	107.9	17.70	16.40	97.47	125.6	2.80	2.47	FAIL	XAIS
EDP-L1-02	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.1	12.90	11.72	99.46	123.0	-1.88	4.46	PASS	XAIS
EDP-L1-03	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	107.3	19.30	17.99	96.93	126.6	4.39	1.93	FAIL	XAIS
EDP-L1-03	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	109.4	12.70	11.61	98.83	122.1	-1.99	3.83	PASS	XAIS
EDP-L1-04	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.5	11.80	10.68	99.82	122.3	-2.92	4.82	FAIL	XAIS
EDP-L1-04	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	109.5	12.80	11.69	98.92	122.3	-1.91	3.92	PASS	XAIS
EDP-L1-05	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	107.2	16.10	15.02	96.84	123.3	1.42	1.84	PASS	XAIS
EDP-L1-06	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.5	16.80	15.20	99.82	127.3	1.60	4.82	PASS	XAIS
EDP-L1-07	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	109.9	16.60	15.10	99.28	126.5	1.50	4.28	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
East Drying Pad - Lift 2

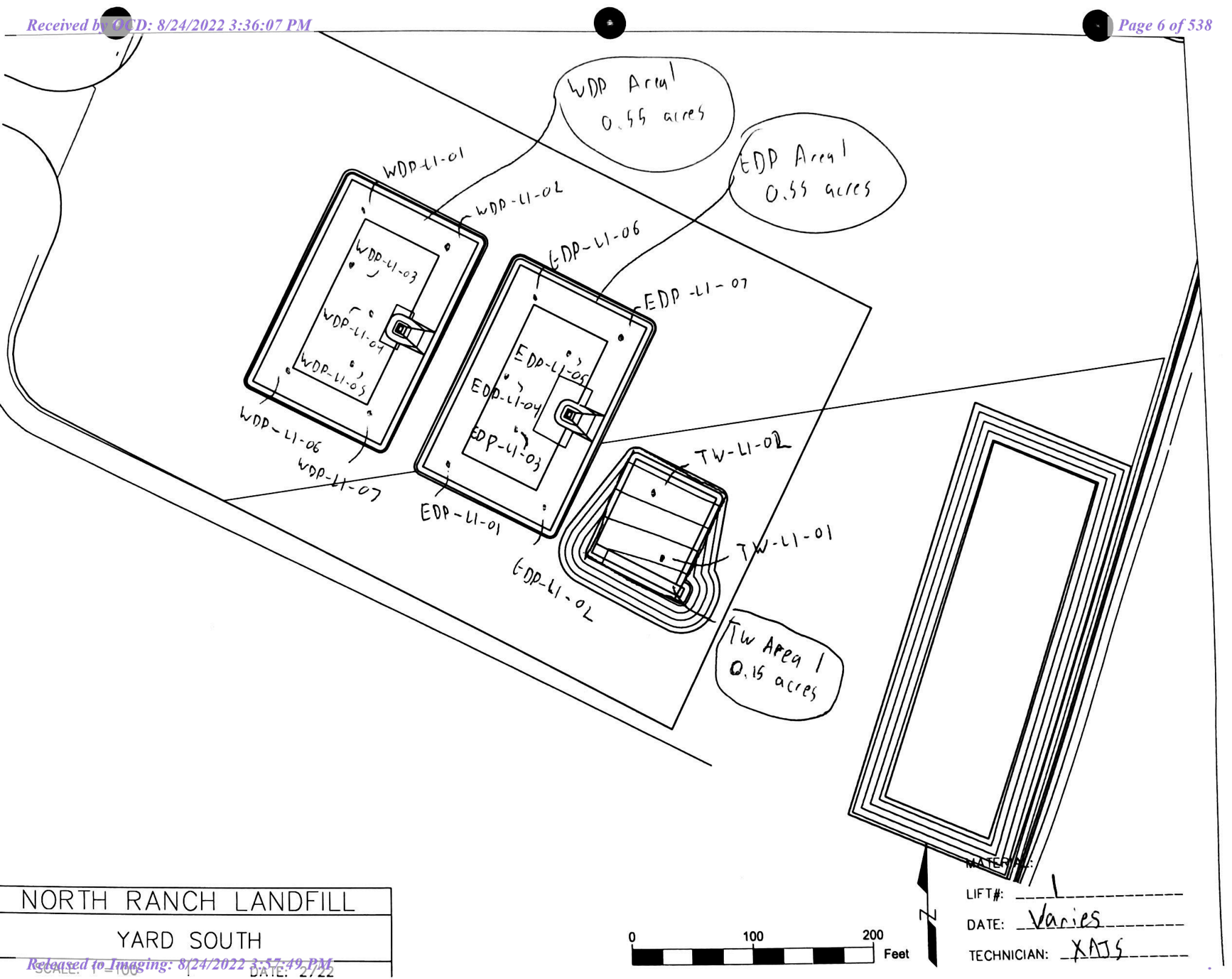
Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
EDP-L2-01	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	100.2	18.90	18.86	95.34	119.1	1.96	0.34	PASS	XAIS
EDP-L2-02	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.4	17.90	17.31	98.38	121.3	0.41	3.38	PASS	XAIS
EDP-L2-03	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.7	18.40	17.74	98.67	122.1	0.84	3.67	PASS	XAIS
EDP-L2-04	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	102.5	15.30	14.93	97.53	117.8	-1.97	2.53	PASS	XAIS
EDP-L2-05	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.3	16.00	15.49	98.29	119.3	-1.41	3.29	PASS	XAIS
EDP-L2-06	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	102.5	15.90	15.51	97.53	118.4	-1.39	2.53	PASS	XAIS
EDP-L2-07	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.0	17.30	16.80	98.00	120.3	-0.10	3.00	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
East Drying Pad - Lift 3

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	Deviation from Modified compaction spec	STANDARD PASS / FAIL	MODIFIED PASS/FAIL	Tech. Initials
EDP-L3-01	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	109.7	10.50	9.57	89.92	120.2	-0.03	-5.08	-2.08	FAIL		XAIS
EDP-L3-01	1	3	1	3/15/22	GF-2 (standard)	9.6	122.0	110.4	9.70	8.79	90.49	120.1	-0.81	-4.51	-1.51	FAIL		XAIS
EDP-L3-01	2	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	112.7	15.90	14.11	98.17	128.6	0.81	3.17	6.17		PASS	XAIS
EDP-L3-02	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	112.2	11.40	10.16	91.97	123.6	0.56	-3.03	-0.03	FAIL		XAIS
EDP-L3-02	1	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	111.3	14.00	12.58	96.95	125.3	-0.72	1.95	4.95		PASS	XAIS
EDP-L3-03	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	110.9	6.90	6.22	90.90	117.8	-3.38	-4.10	-1.10	FAIL		XAIS
EDP-L3-03	1	3	1	3/16/22	GF-2 (standard)	9.6	122.0	115.9	12.70	10.96	95.00	128.6	1.36	0.00	3.00	PASS		XAIS
EDP-L3-03	N/A	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	113.2	14.6	12.90	98.61	127.8	-0.40	3.61	6.61		PASS	XAIS
EDP-L3-04	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	113.3	11.80	10.41	92.87	125.1	0.81	-2.13	0.87	FAIL		XAIS
EDP-L3-04	1	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	112.6	12.90	11.46	98.08	125.5	-1.84	3.08	6.08		PASS	XAIS
EDP-L3-05	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	108.1	14.30	13.23	88.61	122.4	3.63	-6.39	-3.39	FAIL		XAIS
EDP-L3-05	1	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	111.1	16.10	14.49	96.78	127.2	1.19	1.78	4.78		PASS	XAIS
EDP-L3-06	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	109.1	10.30	9.44	89.43	119.4	-0.16	-5.57	-2.57	FAIL		XAIS
EDP-L3-06	1	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	110.7	14.10	12.74	96.43	124.8	-0.56	1.43	4.43		PASS	XAIS
EDP-L3-07	N/A	3	1	3/13/22	GF-2 (standard)	9.6	122.0	113.4	9.80	8.64	92.95	123.2	-0.96	-2.05	0.95	PASS		XAIS
EDP-L3-07	1	3	1	3/17/22	SF-1 (Modified)	13.3	114.8	111.8	14.60	13.06	97.39	126.4	-0.24	2.39	5.39		PASS	XAIS

Frequency:	12	tests/lift/acre
Standard Compaction	95	% of Standard
Modified CoMpaction	92	% of MODIFIED
Moisture Spec (Standard)		2% below OM to 2% above OM
Moisture Spec (Modified)		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

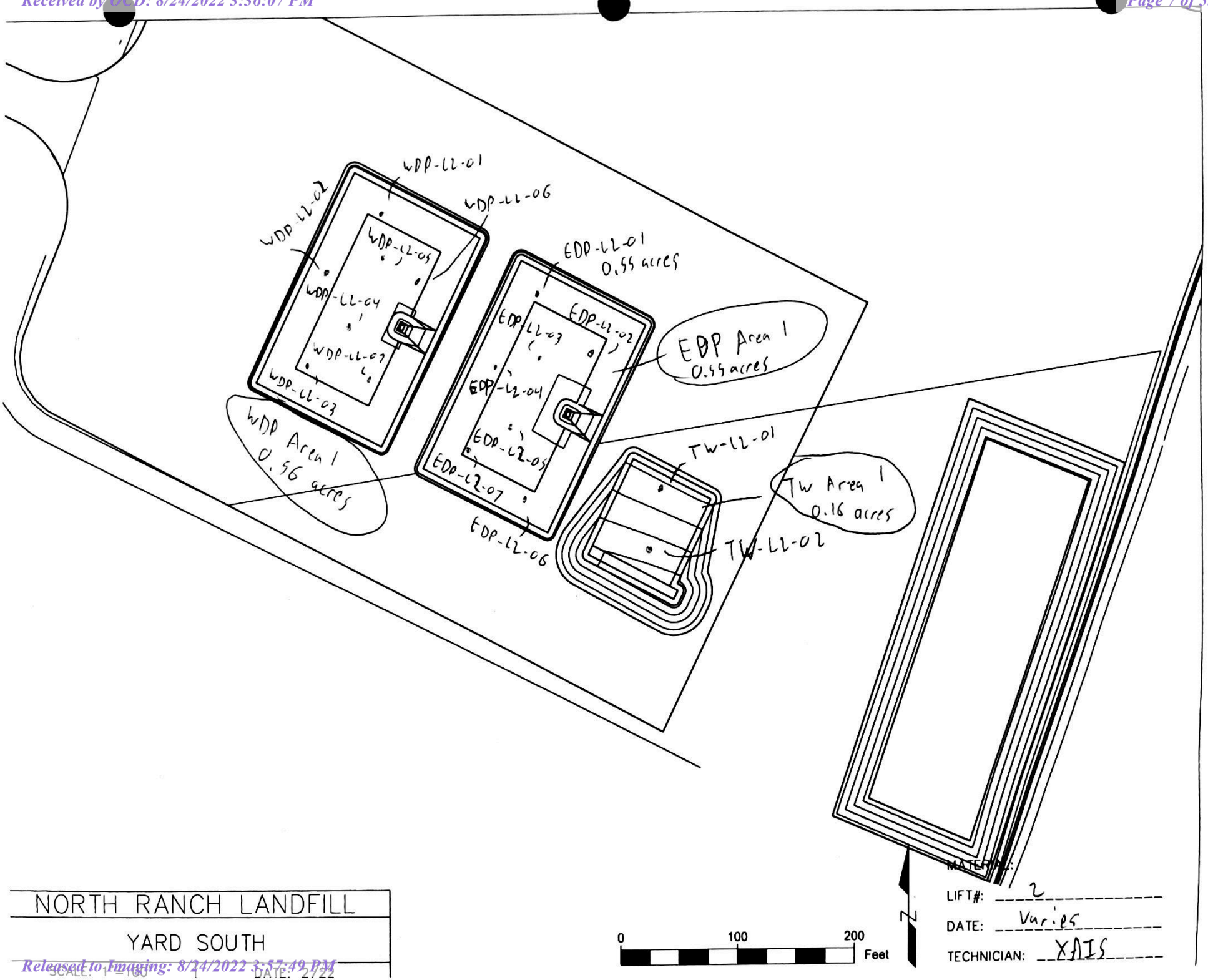


NORTH RANCH LANDFILL

YARD SOUTH

SCALE: 1"=100'

DATE: 2/22



NORTH RANCH LANDFILL

YARD SOUTH

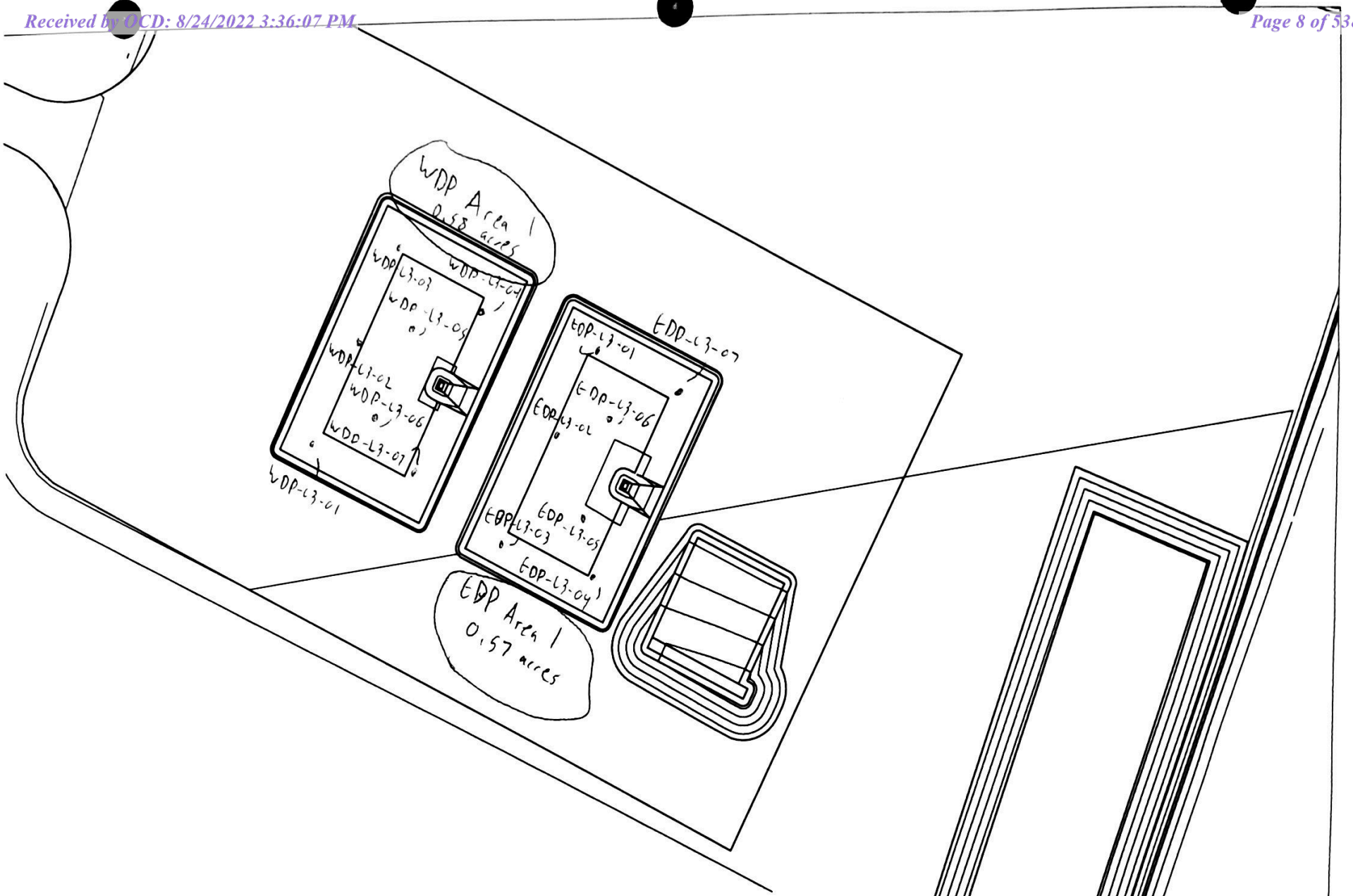
SCALE: 1" = 100' 1 DATE: 2/22

MATERIAL:

LIFT#: 2

DATE: Varies

TECHNICIAN: XAIS



NORTH RANCH LANDFILL

YARD SOUTH

SCALE: 1" = 100' 1 DATE: 2/22

0 100 200 Feet

N

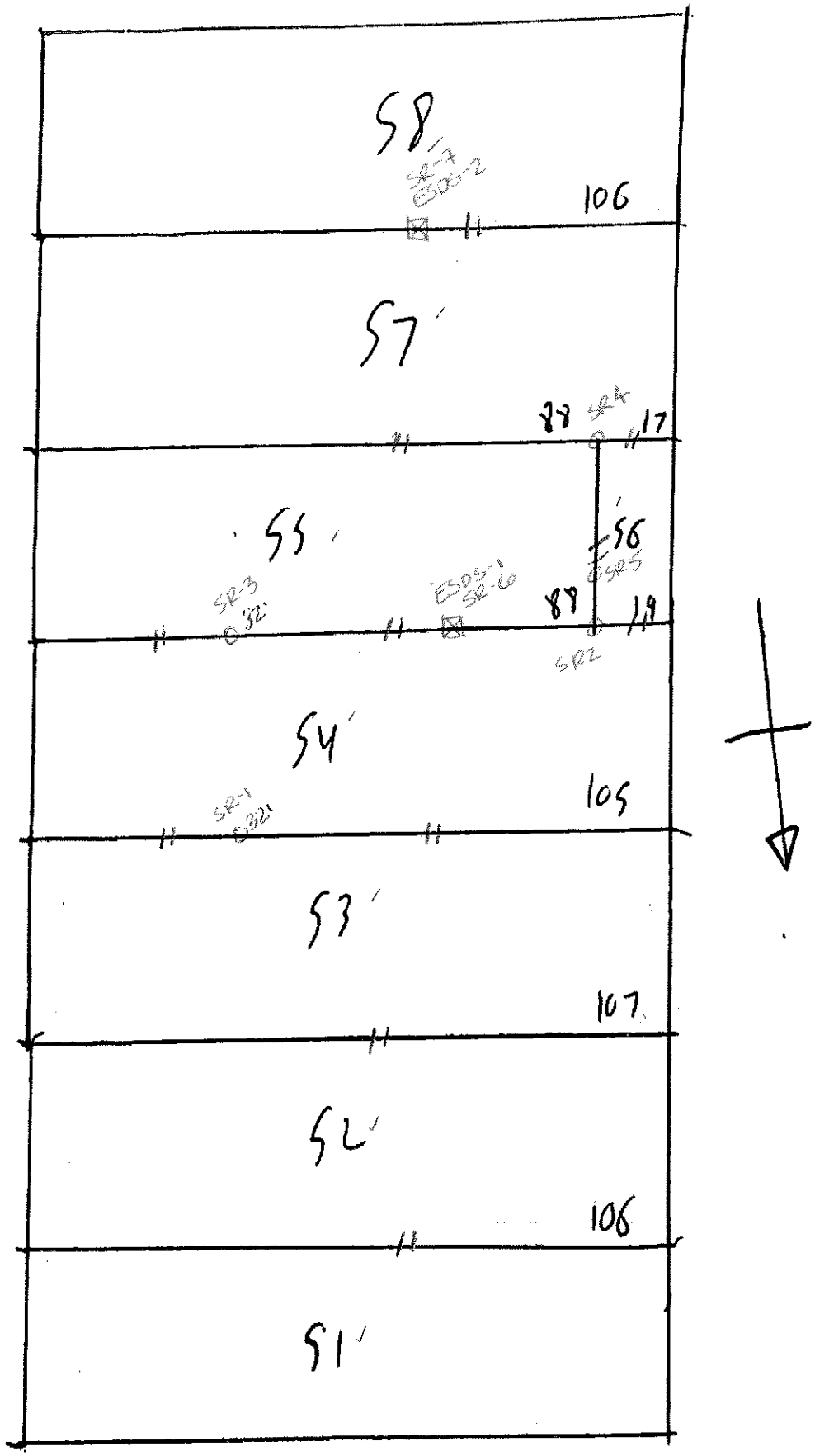
MATERIAL:

LIFT#: 3

DATE: varies

TECHNICIAN: XNTS

APPENDIX H-1-B:
CQA Field Records
East Drying Pad – Secondary Geosynthetics



22-SCS-NRL-01

East Drying Pad Secondary

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

Sheet 2 of 7
Date: 3/23/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: EDP Secondary Material Type: HDPE Thickness: 60 Mil Manufacturer: Sclumay

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
S1	0102-20 4018	1308	106	23	2438	106	22.5	2,385	Floor	XAJS	
S2	0102-20 4018	1310	107	23	2461	107	22.5	2,407.5	Floor	XAJS	
S3	0102-20 4018	1317	107	23	2461	106	22.5	2,385	Floor	XAJS	
S4	0102-20 4018	1321	107	23	2461	106	22.5	2,385	Floor	XAJS	
S5	0102-20 4018	1326	88	23	2,024	88	22.5	1980	Floor	XAJS	
S6	0102-20 4019	1341	19	23	437	18	22.5	405	Floor	XAJS	
S7	0102-20 4019	1345	106	23	2438	106	22.5	2,385	Floor	XAJS	
S8	0102-20 4019	1352	106	23	2438	106	22.5	2,385	Floor	XAJS	

	Gross		Installed
Total SF (Page)	17,158	Total SF (Page)	16,717.5
Total SF (Project)	17,158	Total SF (Project)	16,717.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 7/23/22
Rev. Date: _____

SEAMING RECORD

Layer: LDP Secondary

Welder Initials: CK
Welder Number: _____

Machine ID: WBL

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
S2	S3	CK	WBL	1329	1341	0	107	107	107	—	XAIS	
S5	S4	CK	WBL	1424	1455	88	0	88	195	ESDS1	XAIS	
S6	S5	CK	WBL	1455	1509	19	0	19	214	—	XAIS	CAP @ 32
S6	S5	CK	WBL	1414	1417	0	22	22	236	—	XAIS	
S7	S6	CK	WBL	1430	1437	17	0	17	253	—	XAIS	
S7	S5	CK	WBL	1437	1452	88	0	88	341	—	XAIS	

Total LF (Page)	341	Total DS (Page)	1	Total DS Needed (Page)	0.7	Over/Under (Page)	+0.3
Total LF (Project)	341	Total DS (Project)	1	Total DS Needed (Project)	0.7	Over/Under (Project)	+0.3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: 22-SCS-NRL-01
Project Number: North Ranch

Sheet 4 of 7
Date 3/23/21
Rev. Date:

SEAMING RECORD

Layer: EDP Secondary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
51	52	SL	W2	1314	1332	0	106	106	106		XAIS	
53	54	SL	W2	1341	1359	0	105	105	211		XAIS	CAP @ 32
58	57	SL	W2	1427	1442	106	0	106	317	BDS 2	XAIS	

Total LF (Page)	307 317	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	307 317	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS ENGINEERS
Project: NORTH KNOLL
Project Number: 22-SCS-NKL-01

CQA

Sheet 5 of 7
Date: 7/13/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: EDP Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S1	S2	0	EOS	Full	30	30	1345	1350	P	—	LL	XAIS	—	
APT	S2	S3	0	EOS	Full	30	30	1348	1353	P	—	LL	XAIS	—	
APT	S3	S4	0	32	32	30	30	1350	1355	P	—	LL	XAIS	—	
APT	S3	S4	32	EOS	Full	30	30	1352	1357	P	—	LL	XAIS	—	
APT	S4	S6	0	EOS	Full	30	30	1435	1440	P	—	LL	XAIS	—	
APT	S4	S5	0	32	32	30	30	1427	1432	P	—	LL	XAIS	—	
APT	S4	S5	32	EOS	Full	30	30	1500	1500	P	—	LL	XAIS	—	
APT	S6	S5	0	EOS	Full	30	30	1422	1427	P	—	LL	XAIS	—	
APT	S7	S6	0	EOS	Full	30	30	1520	1425	P	—	LL	XAIS	—	
APT	S7	S6	0	EOS	Full	30	30	1540	1545	P	—	LL	XAIS	—	
APT	S8	S7	0	EOS	Full	30	30	1550	1555	P	—	LL	XAIS	—	

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: 35
Minimum Starting Pressure: 30 Test Duration: 5 MIN Maximum Allowable Loss: 3

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Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-02

CQA SOLUTIONS

Sheet 6 of 7
Date: 3/24/23
Rev. Date: ---

DESTRUCTIVE SAMPLE LOG

Layer: _____

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
ESDS1	S4/S5	62'	3/24	3/24	CK	W82	3/23	P		
ESDS2	S7/S8	96'	3/24	3/24	SL	W 2	3/23	P		
WSDS1	S2/S3	55'	3/24	3/24	SL	W2	3/24	P		
WSDS2	S1/S2	26'	3/24	3/24	SCK	W82	3/24	P		

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-02

Sheet 7 of 7
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: LDP Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair: Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
SR1	S3	S4				CAP	32	-	P	2	7	18	3/24	0915	MM	G44	JA	3/24	P	XAIS
SR2	S4	S6	S5			Int	-	-	P	2	2	8	3/24	0826	MM	G44	JA	3/24	P	XAIS
SR3	S4	S5				CAP	32	-	P	2	7	22	3/24	0905	MM	G44	JA	3/24	P	XAIS
SR4	S5	S6	S7			Int	-	-	P	2	2	8	3/24	0830	MM	G44	JA	3/24	P	XAIS
SR5	S6	S7				Bo	14	-	P	2	3	10	3/24	0807	MM	G44	JA	3/24	P	XAIS
SR6	S4	S5				ESDS1	62	-	P	2	6	16	3/24	900	MM	G44	JA	3/24	P	XAIS
SR7	S7	S8				ESDS2	S6	-	P	2	5	14	3/24	0815	MM	G44	JA	3/24	P	XAIS

Total (Page)	96
Total (Project)	96

Notes: _____

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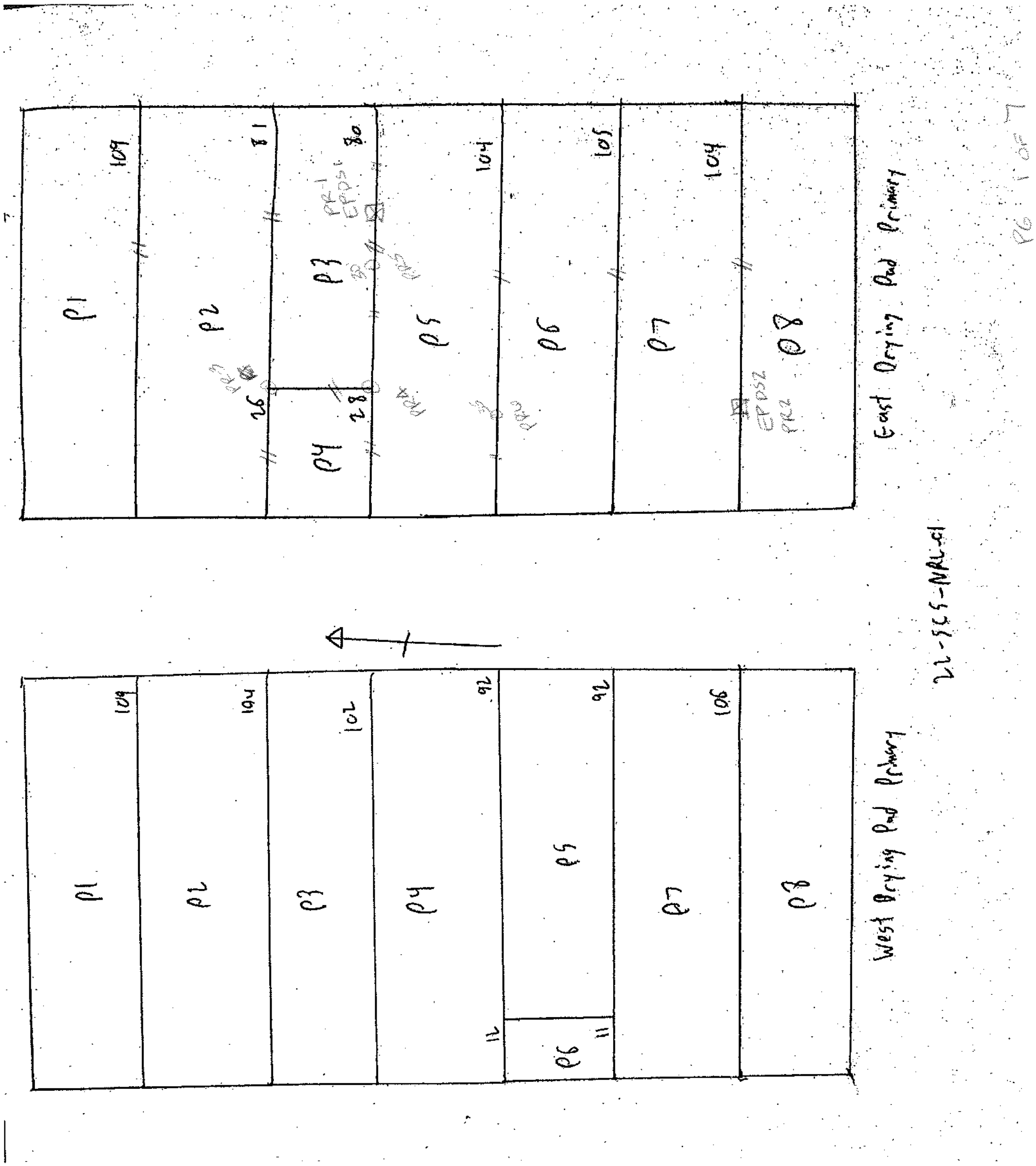
APPENDIX H-1-C:
CQA Field Records
East Drying Pad – Primary Geosynthetics


East Drying Pad Primary
P1
P2
P3
P4
P5
P6
P7
P8
109
104
105
West Drying Pad Primary
P1
P2
P3
P4
P5
P6
P7
P8
109
104
102
92
106

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NR2-01

CQA SOLUTIONS

Sheet 2 of 2
Date: 3/26/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: EDP Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P1	0102-203999	0850	109	23	2507	109	22.5	2452.5	Floor	XAIS	
P2	0102-203999	0855	109	23	2507	108	22.5	2430	Floor	XAIS	
P3	0102-203999	0900	81	23	1863	81	22.5	1822.5	Floor	XAIS	
P4	0102-204003	0910	28	23	644	27	22.5	607.5	Floor	XAIS	
P5	0102-204003	0915	108	23	2484	106	22.5	2385	Floor	XAIS	
P6	0102-204003	0921	105	23	2415	105	22.5	2362.5	Floor	XAIS	
P7	0102-204003	0925	105	23	2415	105	22.5	2362.5	Floor	XAIS	
P8	0102-204003	0932	104	23	2392	104	22.5	2340	Floor	XAIS	

	Gross		Installed
Total SF (Page)	17,227	Total SF (Page)	16,762.5
Total SF (Project)	17,227	Total SF (Project)	16,762.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information.

PG 2 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: M-SCS-WRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 7/26/22
Rev. Date: —

SEAMING RECORD

Layer: EDP Primary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P2	P3	CK	W82	0908	0917	0 ✓	81 ✓	81 ✓	81 ✓	—	XAES	
P2	P4	CK	W82	0918	0921	0 ✓	26 ✓	26 ✓	107 ✓	—	XAES	
P3	P5	CK	W82	0923	0933	0 ✓	80 ✓	80 ✓	187 ✓	EPDS1	XAES	CAP @ 70
P4	P5	CK	W82	0934	0937	0 ✓	28 ✓	28 ✓	215 ✓	—	XAES	
P7	P6	CK	W82	0939	0951	105 ✓	0 ✓	105 ✓	320 ✓	—	XAES	

Total LF (Page)	320 ✓	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	320 ✓	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to COAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 7

Client: SCS Engineering
Project: North Ranch
Project: Number: 22-SCS-NRL-01

CQA

Sheet 4 of 7
Date: 3/16
Rev. Date

NON-DESTRUCTIVE TEST LOG

Layer: EDP Primary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	P1	P2	0	EOS	Full	30	30	1000	1005	P	—	LL	XAIS	—	
APT	P2	P3	0	EOS	Full	30	30	1002	1007	P	—	LL	XAIS	—	
APT	P2	P4	0	EOS	Full	30	30	1005	1010	P	—	LL	XAIS	—	
APT	P3	P5	0	30	Full	30	30	1007	1012	P	—	LL	XAIS	—	
APT	P3	P5	30	EOS	30	30	30	1009	1013	P	—	LL	XAIS	—	
APT	P4	P5	0	EOS	Full	30	30	1015	1020	P	—	LL	XAIS	—	
APT	P5	P6	0	35	Full	30	30	1017	1022	P	—	LL	XAIS	—	
APT	P5	P6	35	EOS	35	30	30	1027	1032	P	—	LL	XAIS	—	
APT	P6	P7	0	EOS	Full	30	30	1029	1034	P	—	LL	XA35	—	
APT	P7	P8	0	EOS	Full	30	30	1035	1040	P	—	LL	XAIS	—	
APT	P3	P4	0	EOS	Full	30	30	1005	1010	P	—	LL	XA2S	—	

Specs: Pre-testing stabilization time: —
Minimum Starting Pressure: 30
Maximum Starting Pressure: 35
Test Duration: 5
Maximum Allowable Loss: 2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 4 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 5 of 7
Date 3/26/22
Rev. Date:

SEAMING RECORD

Layer: EDP Primary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P1	P2	SL	W2	0901	0914	0	109	109	109	–	XAIS	
P4	P3	SL	W2	0917	0920	0	22	22	131	–	XAIS	
P6	P5	SL	W2	0926	0934	104	0	104	235	–	XAIS	
P8	P7	SL	W2	0943	0955	104	0	104	339	EPDS2	XAIS	

Total LF (Page)	339	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	339	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 5 of 7

Client: SCS Engineering
Project: North Parish Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 6 of 7
Date: JAN 25
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: PRIMARY

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
TPDS1	P1/P7	16	3/29	3/29	SL	W2	3/29	P	P	
TPDS2	P3/P4	61	3/29	3/29	CK	W02	3/29	P	P	
WPDS1	P8/P7	66	3/26	3/26	SL	W2	3/26	P	P	
WPDS2	P1/P2	32	3/26	3/26	CK	W02	3/26	P	P	
EPDS1	P3/P5	56	3/26	3/26	CK	W02	3/26	P	P	
EPDS2	P7/P8	26	3/26	3/26	SL	W2	3/26	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF 7

Client: SCS Engineering
Project: North Ranch Cell 11
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet ____ of ____
Date 3/26
Rev. Date: ____

GEOMEMBRANE REPAIR LOG

Layer: EDP Primary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
PR1	P3	P5	–	–	–	EPDS 1	56	–	P	.3	5	16	3/26	1100	SL	G-744	JA	3/26	P	XAES
PR2	P7	P8	–	–	–	EPDS2	26	–	P	2	6	16	3/26	1134	SL	G-744	JA	3/26	P	XAES
PR3	P2	P3	P4	–	–	Int	–	–	P	2	2	8	3/26	1051	SL	G44	JA	3/26	P	XAES
PR4	P3	P4	P5	–	–	Int	–	–	P	2	2	8	3/26	1049	SL	G-744	JA	3/26	P	XAES
PR5	P3	P5	–	–	–	CAP	30	–	P	2	6	16	3/26	1109	SL	G-744	JA	3/26	P	XAES
PR6	P5	P6	–	–	–	CAP	36	–	P	2	7	18	3/26	1120	SL	G-744	JA	3/26	P	XAES

Total (Page)	72
Total (Project)	72

Notes: ____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 7 of 7

APPENDIX H-2-A:
CQA Field Records – West Drying Pad Earthwork

North Ranch
Density Test Log
West Drying Pad - Lift 3

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L3-01	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	109.9	13.10	11.92	99.28	123.0	-1.68	4.28	PASS	XAIS
WDP-L3-02	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	110.0	14.40	13.09	99.37	124.4	-0.51	4.37	PASS	XAIS
WDP-L3-03	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.7	13.50	12.77	95.48	119.2	-0.83	0.48	PASS	XAIS
WDP-L3-04	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.8	16.50	15.60	95.57	122.3	2.00	0.57	PASS	XAIS
WDP-L3-05	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.8	12.70	12.00	95.57	118.5	-1.60	0.57	PASS	XAIS
WDP-L3-06	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.2	13.90	13.21	95.03	119.1	-0.39	0.03	PASS	XAIS
WDP-L3-07	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	109.2	14.80	13.55	98.64	124.0	-0.05	3.64	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
West Drying Pad - Lift 1

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L1-01	N/A	1	1	3/2/22	SF2	13.6	110.7	104.9	7.60	7.24	94.76	112.5	-6.36	-0.24	FAIL	XAIS
WDP-L1-01	1	1	1	3/2/22	SF2	13.6	110.7	109.5	13.50	12.33	98.92	123.0	-1.27	3.92	PASS	XAIS
WDP-L1-02	N/A	1	1	3/2/22	SF2	13.6	110.7	101.6	5.60	5.51	91.78	107.2	-8.09	-3.22	FAIL	XAIS
WDP-L1-02	1	1	1	3/2/22	SF2	13.6	110.7	106.6	14.20	13.32	96.30	120.8	-0.28	1.30	PASS	XAIS
WDP-L1-03	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	109.8	14.90	13.57	99.19	124.7	-0.03	4.19	PASS	XAIS
WDP-L1-04	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	104.7	10.00	9.55	94.58	114.7	-4.05	-0.42	FAIL	XAIS
WDP-L1-04	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	105.3	12.40	11.78	95.12	117.7	-1.82	0.12	PASS	XAIS
WDP-L1-05	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.5	13.30	12.04	99.82	123.8	-1.56	4.82	PASS	XAIS
WDP-L1-06	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	99.5	5.60	5.63	89.88	105.1	-7.97	-5.12	FAIL	XAIS
WDP-L1-06	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.2	12.10	10.98	99.55	122.3	-2.62	4.55	FAIL	XAIS
WDP-L1-06	2	1	1	3/2/22	SF2 (Standard)	13.6	110.7	107.7	13.80	12.81	97.29	121.5	-0.79	2.29	PASS	XAIS
WDP-L1-07	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	97.6	6.60	6.76	88.17	104.2	-6.84	-6.83	FAIL	XAIS
WDP-L1-07	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	97.4	5.70	5.85	87.99	103.1	-7.75	-7.01	FAIL	XAIS
WDP-L1-07	2	1	1	3/2/22	SF2 (Standard)	13.6	110.7	108.1	12.10	11.19	97.65	120.2	-2.41	2.65	FAIL	XAIS
WDP-L1-07	3	1	1	3/3/22	SF2 (Standard)	13.6	110.7	107.5	14.50	13.49	97.11	122.0	-0.11	2.11	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
West Drying Pad - Lift 2

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L1-01	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	104.5	19.70	18.85	99.43	124.2	1.95	4.43	PASS	XAIS
WDP-L1-02	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.7	16.70	16.10	98.67	120.4	-0.80	3.67	PASS	XAIS
WDP-L1-03	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	100.9	16.00	15.86	96.00	116.9	-1.04	1.00	PASS	XAIS
WDP-L1-04	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	105.0	17.50	16.67	99.90	122.5	-0.23	4.90	PASS	XAIS
WDP-L1-05	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	101.9	16.70	16.39	96.96	118.6	-0.51	1.96	PASS	XAIS
WDP-L1-06	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	99.9	15.40	15.42	95.05	115.3	-1.48	0.05	PASS	XAIS
WDP-L1-07	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	100.1	18.40	18.38	95.24	118.5	1.48	0.24	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
West Drying Pad - Lift 1

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L1-01	N/A	1	1	3/2/22	SF2	13.6	110.7	104.9	7.60	7.24	94.76	112.5	-6.36	-0.24	FAIL	XAIS
WDP-L1-01	1	1	1	3/2/22	SF2	13.6	110.7	109.5	13.50	12.33	98.92	123.0	-1.27	3.92	PASS	XAIS
WDP-L1-02	N/A	1	1	3/2/22	SF2	13.6	110.7	101.6	5.60	5.51	91.78	107.2	-8.09	-3.22	FAIL	XAIS
WDP-L1-02	1	1	1	3/2/22	SF2	13.6	110.7	106.6	14.20	13.32	96.30	120.8	-0.28	1.30	PASS	XAIS
WDP-L1-03	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	109.8	14.90	13.57	99.19	124.7	-0.03	4.19	PASS	XAIS
WDP-L1-04	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	104.7	10.00	9.55	94.58	114.7	-4.05	-0.42	FAIL	XAIS
WDP-L1-04	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	105.3	12.40	11.78	95.12	117.7	-1.82	0.12	PASS	XAIS
WDP-L1-05	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.5	13.30	12.04	99.82	123.8	-1.56	4.82	PASS	XAIS
WDP-L1-06	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	99.5	5.60	5.63	89.88	105.1	-7.97	-5.12	FAIL	XAIS
WDP-L1-06	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	110.2	12.10	10.98	99.55	122.3	-2.62	4.55	FAIL	XAIS
WDP-L1-06	2	1	1	3/2/22	SF2 (Standard)	13.6	110.7	107.7	13.80	12.81	97.29	121.5	-0.79	2.29	PASS	XAIS
WDP-L1-07	N/A	1	1	3/2/22	SF2 (Standard)	13.6	110.7	97.6	6.60	6.76	88.17	104.2	-6.84	-6.83	FAIL	XAIS
WDP-L1-07	1	1	1	3/2/22	SF2 (Standard)	13.6	110.7	97.4	5.70	5.85	87.99	103.1	-7.75	-7.01	FAIL	XAIS
WDP-L1-07	2	1	1	3/2/22	SF2 (Standard)	13.6	110.7	108.1	12.10	11.19	97.65	120.2	-2.41	2.65	FAIL	XAIS
WDP-L1-07	3	1	1	3/3/22	SF2 (Standard)	13.6	110.7	107.5	14.50	13.49	97.11	122.0	-0.11	2.11	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
West Drying Pad - Lift 2

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L1-01	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	104.5	19.70	18.85	99.43	124.2	1.95	4.43	PASS	XAIS
WDP-L1-02	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	103.7	16.70	16.10	98.67	120.4	-0.80	3.67	PASS	XAIS
WDP-L1-03	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	100.9	16.00	15.86	96.00	116.9	-1.04	1.00	PASS	XAIS
WDP-L1-04	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	105.0	17.50	16.67	99.90	122.5	-0.23	4.90	PASS	XAIS
WDP-L1-05	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	101.9	16.70	16.39	96.96	118.6	-0.51	1.96	PASS	XAIS
WDP-L1-06	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	99.9	15.40	15.42	95.05	115.3	-1.48	0.05	PASS	XAIS
WDP-L1-07	N/A	2	1	3/4/22	SF1 (Standard)	16.9	105.1	100.1	18.40	18.38	95.24	118.5	1.48	0.24	PASS	XAIS

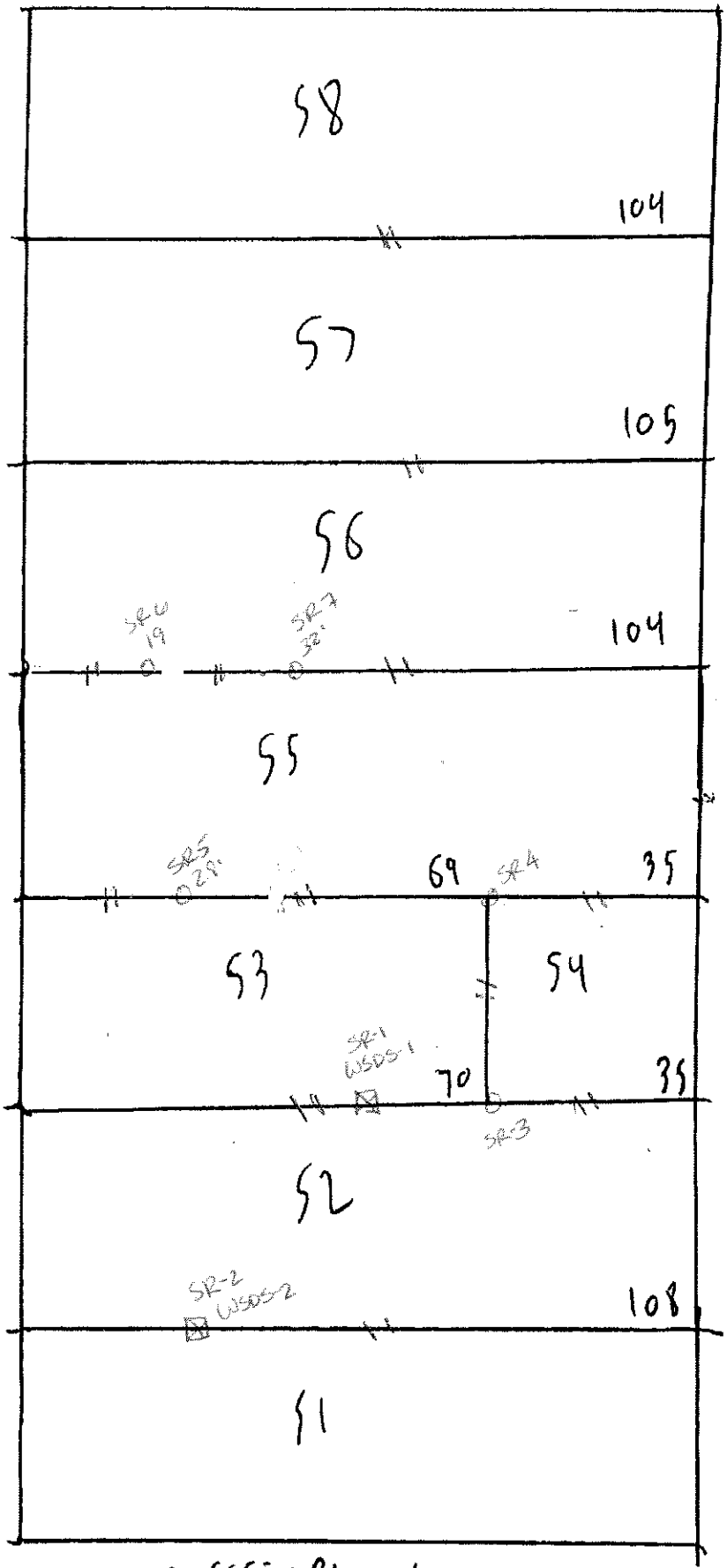
Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
West Drying Pad - Lift 3

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	PASS / FAIL	Tech. Initials
WDP-L3-01	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	109.9	13.10	11.92	99.28	123.0	-1.68	4.28	PASS	XAIS
WDP-L3-02	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	110.0	14.40	13.09	99.37	124.4	-0.51	4.37	PASS	XAIS
WDP-L3-03	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.7	13.50	12.77	95.48	119.2	-0.83	0.48	PASS	XAIS
WDP-L3-04	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.8	16.50	15.60	95.57	122.3	2.00	0.57	PASS	XAIS
WDP-L3-05	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.8	12.70	12.00	95.57	118.5	-1.60	0.57	PASS	XAIS
WDP-L3-06	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	105.2	13.90	13.21	95.03	119.1	-0.39	0.03	PASS	XAIS
WDP-L3-07	N/A	3	1	3/10/22	SF2 (Standard)	13.6	110.7	109.2	14.80	13.55	98.64	124.0	-0.05	3.64	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	95	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

APPENDIX H-2-B:
CQA Field Records – West Drying Pad
Geosynthetics - Secondary



22-SCS-NRL-01

West Drying Pad Secondary

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 7
Date: 7/21/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: WDP Secondary   Material Type: HDPE   Thickness: 60 mil   Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
51	0102-204019	0749	108	23	2,484	108	22.5	2,430	Floor	XAIS	
52	0102-204019	0752	108	23	2,484	107	22.5	2,407.5	Floor	XAIS	
53	0102-204019	0759	70	23	1,610	70	22.5	1,575	Floor	XAIS	
54	0102-204002	0801	35	23	805	35	22.5	787.5	Floor	XAIS	
55	0102-204002	0806	105	23	2,415	105	22.5	2,362.5	Floor	XAIS	
56	0102-204002	0812	105	23	2,415	105	22.5	2,362.5	Floor	XAIS	
57	0102-204002	0816	105	23	2,415	105	22.5	2,362.5	Floor	XAIS	
58	0102-204002	0822	104	23	2,392	104	22.5	2,340	Floor	XAIS	
				Total SF (Page)	17,010		Total SF (Page)	16,627.5			
				Total SF (Project)	17,010		Total SF (Project)	16,627.5			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 3/24/22
Rev. Date:

SEAMING RECORD

Layer: WDP Secondary

Welder Initials: JL
Welder Number:

Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S2	S3	SL	W2	0811	0819	0	70	70	70	WSDS1	XAJS	
S2	S4	SL	W2	0819	0824	0	75	75	105		XAJS	
S3	S4	SL	W2	0805	0807	0	22	22	127		XAJS	
S6	S5	SL	W2	0826	0841	104	0	104	211		XAJS	CAP @ 3L, AO @ 14
S8	S7	SL	W2	0847	0900	104	0	104	315		XAJS	

Total LF (Page)	315	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	315	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

Sheet 4 of 7
Date 7/14/22
Rev. Date:

SEAMING RECORD

Layer: WDO Secondary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S1	SL	CK	W82	0800	0816	0	108	108	108	WSDS2	XAIS	
S7	S5	CK	W82	0822	0834	0	69	69	177		XAIS	CAP @ 14
S4	S5	CK	W82	0834	0838	0	35	35	212		XAIS	
S7	S6	CK	W82	0845	0902	105	0	105	317		XAIS	

Total LF (Page)	317	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	317	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project: Number: 22-SCS-NRL-01

Sheet 5 of 7
Date: 7/14/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: WDD Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S1	SL	0	ECS	Full	30	30	0825	0830	P		LL	XAIS		
APT	SL	S3	0	ECS	Full	30	30	0830	0835	P		LL	XAIS		
APT	S2	S4	0	ECS	Full	30	30	0832	0837	P		LL	XAIS		
APT	S3	S4	0	ECS	Full	30	30	0835	0840	P		LL	XAIS		
APT	S4	25	0	ECS	Full	30	30	0838	0843	P		LL	XAIS		
APT	S3	S5	0	29	29	30	30	0839	0844	P		LL	XAIS		
APT	S3	S5	29	ECS	Full	30	30	0837	0846	P		LL	XAIS		
APT	S6	S4	0	19	19	30	30	0845	0850	P		LL	XAIS		
APT	S6	S5	19	32	13	30	30	0847	0852	P		LL	XAIS		
APT	S6	S5	32	ECS	Full	30	30	0850	0855	P		LL	XAIS		
APT	S7	S6	0	ECS	Full	30	30	0900	0905	P		LL	XAIS		
APT	S8	S7	0	ECS	Full	30	30	0902	0907	P		LL	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-02

CQA SOLUTIONS

Date: 3/26/24
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: _____

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
ESDS1	S4/S5	61'	3/24	3/24	CK	W82	3/23	P		
ESDS2	S7/S8	96'	3/24	3/24	SL	W 2	3/23	P		
WSDS1	S2/S3	51'	3/24	3/24	SL	W2	3/24	P		
WSDS2	S1/S2	26'	3/24	3/24	SCK	W82	3/24	P		

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRC-01

CQA SOLUTIONS

Sheet 7 of 7
Date 3/24/22
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: WDP Secondary

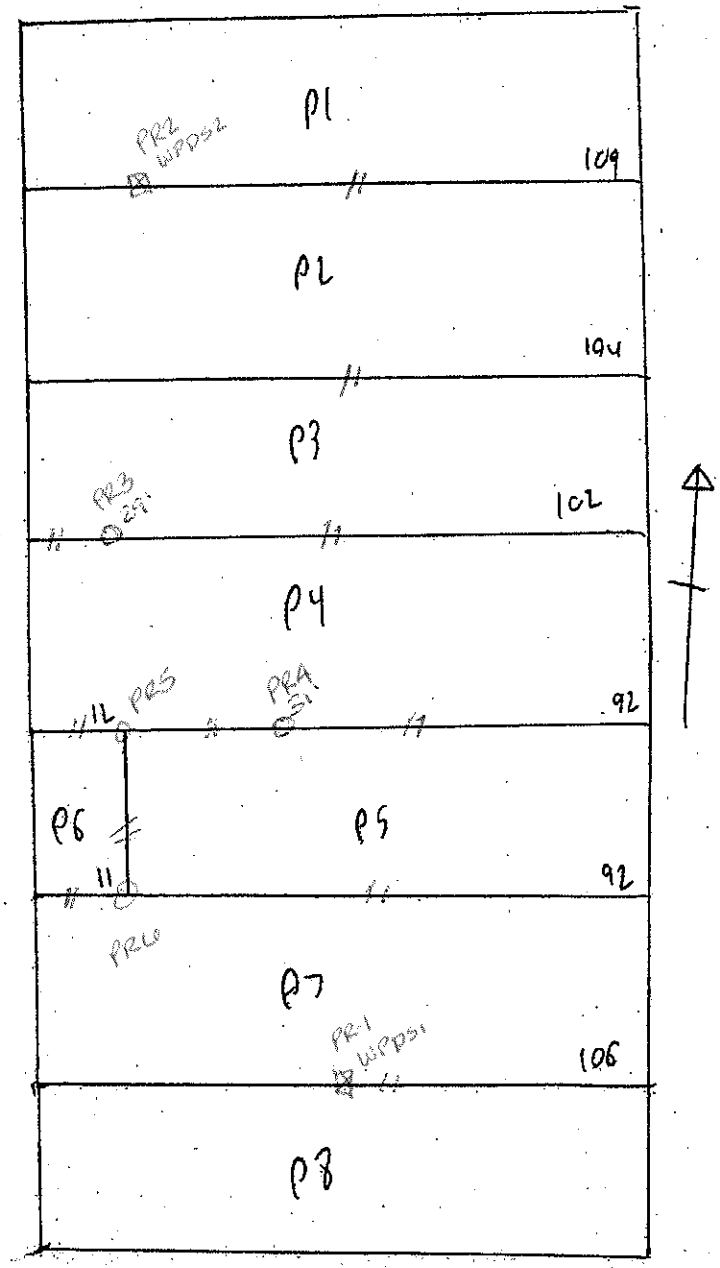
Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR1	S1	S3				WSDS1	55	-	P	2	5	14	3/24	0955	MM	44	JA	3/24	P	XAIS
SR2	S1	S2				WSDS2	26	-	P	2	5	14	3/24	0947	MM	44	JA	3/24	P	XAIS
SR3	S2	S3	S4			Int	-	-	P	2	2	8	3/24	0940	MM	44	JA	3/24	P	XAIS
SR4	S3	S4	S5			Int	-	-	P	2	2	8	3/24	0937	MM	44	JA	3/24	P	XAIS
SR5	S3	S8				CAP	29	-	P	2	7	18	3/24	0935	MM	44	JA	3/24	P	XAIS
SR6	S6	S6				Bo	19	-	P	2	2	8	3/24	0920	MM	44	JA	3/24	P	XAIS
SR7	S5	S6				CAP	33	-	P	3	7	20	3/24	0910	MM	44	JA	3/24	P	XAIS

Total (Page)	90
Total (Project)	90

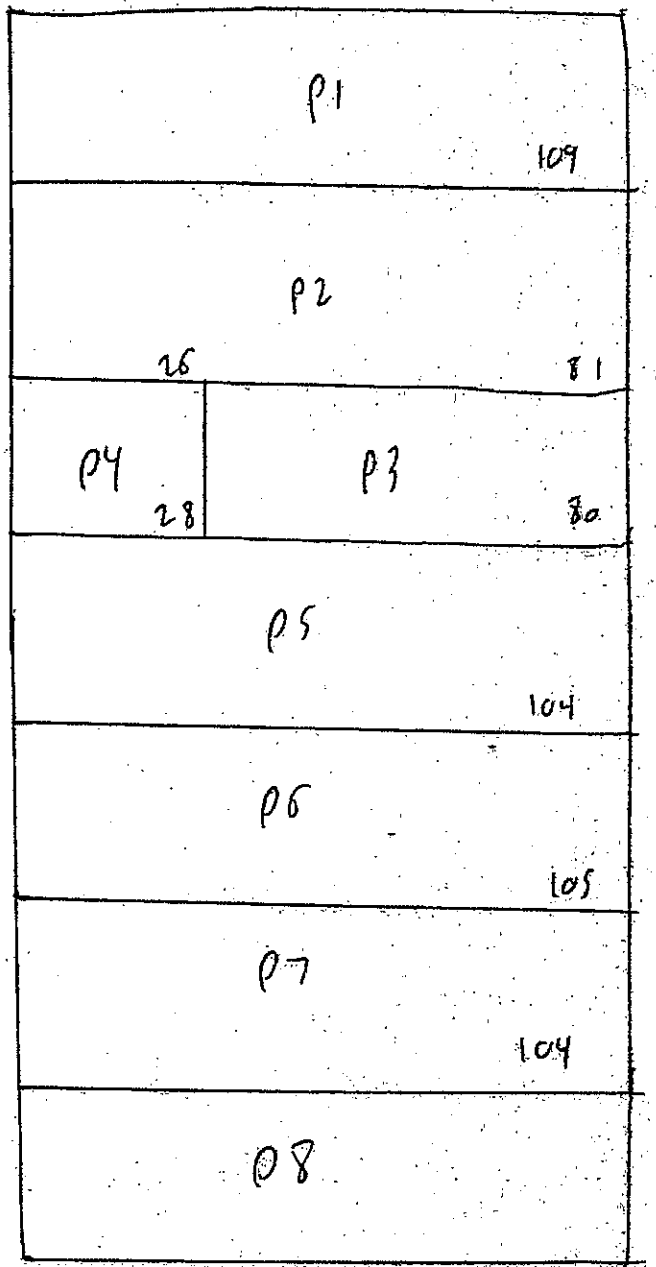
Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

APPENDIX H-2-C:
CQA Field Records – West Drying Pad
Geosynthetics - Primary



West Drying Pad Primary



East Drying Pad Primary

22-SCS-NAL-01

PG 1 OF 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 92-SCS-NRL-C1

CQA SOLUTIONS

Sheet 2 of 2
Date: 3/25/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: WDP Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P1	0102-203995	0750	109	23	2507	109	22.5	2452.5	Floor	XAIS	
P2	0102-203995	0755	109	23	2507	107	22.5	2407.5	Floor	XAIS	
P3	0102-203995	0803	104	23	2392	103	22.5	2317.5	Floor	XAIS	
P4	0102-203995	0809	104	23	2392	103	22.5	2317.5	Floor	XAIS	
P5	0102-203995	08[illegible]	92	23	2116	92	22.5	2070	Floor	XAIS	
P6	0102-203999	0830	12	23	276	12	22.5	270	Floor	XAIS	
P7	0102-203999	0837	106	23	2438	105	22.5	2362.5	Floor	XAIS	
P8	0102-203999	0842	106	23	2438	106	22.5	2385	Floor	XAIS	
				Total SF (Page)	17,066		Total SF (Page)	16,402.5			
				Total SF (Project)	17,066		Total SF (Project)	16,402.5			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 OF 2

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 3/16/22
Rev. Date:

SEAMING RECORD

Layer: VDP Primary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P1	P2	CK	W82	0818	0831	0	109	109	109	VPDS2	XAES	
P2	P3	CK	W82	0804	0816	0	104	104	213	—	XAES	
P7	P5	CK	W82	0834	0836	11	0	11	224	—	XAES	
P7	P5	CK	W82	0836	0842	92	0	92	316	—	XAES	

Total LF (Page)	316	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	316	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NR-04

CQA SOLUTIONS

Sheet 4 of 7
Date 5/16/22
Rev. Date:

SEAMING RECORD

Layer: WDP Primary

Welder Initials: SL
Welder Number:
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P3	P4	SL	WZ	0810	0820	0	102	102	102	-	KAES	CAP @ 29
P6	P4	SL	WZ	0815	0827	12	0	12	114	-	KAES	
P5	P4	SL	WZ	0827	0834	92	0	92	206	-	KAES	CAP @ 31
P6	P5	SL	WZ	0821	0824	0	22	22	228	-	KAES	
P8	P7	SL	WZ	0829	0847	106	0	106	334	VPDS1	KAES	

Total LF (Page)	334	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	334	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 4 of 7

Client: SES Engineering
Project: AOP [illegible]
Project Number: [illegible]

CQA

Sheet: 5 of 7
Date: [illegible]
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: WDP Primary

Test Type	Seams		Station		Tested Length	Pressure		Time		Pass/Fail		QC Tech	Observer	To be capped?	Notes
	Top	Bottom	Begin	End		Begin	End	Begin	End	APT	VT				
APT	51	52	0	EOS	Full	30	30	839	843	P	–	LC	YAIS	–	
APT	52	53	0	EOS	Full	30	30	840	845	P	–	LC	YAIS	–	
APT	53	54	0	29	29	30	30	842	847	P	–	LC	YAIS	–	
APT	54	55	0	31	31	30	30	852	857	P	–	LC	YAIS	–	
APT	54	56	0	EOS	Full	30	30	840	845	P	–	LC	YAIS	–	
APT	55	56	0	EOS	Full	30	30	842	847	P	–	LC	YAIS	–	
APT	55	57	0	EOS	Full	30	30	849	854	P	–	LC	YAIS	–	
APT	56	57	0	EOS	Full	30	30	845	850	P	–	LC	YAIS	–	
APT	57	58	0	EOS	Full	30	30	850	855	P	–	LC	YAIS	–	
APT	53	54	29	EOS	Full	30	30	844	849	P	–	LC	YAIS	–	
APT	54	55	31	EOS	Full	30	30	850	855	P	–	LC	YAIS	–	

Specs: Pre-testing Stabilization Time: ______ Maximum Starting Pressure: ______ Maximum Allowable Loss: ______
Minimum Starting Pressure: ______ Test Duration: ______

Submit to CQAS Project Manager by 7AM EST following the date of any updated information.

PG 5 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 6 of 7
Date: VARIES
Rev. Date: —

DESTRUCTIVE SAMPLE LOG

Layer: Primary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
TPDS1	P1/P7	16	3/29	3/29	SL	W2	3/29	P	P	
TPDS2	P3/P4	61	3/29	3/29	CK	W02	3/29	P	P	
WPDS1	P8/P7	66	3/26	3/26	SL	W2	3/26	P	P	
WPDS2	P1/P2	32	3/26	3/26	CK	W02	3/26	P	P	
EPDS1	P3/P5	56	3/26	3/26	CK	W02	3/26	P	P	
EPDS2	P7/P8	26	3/26	3/26	SL	W2	3/26	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-GRL.01

CQA SOLUTIONS

Sheet 7 of 7
Date 3/26/22
Rev. Date:

GEOMEMBRANE REPAIR LOG

Layer: WDP Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR1	P8	P7				WPDS1	66	-	P	2	6	16	3/26	1046	MM	G44	JA	3/26	P	XAES
PR2	P1	P2				WPDS2	72	-	P	2	6	16	3/26	1032	MM	G44	JA	3/26	P	XAES
PR3	P3	P4				CAP	29	-	P	2	12	28	3/26	1035	MM	G44	JA	3/26	P	XAES
PR4	P4	P5				CAP	31	-	P	2	12	28	3/26	1040	MM	G44	JA	3/26	P	XAES
PR5	P4	P5	P6			Int	-	-	P	2	2	8	3/26	1040	MM	G44	JA	3/26	P	XAES
PR6	P5	P6	P7			Int	-	-	P	2	2	8	3/26	1042	MM	G44	JA	3/26	P	XAES

Total (Page)	104
Total (Project)	104

Notes:

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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APPENDIX H-3:
CQA Field Records
Truck Wash Pad

APPENDIX H-3-A:
CQA Field Records
Truck Wash Pad - Earthwork

North Ranch
Density Test Log
Truck Wash Pad - Lift 1

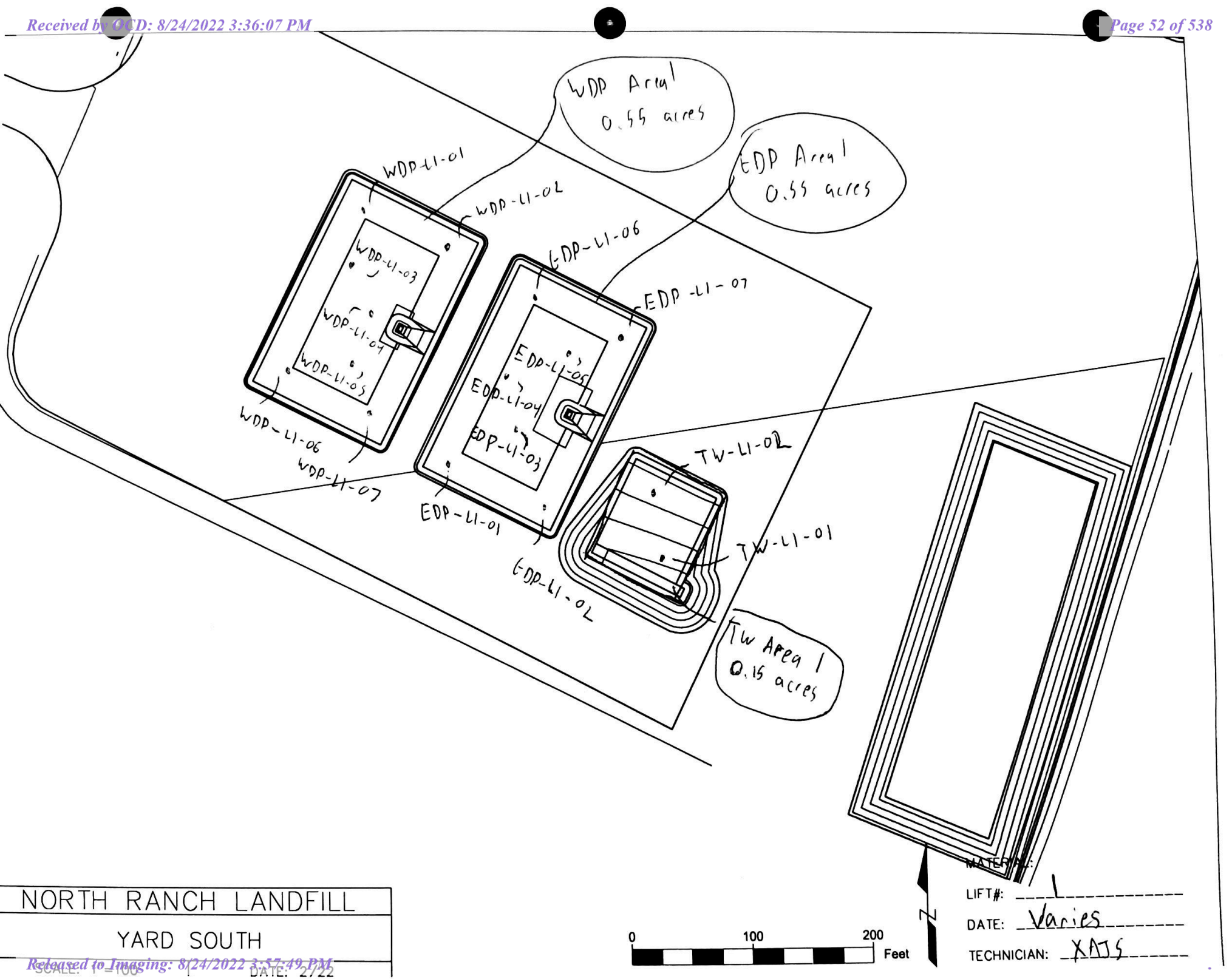
Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	Deviation from Modified compaction spec	STANDARD PASS / FAIL	MODIFIED PASS/FAIL	Tech. Initials
TW-L1-01	N/A	1	1	2/23/22	SF-1 (Standard)	16.9	105.1	93.7	8.40	8.96	89.15	102.1	-7.94	-5.85	-2.85	FAIL	-	XAIS
TW-L1-01	1	1	1	2/23/22	SF-1 (Standard)	16.9	105.1	97.6	8.30	8.50	92.86	105.9	-8.40	-2.14	0.86	FAIL	-	XAIS
TW-L1-01	2	1	1	2/24/22	SF-1 (Standard)	16.9	105.1	100.1	16.40	16.38	95.24	116.5	-0.52	0.24	3.24	PASS	-	XAIS
TW-L1-02	N/A	1	1	2/23/22	SF-1 (Standard)	16.9	105.1	101.9	9.10	8.93	96.96	111.0	-7.97	1.96	4.96	FAIL	-	XAIS
TW-L1-02	1	1	1	2/24/22	SF-1 (Standard)	16.9	105.1	98.9	14.50	14.66	94.10	113.4	-2.24	-0.90	2.10	FAIL	-	XAIS
TW-L1-02	2	1	1	2/24/22	SF-1 (Standard)	16.9	105.1	91.0	16.80	18.46	86.58	107.8	1.56	-8.42	-5.42	FAIL	-	XAIS
TW-L1-02	3	1	1	2/25/22	SF-1 (Standard)	16.9	105.1	88.5	20.40	23.05	84.21	108.9	6.15	-10.79	-7.79	FAIL	-	XAIS
TW-L1-02	4	1	1	2/25/22	SF-1 (Standard)	16.9	105.1	101.1	15.90	15.73	96.19	117.0	-1.17	1.19	4.19	PASS	-	XAIS

Frequency:	12	tests/lift/acre
Standard Compaction	95	% of Standard
Modified CoMpaction	92	% of MODIFIED
Moisture Spec (Standard)		2% below OM to 2% above OM
Moisture Spec (Modified)		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Truck Wash Pad - Lift 2

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Standard compaction spec	Deviation from Modified compaction spec	STANDARD PASS / FAIL	MODIFIED PASS/FAIL	Tech. Initials
TW-L2-01	N/A	2	1	3/16/22	SF-1 (Modified)	13.3	114.8	106.4	14.70	13.82	92.68	121.1	0.52	-2.32	0.68	-	PASS	XAIS
TW-L2-02	N/A	2	1	3/16/22	SF-1 (Modified)	13.3	114.8	110.7	13.10	11.83	96.43	123.8	-1.47	1.43	4.43	-	PASS	XAIS

Frequency:	12	tests/lift/acre
Standard Compaction	95	% of Standard
Modified CoMpaction	92	% of MODIFIED
Moisture Spec (Standard)		2% below OM to 2% above OM
Moisture Spec (Modified)		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches



NORTH RANCH LANDFILL

YARD SOUTH

SCALE: 1"=100'

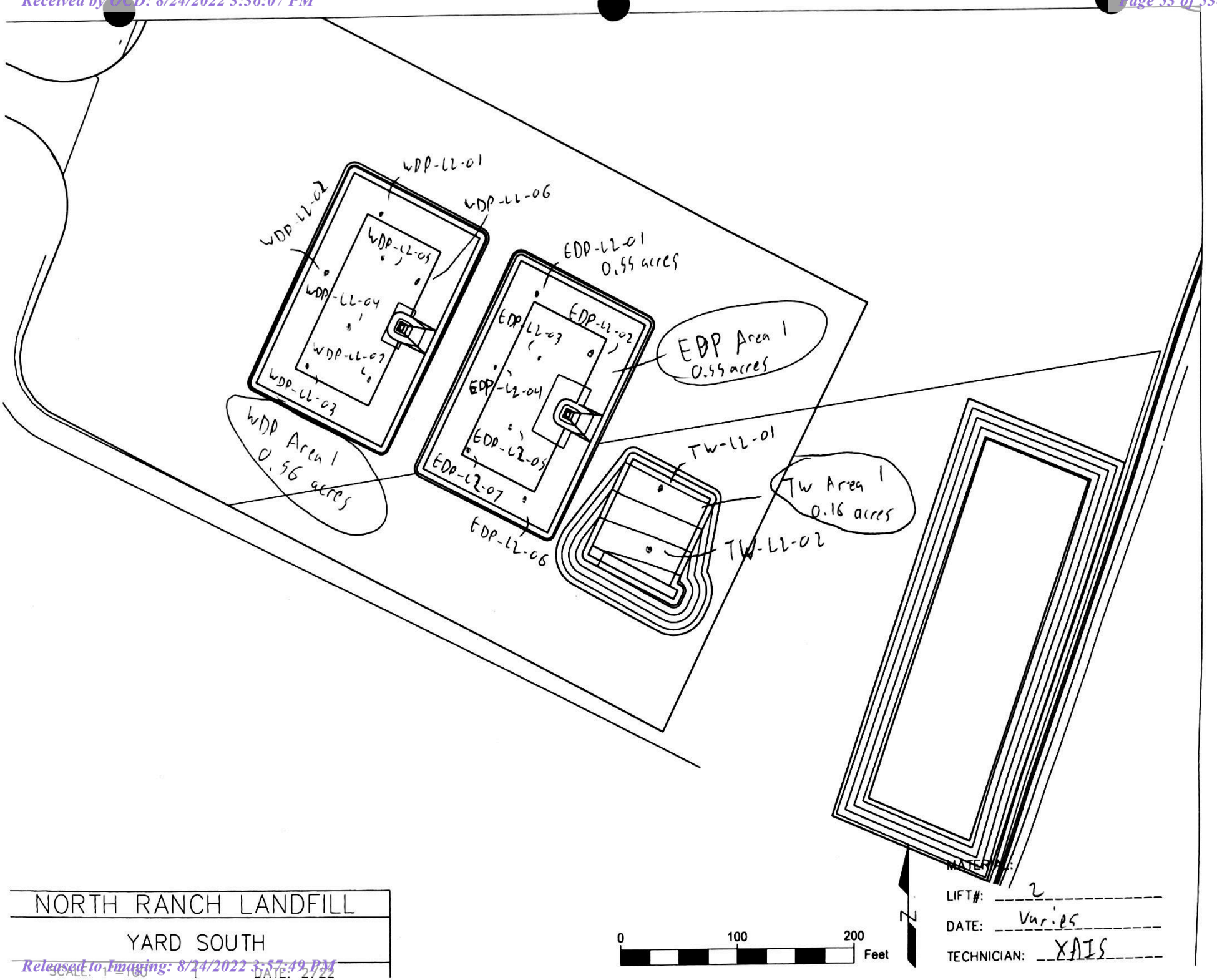
DATE: 2/22

MATERIAL:

LIFT#: 1

DATE: Varies

TECHNICIAN: XAJS



NORTH RANCH LANDFILL

YARD SOUTH

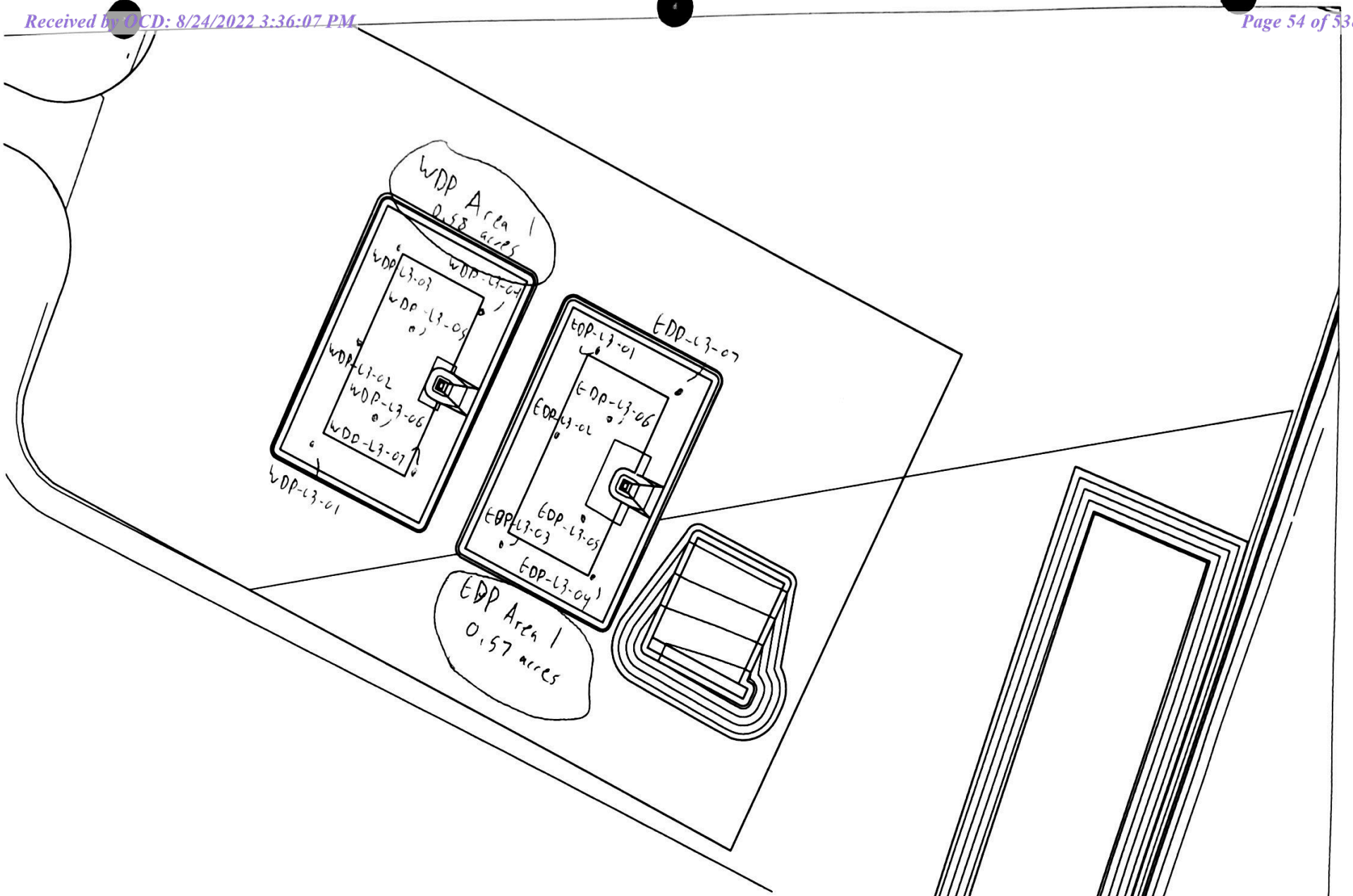
SCALE: 1" = 100' 1 DATE: 2/22

MATERIAL:

LIFT#: 2

DATE: Varies

TECHNICIAN: XAIS



NORTH RANCH LANDFILL

YARD SOUTH

SCALE: 1" = 100' DATE: 2/22

0 100 200 Feet

N

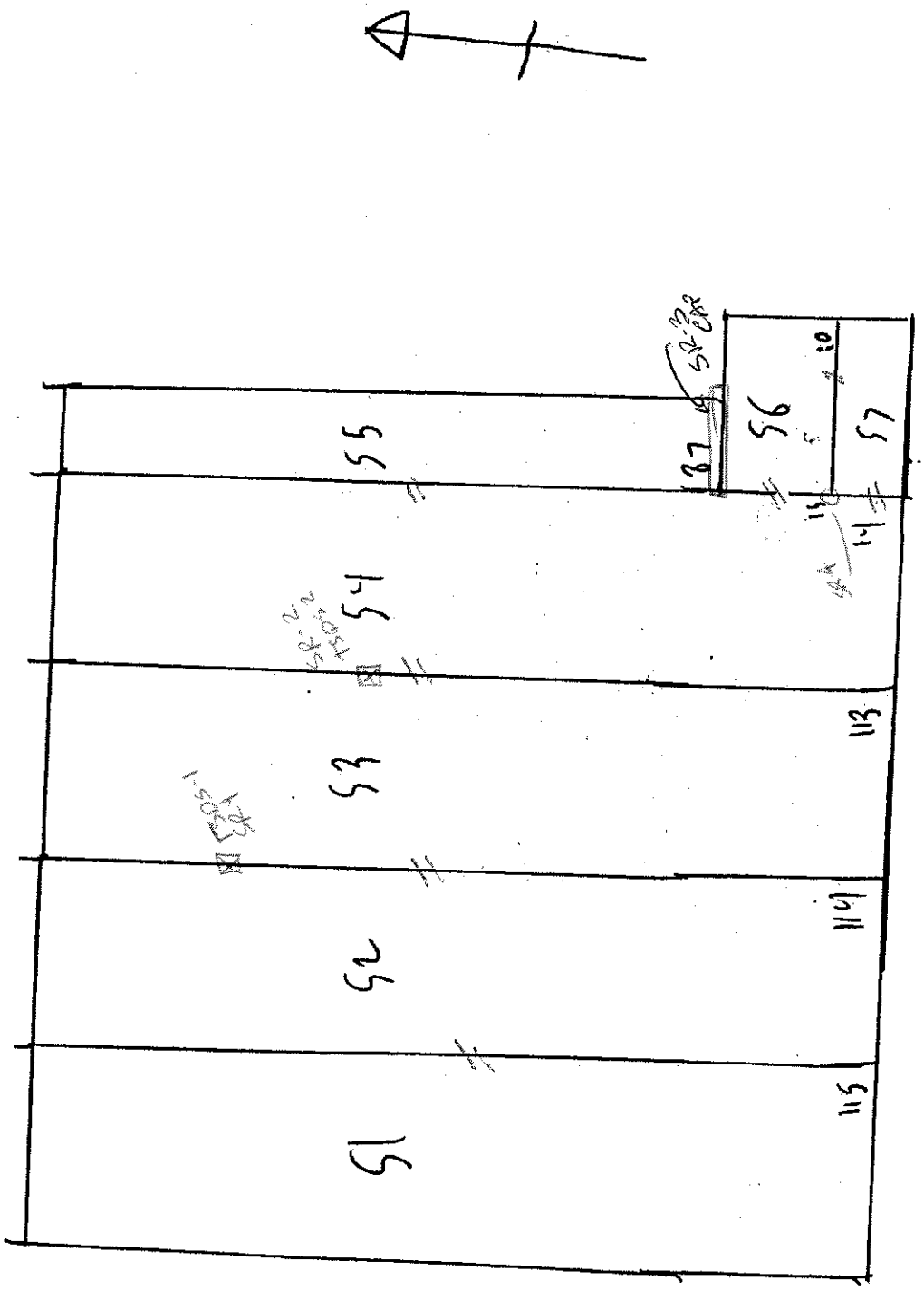
MATERIAL:

LIFT#: 3

DATE: varies

TECHNICIAN: XNTS

APPENDIX H-3-B:
CQA Field Records
Truck Wash Pad – Geosynthetics
Secondary



Truck Wash Secondary

22-SCS-NAL-01

Pg 1 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 7
Date: 3/25/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Truck wash Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Width	Gross Area (SF)	Installed Measurements Length	Installed Width	Installed Area (SF)	Location	Observer	Comments
S1	0102-203997	0900	115	23	2645 ✓	115	22.5	2587.5 ✓	Floor	XAIS	
S2	0102-203997	0905	115	23	2645 ✓	115	22.5	2587.5 ✓	Floor	XAIS	
S3	0102-203997	0930	114	23	2622 ✓	114	22.5	2565 ✓	Floor	XAIS	
S4	0102-203997	0935	116	23	2668 ✓	115	22.5	2587.5 ✓	Floor	XAIS	
S5	0102-203997	0939	87	5	435 ✓	87	4	348 ✓	Floor	XAIS	
S6	0102-203997	0945	15	10	150 ✓	15	10	150 ✓	Floor	XAIS	
S7	0102-203997	0950	14	10	140 ✓	14	10	140 ✓	Floor	XAIS	

Total SF (Page)	11,205	Total SF (Page)	10,965.5
Total SF (Project)	11,205	Total SF (Project)	10,965.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: V2-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 7/13/22
Rev. Date:

SEAMING RECORD

Layer: Truck Wash Secondary

Welder Initials: CK
Welder Number:
Machine ID: WB2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S2	S3	CK	WB2	0912	0927	0	114	114	114	TSDS1	XAIS	
S3	S4	CK	WB2	0933	0940	87	0	87	201	–	XAIS	

Total LF (Page)	201	Total DS (Page)	1	Total DS Needed (Page)	0.4	Over/Under (Page)	+0.6
Total LF (Project)	201	Total DS (Project)	1	Total DS Needed (Project)	0.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA Solutions

Sheet 4 of 7
Date 3/25/22
Rev. Date:

SEAMING RECORD

Layer: Truck Wash Secondary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S1	S2	SL	W2	0906	0919	0	115	115	115	–	XAIS	
S3	S4	SL	W2	0923	0937	0	113	113	228	TSDS1	XAIS	
S7	S4	SL	W2	0953	0955	14	0	14	242	–	XAIS	
S6	S7	SL	W2	0945	0947	10	0	10	252	–	XAIS	
S6	S4	SL	W2	0955	0958	15	0	15	267	–	XAIS	
S5	S6	–	–	–	–	–	–	–	–	–	–	CAPPED BY SR-3

Total LF (Page)	267	Total DS (Page)	1	Total DS Needed (Page)	0.5	Over/Under (Page)	+0.5
Total LF (Project)	267	Total DS (Project)	1	Total DS Needed (Project)	0.5	Over/Under (Project)	+0.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 4 of 7

Client: SCS Engineering
Project: North Rawch Landfill
Project Number: [illegible]

CQA

Sheet: 5 of 7
Date: 7/2?/[illegible]
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Trench Wash Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail API	Pass/Fail VE	QC Tech	Observer	To be capped?	Notes
APT	S1	S2	0	EOS	Full	30	30	0926	0931	P	–	LL	YATS	–	
APT	S2	S3	0	EOS	Full	30	30	0928	0933	P	–	LL	YATS	–	
APT	S3	S4	0	EOS	Full	30	30	0940	0945	P	–	LL	YATS	–	
APT	S5	S4	0	EOS	Full	30	30	0945	0950	P	–	LL	YATS	–	
APT	S6	S4	0	EOS	Full	30	30	1002	1007	P	–	LL	YATS	–	
APT	S7	S4	0	EOS	Full	30	30	1030	1035	P	–	LL	YATS	–	
APT	S6	S7	0	EOS	Full	30	30	1032	1037	P	–	LL	YATS	–	
–	S5	S6	0	EOS	–	–	–	–	–	–	–	–	–	YES	SR6

Specs: Pre-testing stabilization time: >5MIN Maximum Starting Pressure: [illegible] Maximum Allowable Loss: 2
Minimum Starting Pressure: 30 Test Duration: 5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information.

PG 5 of 7

Client: SCS Engineering
Project: North Ranch Landf: 11
Project Number: 92-SCS-NRL-01

CQA SOLUTIONS

Sheet 6 of 7
Date: 3/25/22
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Truck Wash Secondary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
TSDS1	S2/S3	37	3/25	3/25	SL	WL	3/25	P	P	Shipped 3/25
TSDS2	S7/S9	SL	3/25	3/25	CK	W82	3/25	P	P	Shipped 3/25

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF 7

Client: SCS Engineering
Project: North Landfill
Project Number: LL-SCS-NRL-01

Sheet 2 of 2
Date 3/25/22
Rev. Date:

GEOMEMBRANE REPAIR LOG

Layer: Trash Wall Secondary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR1	S2	S3				TSDS1	37	-	P	2	26	16	3/25	1535	MM	644	MS	3/25	P	YAJS
SR2	S3	S4				TSDS2	52	-	P	2	37	18	3/25	1027	AM	644	MS	3/25	P	YAJS
SR3	S4	S5	S8			Int	-	-	P	2	4	12	3/25	0932	MM	644	MS	3/25	P	YAJS
SR4	S4	S6	S7			Int	-	-	P	2	2	8	3/25	1018	AM	644	MS	3/25	P	YAJS

Total (Page)	54
Total (Project)	54

Notes:

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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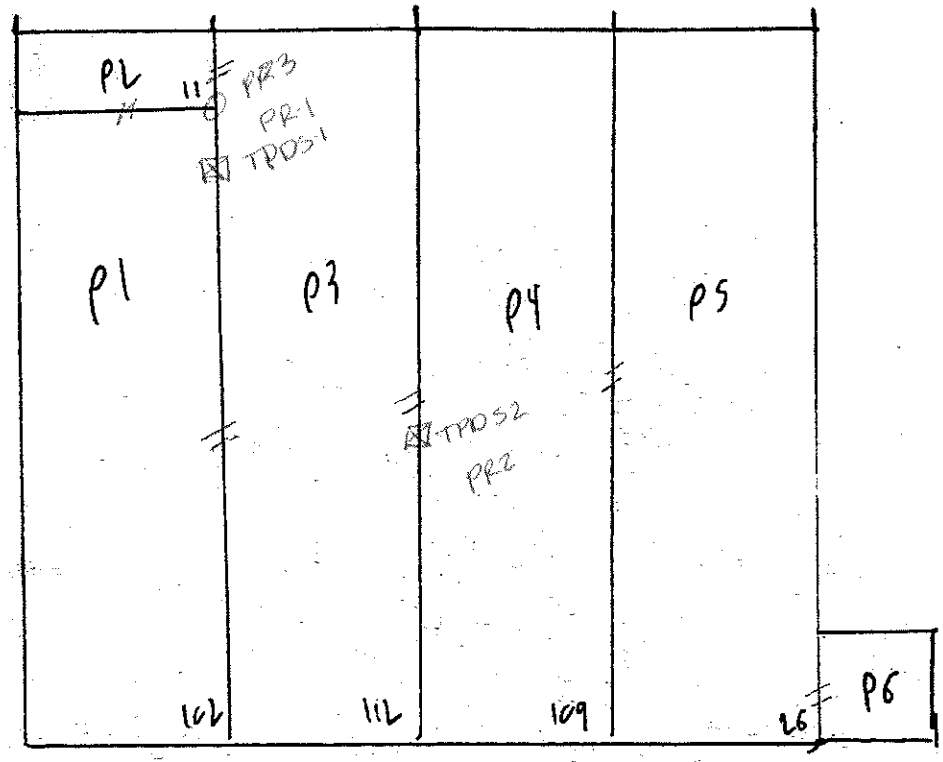
APPENDIX H-3-C:
CQA Field Records
Truck Wash Pad – Geosynthetics
Primary



Truck Wash Primary

22-SCS-NRL-01

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 7
Date: 3/29/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Truck Wash Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
P1	0102-204003	0745	102	23	2346	102	22.5	2295	Floor	XAIS	
P2	0102-204020	07	11	23	253	11	22.5	247.5	Floor	XAIS	
P3	0102-204020	075	113	23	2599	113	22.5	2542.5	Floor	XAIS	
P4	0102-204020	0755	112	23	2576	111	22.5	2497.5	Floor	XAIS	
P5	0102-204020	0802	109	23	2507	109	22.5	2452.5	Floor	XAIS	
P6	0102-203997	0807	26	10	260	26	10	260	Floor	XAIS	

	Gross		Installed
Total SF (Page)	10,541	Total SF (Page)	10,295
Total SF (Project)	10,541	Total SF (Project)	10,295

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 OF 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 7
Date 3/31/22
Rev. Date: —

SEAMING RECORD

Layer: Truck Wash Primary

Welder Initials: SL
Welder Number: –
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft.	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P2	P3	SL	WL	0746	0753	0'	11'	11	11'	–	YAIS	
P1	P3	SL	WL	0753	0759	0'	102'	102	113'	TP051	XAIS	
P4	P5	SL	WL	0805	0813	0	109'	109	222'	–	XAIS	

Total LF (Page)	222	Total DS (Page)	1	Total DS Needed (Page)	0.4	Over/Under (Page)	+0.6
Total LF (Project)	222	Total DS (Project)	1	Total DS Needed (Project)	0.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-VAL-01

CQA SOLUTIONS

Sheet 4 of 7
Date 7/19/22
Rev. Date:

SEAMING RECORD

Layer: Truck Wash Primary

Welder Initials: CK
Welder Number:

Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P2	P1	CK	W82	0744	0752	0	22	22	22		KAIS	
P3	P4	CK	W82	0800	0817	0	112	112	134	TPDS2	KAIS	
P5	P6	CK	W82	0819	0821	0	26	26	160		KAIS	

Total LF (Page)	160	Total DS (Page)	1	Total DS Needed (Page)	0.3	Over/Under (Page)	+0.7
Total LF (Project)	160	Total DS (Project)	1	Total DS Needed (Project)	0.3	Over/Under (Project)	+0.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: [illegible]

CQA Solutions

Sheet 5 of 7
Date: 7/23/[illegible]
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Truck Wash Primary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	P2	P1	0	EOS	Full	30	30	807	812	P	-	LL	XAIS	-	
APT	P2	P3	0	EOS	Full	30	30	805	810	P	-	LL	XAIS	-	
APT	P1	P3	0	EOS	Full	30	30	809	814	P	-	LL	XAIS	-	
APT	P3	P4	0	EOS	Full	30	30	820	82	P	-	LL	XAIS	-	
APT	P4	P5	0	EOS	Full	30	30	822	827	P	-	LL	XAIS	-	
APT	P5	P6	0	EOS	Full	30	30	824	829	P	-	LL	XAIS	-	

Specs: Pre-testing stabilization time: 5 Maximum Starting Pressure: 35 Maximum Allowable Loss:
Minimum Starting Pressure: 30 Test Duration: 5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 6 of 7
Date: 7/29/22
Rev. Date: -

DESTRUCTIVE SAMPLE LOG

Layer: _____

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
TPDS1	P1/P3	16	7/29	7/29	SL	W2	7/29	P	P	
TPDS2	P3/P4	61	7/29	7/29	CK	W02	7/29	P	P	
WPDS1	P8/P7	66	7/26	7/26	SL	W2	7/26	P	P	
WPDS2	P1/P2	32	7/26	7/26	CK	W02	7/26	P	P	
EPDS1	P3/P5	56	7/26	7/26	CK	W02	7/26	P	P	
EPDS2	P7/P8	26	7/26	7/26	SL	W2	7/26	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF 7

Client: SCS Engineering
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 7 of 7
Date 3/29/22
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Truck Wash Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair: Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
PR1	P1	P3				TPDS1	19	-	P	2	5	14	3/29	904	SL	744	JA	3/29	P	YA15
PR2	P3	P4				TPDS2	61	-	P	2	6	16	3/29	859	SL	744	JA	3/29	P	YA15
PR3	P1	P2	P3			Ext	-	-	P	2	2	8	3/29	852	SL	744	JA	3/29	P	YA15

Total (Page)	38
Total (Project)	38

Notes:

Submit to CQAS Project Manager by 7AM EST following the date of any updated information.

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APPENDIX H-4-A:
CQA Field Records – Cell E-1
Earthwork

North Ranch
Density Test Log
Cell E-1 - Lift 1

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Modifed compaction spec	PASS / FAIL	Tech. Initials
CB-L1-01	N/A	1	1	3/24/22	SF1-M	13.3	114.8	112.0	15.00	13.39	97.56	127.0	0.09	5.56	PASS	XAIS
CB-L1-02	N/A	1	1	3/24/22	SF1-M	13.3	114.8	105.7	12.00	11.35	92.07	117.7	-1.95	0.07	PASS	XAIS
CB-L1-03	N/A	1	1	3/24/22	SF1-M	13.3	114.8	107.1	12.20	11.39	93.29	119.3	-1.91	1.29	PASS	XAIS
CB-L1-04	N/A	1	1	3/24/22	SF1-M	13.3	114.8	105.9	12.10	11.43	92.25	118.0	-1.87	0.25	PASS	XAIS
CB-L1-05	N/A	1	1	3/24/22	SF1-M	13.3	114.8	107.7	12.30	11.42	93.82	120.0	-1.88	1.82	PASS	XAIS
CB-L1-06	N/A	1	1	3/24/22	SF1-M	13.3	114.8	108.2	14.20	13.12	94.25	122.4	-0.18	2.25	PASS	XAIS
CB-L1-07	N/A	1	2	3/25/22	SF1-M	13.3	114.8	106.0	14.80	13.96	92.33	120.8	0.66	0.33	PASS	XAIS
CB-L1-08	N/A	1	2	3/25/22	SF1-M	13.3	114.8	107.7	14.60	13.56	93.82	122.3	0.26	1.82	PASS	XAIS
CB-L1-09	N/A	1	2	3/25/22	SF1-M	13.3	114.8	112.4	13.70	12.19	97.91	126.1	-1.11	5.91	PASS	XAIS
CB-L1-10	N/A	1	2	3/25/22	SF1-M	13.3	114.8	111.5	13.50	12.11	97.13	125.0	-1.19	5.13	PASS	XAIS
CB-L1-11	N/A	1	2	3/25/22	SF1-M	13.3	114.8	109.0	16.10	14.77	94.95	125.1	1.47	2.95	PASS	XAIS
CB-L1-12	N/A	1	3	3/26/22	SF1-M	13.3	114.8	114.5	13.60	11.88	99.74	128.1	-1.42	7.74	PASS	XAIS
CB-L1-13	N/A	1	3	3/26/22	SF1-M	13.3	114.8	106.8	12.70	11.89	93.03	119.5	-1.41	1.03	PASS	XAIS
CB-L1-14	N/A	1	3	3/26/22	SF1-M	13.3	114.8	112.3	14.30	12.73	97.82	126.6	-0.57	5.82	PASS	XAIS
CB-L1-15	N/A	1	4	3/26/22	SF1-M	13.3	114.8	109.3	12.50	11.44	95.21	121.8	-1.86	3.21	PASS	XAIS
CB-L1-16	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.2	16.10	15.16	92.51	122.3	1.86	0.51	PASS	XAIS
CB-L1-17	N/A	1	4	3/26/22	SF1-M	13.3	114.8	110.2	15.40	13.97	95.99	125.6	0.67	3.99	PASS	XAIS
CB-L1-18	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.1	14.50	13.54	93.29	121.6	0.24	1.29	PASS	XAIS
CB-L1-19	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.9	16.50	15.29	93.99	124.4	1.99	1.99	PASS	XAIS
CB-L1-20	N/A	1	4	3/26/22	SF1-M	13.3	114.8	105.9	16.10	15.20	92.25	122.0	1.90	0.25	PASS	XAIS
CB-L1-21	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.2	12.70	11.96	92.51	118.9	-1.34	0.51	PASS	XAIS
CB-L1-22	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.1	14.10	13.29	92.42	120.2	-0.01	0.42	PASS	XAIS
CB-L1-23	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.0	13.90	12.99	93.21	120.9	-0.31	1.21	PASS	XAIS
CB-L1-24	N/A	1	4	3/26/22	SF1-M	13.3	114.8	105.8	16.00	15.12	92.16	121.8	1.82	0.16	PASS	XAIS
CB-L1-25	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.3	15.90	14.96	92.60	122.2	1.66	0.60	PASS	XAIS
CB-L1-26	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.1	16.10	15.03	93.29	123.2	1.73	1.29	PASS	XAIS
CB-L1-27	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.4	16.20	15.23	92.68	122.6	1.93	0.68	PASS	XAIS
CB-L1-28	N/A	1	4	3/26/22	SF1-M	13.3	114.8	109.9	14.90	13.56	95.73	124.8	0.26	3.73	PASS	XAIS
CB-L1-29	N/A	1	4	3/26/22	SF1-M	13.3	114.8	108.4	16.50	15.22	94.43	124.9	1.92	2.43	PASS	XAIS
CB-L1-30	N/A	1	4	3/26/22	SF1-M	13.3	114.8	105.9	15.90	15.01	92.25	121.8	1.71	0.25	PASS	XAIS
CB-L1-31	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.6	15.80	14.68	93.73	123.4	1.38	1.73	PASS	XAIS
CB-L1-32	N/A	1	4	3/26/22	SF1-M	13.3	114.8	108.4	15.70	14.48	94.43	124.1	1.18	2.43	PASS	XAIS
CB-L1-33	N/A	1	4	3/26/22	SF1-M	13.3	114.8	109.7	15.00	13.67	95.56	124.7	0.37	3.56	PASS	XAIS
CB-L1-34	N/A	1	4	3/26/22	SF1-M	13.3	114.8	106.8	15.70	14.70	93.03	122.5	1.40	1.03	PASS	XAIS
CB-L1-35	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.2	16.00	14.93	93.38	123.2	1.63	1.38	PASS	XAIS
CB-L1-36	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.9	16.10	14.92	93.99	124.0	1.62	1.99	PASS	XAIS
CB-L1-37	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.8	16.20	15.03	93.90	124.0	1.73	1.90	PASS	XAIS
CB-L1-38	N/A	1	4	3/26/22	SF1-M	13.3	114.8	108.1	15.70	14.52	94.16	123.8	1.22	2.16	PASS	XAIS
CB-L1-39	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.9	15.70	14.55	93.99	123.6	1.25	1.99	PASS	XAIS
CB-L1-40	N/A	1	4	3/26/22	SF1-M	13.3	114.8	107.5	15.10	14.05	93.64	122.6	0.75	1.64	PASS	XAIS
CB-L1-41	N/A	1	4	3/26/22	SF1-M	13.3	114.8	108.2	15.00	13.86	94.25	123.2	0.56	2.25	PASS	XAIS
CB-L1-42	N/A	1	4	3/26/22	SF1-M	13.3	114.8	108.0	14.90	13.80	94.08	122.9	0.50	2.08	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 2

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L2-01	N/A	2	1	3/26/22	SF1-M	13.3	114.8	107.7	16.00	14.86	93.82	123.7	1.56	1.82	PASS	XAIS
CB-L2-02	N/A	2	1	3/26/22	SF1-M	13.3	114.8	106.7	16.20	15.18	92.94	122.9	1.88	0.94	PASS	XAIS
CB-L2-03	N/A	2	1	3/26/22	SF1-M	13.3	114.8	106.6	14.40	13.51	92.86	121.0	0.21	0.86	PASS	XAIS
CB-L2-04	N/A	2	2	3/28/22	SF1-M	13.3	114.8	107.1	13.90	12.98	93.29	121.0	-0.32	1.29	PASS	XAIS
CB-L2-05	N/A	2	2	3/28/22	SF1-M	13.3	114.8	106.2	15.00	14.12	92.51	121.2	0.82	0.51	PASS	XAIS
CB-L2-06	N/A	2	2	3/28/22	SF1-M	13.3	114.8	105.8	12.10	11.44	92.16	117.9	-1.86	0.16	PASS	XAIS
CB-L2-07	N/A	2	2	3/28/22	SF1-M	13.3	114.8	106.3	16.10	15.15	92.60	122.4	1.85	0.60	PASS	XAIS
CB-L2-08	N/A	2	2	3/28/22	SF1-M	13.3	114.8	106.1	16.00	15.08	92.42	122.1	1.78	0.42	PASS	XAIS
CB-L2-09	N/A	2	3	3/28/22	SF1-M	13.3	114.8	109.4	14.50	13.25	95.30	123.9	-0.05	3.30	PASS	XAIS
CB-L2-10	N/A	2	3	3/28/22	SF1-M	13.3	114.8	108.9	14.30	13.13	94.86	123.2	-0.17	2.86	PASS	XAIS
CB-L2-11	N/A	2	3	3/28/22	SF1-M	13.3	114.8	108.5	15.20	14.01	94.51	123.7	0.71	2.51	PASS	XAIS
CB-L2-12	N/A	2	3	3/28/22	SF1-M	13.3	114.8	110.1	14.80	13.44	95.91	124.9	0.14	3.91	PASS	XAIS
CB-L2-13	N/A	2	4	3/29/22	SF1-M	13.3	114.8	109.4	15.60	14.26	95.30	125.0	0.96	3.30	PASS	XAIS
CB-L2-14	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.0	15.60	14.05	96.69	126.6	0.75	4.69	PASS	XAIS
CB-L2-15	N/A	2	4	3/29/22	SF1-M	13.3	114.8	110.6	14.90	13.47	96.34	125.5	0.17	4.34	PASS	XAIS
CB-L2-16	N/A	2	4	3/29/22	SF1-M	13.3	114.8	107.7	16.30	15.13	93.82	124.0	1.83	1.82	PASS	XAIS
CB-L2-17	N/A	2	4	3/29/22	SF1-M	13.3	114.8	107.3	16.10	15.00	93.47	123.4	1.70	1.47	PASS	XAIS
CB-L2-18	N/A	2	4	3/29/22	SF1-M	13.3	114.8	107.6	16.30	15.15	93.73	123.9	1.85	1.73	PASS	XAIS
CB-L2-19	N/A	2	4	3/29/22	SF1-M	13.3	114.8	106.4	16.10	15.13	92.68	122.5	1.83	0.68	PASS	XAIS
CB-L2-20	N/A	2	4	3/29/22	SF1-M	13.3	114.8	106.1	16.00	15.08	92.42	122.1	1.78	0.42	PASS	XAIS
CB-L2-21	N/A	2	4	3/29/22	SF1-M	13.3	114.8	106.8	16.20	15.17	93.03	123.0	1.87	1.03	PASS	XAIS
CB-L2-22	N/A	2	4	3/29/22	SF1-M	13.3	114.8	107.5	16.10	14.98	93.64	123.6	1.68	1.64	PASS	XAIS
CB-L2-23	N/A	2	4	3/29/22	SF1-M	13.3	114.8	114.1	14.90	13.06	99.39	129.0	-0.24	7.39	PASS	XAIS
CB-L2-24	N/A	2	4	3/29/22	SF1-M	13.3	114.8	110.4	14.10	12.77	96.17	124.5	-0.53	4.17	PASS	XAIS
CB-L2-25	N/A	2	4	3/29/22	SF1-M	13.3	114.8	109.5	16.10	14.70	95.38	125.6	1.40	3.38	PASS	XAIS
CB-L2-26	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.2	15.40	13.60	98.61	128.6	0.30	6.61	PASS	XAIS
CB-L2-27	N/A	2	4	3/29/22	SF1-M	13.3	114.8	110.3	15.10	13.69	96.08	125.4	0.39	4.08	PASS	XAIS
CB-L2-28	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.8	15.20	13.60	97.39	127.0	0.30	5.39	PASS	XAIS
CB-L2-29	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.4	15.90	14.15	97.91	128.3	0.85	5.91	PASS	XAIS
CB-L2-30	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.4	15.40	13.58	98.78	128.8	0.28	6.78	PASS	XAIS
CB-L2-31	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.7	14.90	13.34	97.30	126.6	0.04	5.30	PASS	XAIS
CB-L2-32	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.4	14.80	13.17	97.91	127.2	-0.13	5.91	PASS	XAIS
CB-L2-33	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.8	15.00	13.30	98.26	127.8	0.00	6.26	PASS	XAIS
CB-L2-34	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.2	15.20	13.55	97.74	127.4	0.25	5.74	PASS	XAIS
CB-L2-35	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.4	14.00	12.35	98.78	127.4	-0.95	6.78	PASS	XAIS
CB-L2-36	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.8	14.80	13.24	97.39	126.6	-0.06	5.39	PASS	XAIS
CB-L2-37	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.9	14.60	12.93	98.34	127.5	-0.37	6.34	PASS	XAIS
CB-L2-38	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.2	14.90	13.16	98.61	128.1	-0.14	6.61	PASS	XAIS
CB-L2-39	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.7	15.10	13.40	98.17	127.8	0.10	6.17	PASS	XAIS
CB-L2-40	N/A	2	4	3/29/22	SF1-M	13.3	114.8	112.1	14.80	13.20	97.65	126.9	-0.10	5.65	PASS	XAIS
CB-L2-41	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.5	15.00	13.45	97.13	126.5	0.15	5.13	PASS	XAIS
CB-L2-42	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.4	15.10	13.32	98.78	128.5	0.02	6.78	PASS	XAIS
CB-L2-43	N/A	2	4	3/29/22	SF1-M	13.3	114.8	114.2	15.60	13.66	99.48	129.8	0.36	7.48	PASS	XAIS
CB-L2-44	N/A	2	4	3/29/22	SF1-M	13.3	114.8	111.6	14.80	13.26	97.21	126.4	-0.04	5.21	PASS	XAIS
CB-L2-45	N/A	2	4	3/29/22	SF1-M	13.3	114.8	113.8	15.40	13.53	99.13	129.2	0.23	7.13	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 3

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L3-01	N/A	3	1	3/30/22	SF1-M	13.3	114.8	106.5	12.70	11.92	92.77	119.2	-1.38	0.77	PASS	XAIS
CB-L3-02	N/A	3	1	3/30/22	SF1-M	13.3	114.8	106.0	12.00	11.32	92.33	118.0	-1.98	0.33	PASS	XAIS
CB-L3-03	N/A	3	1	3/30/22	SF1-M	13.3	114.8	106.4	12.10	11.37	92.68	118.5	-1.93	0.68	PASS	XAIS
CB-L3-04	N/A	3	1	3/30/22	SF1-M	13.3	114.8	107.1	12.50	11.67	93.29	119.6	-1.63	1.29	PASS	XAIS
CB-L3-05	N/A	3	1	3/30/22	SF1-M	13.3	114.8	107.2	12.40	11.57	93.38	119.6	-1.73	1.38	PASS	XAIS
CB-L3-06	N/A	3	1	3/30/22	SF1-M	13.3	114.8	108.8	15.10	13.88	94.77	123.9	0.58	2.77	PASS	XAIS
CB-L3-07	N/A	3	1	3/30/22	SF1-M	13.3	114.8	109.1	16.20	14.85	95.03	125.3	1.55	3.03	PASS	XAIS
CB-L3-08	N/A	3	1	3/30/22	SF1-M	13.3	114.8	106.8	16.30	15.26	93.03	123.1	1.96	1.03	PASS	XAIS
CB-L3-09	N/A	3	1	3/30/22	SF1-M	13.3	114.8	109.1	16.40	15.03	95.03	125.5	1.73	3.03	PASS	XAIS
CB-L3-10	N/A	3	1	3/30/22	SF1-M	13.3	114.8	108.7	16.40	15.09	94.69	125.1	1.79	2.69	PASS	XAIS
CB-L3-11	N/A	3	1	3/30/22	SF1-M	13.3	114.8	108.9	15.90	14.60	94.86	124.8	1.30	2.86	PASS	XAIS
CB-L3-12	N/A	3	1	3/30/22	SF1-M	13.3	114.8	112.1	14.70	13.11	97.65	126.8	-0.19	5.65	PASS	XAIS
CB-L3-13	N/A	3	1	3/30/22	SF1-M	13.3	114.8	110.6	16.90	15.28	96.34	127.5	1.98	4.34	PASS	XAIS
CB-L3-14	N/A	3	2	3/30/22	SF1-M	13.3	114.8	107.8	16.40	15.21	93.90	124.2	1.91	1.90	PASS	XAIS
CB-L3-15	N/A	3	2	3/30/22	SF1-M	13.3	114.8	107.3	16.30	15.19	93.47	123.6	1.89	1.47	PASS	XAIS
CB-L3-16	N/A	3	2	3/30/22	SF1-M	13.3	114.8	109.4	16.40	14.99	95.30	125.8	1.69	3.30	PASS	XAIS
CB-L3-17	N/A	3	2	3/30/22	SF1-M	13.3	114.8	107.7	16.30	15.13	93.82	124.0	1.83	1.82	PASS	XAIS
CB-L3-18	N/A	3	2	3/30/22	SF1-M	13.3	114.8	107.0	16.00	14.95	93.21	123.0	1.65	1.21	PASS	XAIS
CB-L3-19	N/A	3	2	3/30/22	SF1-M	13.3	114.8	106.5	16.10	15.12	92.77	122.6	1.82	0.77	PASS	XAIS
CB-L3-20	N/A	3	2	3/30/22	SF1-M	13.3	114.8	106.6	16.30	15.29	92.86	122.9	1.99	0.86	PASS	XAIS
CB-L3-21	N/A	3	2	3/30/22	SF1-M	13.3	114.8	107.2	16.00	14.93	93.38	123.2	1.63	1.38	PASS	XAIS
CB-L3-22	N/A	3	2	3/30/22	SF1-M	13.3	114.8	109.3	15.40	14.09	95.21	124.7	0.79	3.21	PASS	XAIS
CB-L3-23	N/A	3	2	3/30/22	SF1-M	13.3	114.8	108.3	15.90	14.68	94.34	124.2	1.38	2.34	PASS	XAIS
CB-L3-24	N/A	3	2	3/30/22	SF1-M	13.3	114.8	108.7	14.40	13.25	94.69	123.1	-0.05	2.69	PASS	XAIS
CB-L3-25	N/A	3	2	3/30/22	SF1-M	13.3	114.8	109.4	13.90	12.71	95.30	123.3	-0.59	3.30	PASS	XAIS
CB-L3-26	N/A	3	2	3/30/22	SF1-M	13.3	114.8	108.9	15.20	13.96	94.86	124.1	0.66	2.86	PASS	XAIS
CB-L3-27	N/A	3	2	3/30/22	SF1-M	13.3	114.8	110.1	15.60	14.17	95.91	125.7	0.87	3.91	PASS	XAIS
CB-L3-28	N/A	3	2	3/30/22	SF1-M	13.3	114.8	110.0	16.20	14.73	95.82	126.2	1.43	3.82	PASS	XAIS
CB-L3-29	N/A	3	2	3/30/22	SF1-M	13.3	114.8	111.4	14.90	13.38	97.04	126.3	0.08	5.04	PASS	XAIS
CB-L3-30	N/A	3	2	3/30/22	SF1-M	13.3	114.8	110.5	15.70	14.21	96.25	126.2	0.91	4.25	PASS	XAIS
CB-L3-31	N/A	3	2	3/30/22	SF1-M	13.3	114.8	112.2	16.40	14.62	97.74	128.6	1.32	5.74	PASS	XAIS
CB-L3-32	N/A	3	2	3/30/22	SF1-M	13.3	114.8	112.0	15.80	14.11	97.56	127.8	0.81	5.56	PASS	XAIS
CB-L3-33	N/A	3	2	3/30/22	SF1-M	13.3	114.8	113.0	16.20	14.34	98.43	129.2	1.04	6.43	PASS	XAIS
CB-L3-34	N/A	3	2	3/30/22	SF1-M	13.3	114.8	113.2	16.40	14.49	98.61	129.6	1.19	6.61	PASS	XAIS
CB-L3-35	N/A	3	2	3/30/22	SF1-M	13.3	114.8	112.6	15.90	14.12	98.08	128.5	0.82	6.08	PASS	XAIS
CB-L3-36	N/A	3	2	3/30/22	SF1-M	13.3	114.8	112.3	16.30	14.51	97.82	128.6	1.21	5.82	PASS	XAIS
CB-L3-37	N/A	3	2	3/30/22	SF1-M	13.3	114.8	113.5	16.80	14.80	98.87	130.3	1.50	6.87	PASS	XAIS

Frequency: 12 tests/lift/acre
Compaction Spec: 92 % of Modified Proctor (Per CQA Plan)
Moisture Spec: 2% below OM to 2% above OM
Loose Lift Thickness: 8 inches

North Ranch
Density Test Log
Cell E-1 - Lift 4

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L4-01	N/A	4	1	3/31/22	SF1-M	13.3	114.8	112.3	14.50	12.91	97.82	126.8	-0.39	5.82	PASS	XAIS
CB-L4-02	N/A	4	1	3/31/22	SF1-M	13.3	114.8	112.0	14.90	13.30	97.56	126.9	0.00	5.56	PASS	XAIS
CB-L4-03	N/A	4	1	3/31/22	SF1-M	13.3	114.8	111.4	15.20	13.64	97.04	126.6	0.34	5.04	PASS	XAIS
CB-L4-04	N/A	4	1	3/31/22	SF1-M	13.3	114.8	111.7	14.70	13.16	97.30	126.4	-0.14	5.30	PASS	XAIS
CB-L4-05	N/A	4	1	3/31/22	SF1-M	13.3	114.8	110.4	16.50	14.95	96.17	126.9	1.65	4.17	PASS	XAIS
CB-L4-06	N/A	4	1	3/31/22	SF1-M	13.3	114.8	110.9	16.70	15.06	96.60	127.6	1.76	4.60	PASS	XAIS
CB-L4-07	N/A	4	1	3/31/22	SF1-M	13.3	114.8	109.4	16.20	14.81	95.30	125.6	1.51	3.30	PASS	XAIS
CB-L4-08	N/A	4	1	3/31/22	SF1-M	13.3	114.8	110.5	14.30	12.94	96.25	124.8	-0.36	4.25	PASS	XAIS
CB-L4-09	N/A	4	1	3/31/22	SF1-M	13.3	114.8	111.9	15.90	14.21	97.47	127.8	0.91	5.47	PASS	XAIS
CB-L4-10	N/A	4	1	3/31/22	SF1-M	13.3	114.8	113.8	16.80	14.76	99.13	130.6	1.46	7.13	PASS	XAIS
CB-L4-11	N/A	4	1	3/31/22	SF1-M	13.3	114.8	110.1	16.60	15.08	95.91	126.7	1.78	3.91	PASS	XAIS
CB-L4-12	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.9	16.60	15.24	94.86	125.5	1.94	2.86	PASS	XAIS
CB-L4-13	N/A	4	2	3/31/22	SF1-M	13.3	114.8	109.3	16.70	15.28	95.21	126.0	1.98	3.21	PASS	XAIS
CB-L4-14	N/A	4	2	3/31/22	SF1-M	13.3	114.8	110.1	16.50	14.99	95.91	126.6	1.69	3.91	PASS	XAIS
CB-L4-15	N/A	4	2	3/31/22	SF1-M	13.3	114.8	110.5	16.20	14.66	96.25	126.7	1.36	4.25	PASS	XAIS
CB-L4-16	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.1	16.50	15.26	94.16	124.6	1.96	2.16	PASS	XAIS
CB-L4-17	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.4	16.40	15.13	94.43	124.8	1.83	2.43	PASS	XAIS
CB-L4-18	N/A	4	2	3/31/22	SF1-M	13.3	114.8	109.4	16.70	15.27	95.30	126.1	1.97	3.30	PASS	XAIS
CB-L4-19	N/A	4	2	3/31/22	SF1-M	13.3	114.8	110.2	14.60	13.25	95.99	124.8	-0.05	3.99	PASS	XAIS
CB-L4-20	N/A	4	2	3/31/22	SF1-M	13.3	114.8	110.5	14.80	13.39	96.25	125.3	0.09	4.25	PASS	XAIS
CB-L4-21	N/A	4	2	3/31/22	SF1-M	13.3	114.8	106.6	16.30	15.29	92.86	122.9	1.99	0.86	PASS	XAIS
CB-L4-22	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-23	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-24	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-25	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-26	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-27	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-28	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.2	15.70	14.65	93.38	122.9	1.35	1.38	PASS	XAIS
CB-L4-29	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.4	15.80	14.58	94.43	124.2	1.28	2.43	PASS	XAIS
CB-L4-30	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.3	16.20	14.96	94.34	124.5	1.66	2.34	PASS	XAIS
CB-L4-31	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.2	16.40	15.16	94.25	124.6	1.86	2.25	PASS	XAIS
CB-L4-32	N/A	4	2	3/31/22	SF1-M	13.3	114.8	108.0	16.50	15.28	94.08	124.5	1.98	2.08	PASS	XAIS
CB-L4-33	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.9	15.40	14.27	93.99	123.3	0.97	1.99	PASS	XAIS
CB-L4-34	N/A	4	2	3/31/22	SF1-M	13.3	114.8	107.4	15.40	14.34	93.55	122.8	1.04	1.55	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 5

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L5-01	N/A	5	1	4/1/22	SF3-M	9.2	113.6	106.6	7.90	7.41	93.84	114.5	-1.79	1.84	PASS	XAIS
CB-L5-02	N/A	5	1	4/1/22	SF3-M	9.2	113.6	108.1	12.10	11.19	95.16	120.2	1.99	3.16	PASS	XAIS
CB-L5-03	N/A	5	1	4/1/22	SF3-M	9.2	113.6	104.8	11.70	11.16	92.25	116.5	1.96	0.25	PASS	XAIS
CB-L5-04	N/A	5	1	4/1/22	SF3-M	9.2	113.6	105.4	11.50	10.91	92.78	116.9	1.71	0.78	PASS	XAIS
CB-L5-05	N/A	5	1	4/1/22	SF3-M	9.2	113.6	105.6	11.80	11.17	92.96	117.4	1.97	0.96	PASS	XAIS
CB-L5-06	N/A	5	1	4/1/22	SF3-M	9.2	113.6	104.9	11.70	11.15	92.34	116.6	1.95	0.34	PASS	XAIS
CB-L5-07	N/A	5	1	4/1/22	SF3-M	9.2	113.6	107.4	10.40	9.68	94.54	117.8	0.48	2.54	PASS	XAIS
CB-L5-08	N/A	5	1	4/1/22	SF3-M	9.2	113.6	106.1	11.80	11.12	93.40	117.9	1.92	1.40	PASS	XAIS
CB-L5-09	N/A	5	1	4/1/22	SF3-M	9.2	113.6	105.9	11.70	11.05	93.22	117.6	1.85	1.22	PASS	XAIS
CB-L5-10	N/A	5	2	4/1/22	SF3-M	9.2	113.6	105.5	11.60	11.00	92.87	117.1	1.80	0.87	PASS	XAIS
CB-L5-11	N/A	5	2	4/1/22	SF3-M	9.2	113.6	107.1	11.30	10.55	94.28	118.4	1.35	2.28	PASS	XAIS
CB-L5-12	N/A	5	2	4/1/22	SF3-M	9.2	113.6	106.5	11.40	10.70	93.75	117.9	1.50	1.75	PASS	XAIS
CB-L5-13	N/A	5	2	4/1/22	SF3-M	9.2	113.6	108.1	9.90	9.16	95.16	118.0	-0.04	3.16	PASS	XAIS
CB-L5-14	N/A	5	2	4/1/22	SF3-M	9.2	113.6	107.3	11.20	10.44	94.45	118.5	1.24	2.45	PASS	XAIS
CB-L5-15	N/A	5	2	4/1/22	SF3-M	9.2	113.6	107.8	11.40	10.58	94.89	119.2	1.38	2.89	PASS	XAIS
CB-L5-16	N/A	5	2	4/1/22	SF3-M	9.2	113.6	107.1	11.50	10.74	94.28	118.6	1.54	2.28	PASS	XAIS
CB-L5-17	N/A	5	2	4/1/22	SF3-M	9.2	113.6	109.9	10.60	9.65	96.74	120.5	0.45	4.74	PASS	XAIS
CB-L5-18	N/A	5	2	4/1/22	SF3-M	9.2	113.6	110.1	10.40	9.45	96.92	120.5	0.25	4.92	PASS	XAIS
CB-L5-19	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.5	10.90	9.78	98.15	122.4	0.58	6.15	PASS	XAIS
CB-L5-20	N/A	5	2	4/1/22	SF3-M	9.2	113.6	110.4	10.90	9.87	97.18	121.3	0.67	5.18	PASS	XAIS
CB-L5-21	N/A	5	2	4/1/22	SF3-M	9.2	113.6	112.5	11.20	9.96	99.03	123.7	0.76	7.03	PASS	XAIS
CB-L5-22	N/A	5	2	4/1/22	SF3-M	9.2	113.6	110.9	11.80	10.64	97.62	122.7	1.44	5.62	PASS	XAIS
CB-L5-23	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.4	11.90	10.68	98.06	123.3	1.48	6.06	PASS	XAIS
CB-L5-24	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.9	12.40	11.08	98.50	124.3	1.88	6.50	PASS	XAIS
CB-L5-25	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.2	12.30	11.06	97.89	123.5	1.86	5.89	PASS	XAIS
CB-L5-26	N/A	5	2	4/1/22	SF3-M	9.2	113.6	110.4	12.10	10.96	97.18	122.5	1.76	5.18	PASS	XAIS
CB-L5-27	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.4	11.50	10.32	98.06	122.9	1.12	6.06	PASS	XAIS
CB-L5-28	N/A	5	2	4/1/22	SF3-M	9.2	113.6	111.3	11.80	10.60	97.98	123.1	1.40	5.98	PASS	XAIS
CB-L5-29	N/A	5	2	4/1/22	SF3-M	9.2	113.6	110.4	12.00	10.87	97.18	122.4	1.67	5.18	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 6

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L6-01	N/A	6	1	4/1/22	SF3-M	9.2	113.6	112.2	10.20	9.09	98.77	122.4	-0.11	6.77	PASS	XAIS
CB-L6-02	N/A	6	1	4/1/22	SF3-M	9.2	113.6	111.7	10.80	9.67	98.33	122.5	0.47	6.33	PASS	XAIS
CB-L6-03	N/A	6	1	4/1/22	SF3-M	9.2	113.6	110.1	11.40	10.35	96.92	121.5	1.15	4.92	PASS	XAIS
CB-L6-04	N/A	6	1	4/1/22	SF3-M	9.2	113.6	110.4	11.10	10.05	97.18	121.5	0.85	5.18	PASS	XAIS
CB-L6-05	N/A	6	1	4/1/22	SF3-M	9.2	113.6	112.8	9.90	8.78	99.30	122.7	-0.42	7.30	PASS	XAIS
CB-L6-06	N/A	6	1	4/1/22	SF3-M	9.2	113.6	109.7	10.50	9.57	96.57	120.2	0.37	4.57	PASS	XAIS
CB-L6-07	N/A	6	1	4/1/22	SF3-M	9.2	113.6	109.9	10.10	9.19	96.74	120.0	-0.01	4.74	PASS	XAIS
CB-L6-08	N/A	6	1	4/1/22	SF3-M	9.2	113.6	105.5	11.50	10.90	92.87	117.0	1.70	0.87	PASS	XAIS
CB-L6-09	N/A	6	2	4/1/22	SF3-M	9.2	113.6	105.7	11.70	11.07	93.05	117.4	1.87	1.05	PASS	XAIS
CB-L6-10	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.3	11.30	10.63	93.57	117.6	1.43	1.57	PASS	XAIS
CB-L6-11	N/A	6	2	4/1/22	SF3-M	9.2	113.6	108.8	10.50	9.65	95.77	119.3	0.45	3.77	PASS	XAIS
CB-L6-12	N/A	6	2	4/1/22	SF3-M	9.2	113.6	107.9	10.90	10.10	94.98	118.8	0.90	2.98	PASS	XAIS
CB-L6-13	N/A	6	2	4/1/22	SF3-M	9.2	113.6	108.1	10.10	9.34	95.16	118.2	0.14	3.16	PASS	XAIS
CB-L6-14	N/A	6	2	4/1/22	SF3-M	9.2	113.6	104.9	11.50	10.96	92.34	116.4	1.76	0.34	PASS	XAIS
CB-L6-15	N/A	6	2	4/1/22	SF3-M	9.2	113.6	105.2	11.50	10.93	92.61	116.7	1.73	0.61	PASS	XAIS
CB-L6-16	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.1	11.60	10.93	93.40	117.7	1.73	1.40	PASS	XAIS
CB-L6-17	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.0	10.80	10.19	93.31	116.8	0.99	1.31	PASS	XAIS
CB-L6-18	N/A	6	2	4/1/22	SF3-M	9.2	113.6	105.9	10.90	10.29	93.22	116.8	1.09	1.22	PASS	XAIS
CB-L6-19	N/A	6	2	4/1/22	SF3-M	9.2	113.6	105.6	11.50	10.89	92.96	117.1	1.69	0.96	PASS	XAIS
CB-L6-20	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.0	11.60	10.94	93.31	117.6	1.74	1.31	PASS	XAIS
CB-L6-21	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.8	10.80	10.11	94.01	117.6	0.91	2.01	PASS	XAIS
CB-L6-22	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.1	10.90	10.35	92.69	116.2	1.15	0.69	PASS	XAIS
CB-L6-23	N/A	6	2	4/1/22	SF3-M	9.2	113.6	105.3	11.00	10.31	93.93	117.7	1.11	1.93	PASS	XAIS
CB-L6-24	N/A	6	2	4/1/22	SF3-M	9.2	113.6	106.7	11.10	10.40	93.93	117.8	1.20	1.93	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 7

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L7-01	N/A	7	1	4/1/22	SF3-M	9.2	113.6	108.1	11.00	10.18	95.16	119.1	0.98	3.16	PASS	XAIS
CB-L7-02	N/A	7	1	4/1/22	SF3-M	9.2	113.6	108.8	10.30	9.47	95.77	119.1	0.27	3.77	PASS	XAIS
CB-L7-03	N/A	7	1	4/1/22	SF3-M	9.2	113.6	107.9	10.40	9.64	94.98	118.3	0.44	2.98	PASS	XAIS
CB-L7-04	N/A	7	1	4/1/22	SF3-M	9.2	113.6	110.1	9.90	8.99	96.92	120.0	-0.21	4.92	PASS	XAIS
CB-L7-05	N/A	7	1	4/1/22	SF3-M	9.2	113.6	110.2	10.20	9.26	97.01	120.4	0.06	5.01	PASS	XAIS
CB-L7-06	N/A	7	1	4/1/22	SF3-M	9.2	113.6	105.5	11.40	10.81	92.87	116.9	1.61	0.87	PASS	XAIS
CB-L7-07	N/A	7	1	4/1/22	SF3-M	9.2	113.6	106.7	11.50	10.78	93.93	118.2	1.58	1.93	PASS	XAIS
CB-L7-08	N/A	7	2	4/1/22	SF3-M	9.2	113.6	107.1	11.40	10.64	94.28	118.5	1.44	2.28	PASS	XAIS
CB-L7-09	N/A	7	2	4/1/22	SF3-M	9.2	113.6	107.9	11.70	10.84	94.98	119.6	1.64	2.98	PASS	XAIS
CB-L7-10	N/A	7	2	4/1/22	SF3-M	9.2	113.6	106.6	11.20	10.51	93.84	117.8	1.31	1.84	PASS	XAIS
CB-L7-11	N/A	7	2	4/1/22	SF3-M	9.2	113.6	109.2	10.90	9.98	96.13	120.1	0.78	4.13	PASS	XAIS
CB-L7-12	N/A	7	2	4/1/22	SF3-M	9.2	113.6	108.8	10.80	9.93	95.77	119.6	0.73	3.77	PASS	XAIS
CB-L7-13	N/A	7	2	4/1/22	SF3-M	9.2	113.6	107.2	12.00	11.19	94.37	119.2	1.99	2.37	PASS	XAIS
CB-L7-14	N/A	7	2	4/1/22	SF3-M	9.2	113.6	109.1	12.10	11.09	96.04	121.2	1.89	4.04	PASS	XAIS
CB-L7-15	N/A	7	2	4/1/22	SF3-M	9.2	113.6	110.5	12.00	10.86	97.27	122.5	1.66	5.27	PASS	XAIS
CB-L7-16	N/A	7	2	4/1/22	SF3-M	9.2	113.6	111.0	11.80	10.63	97.71	122.8	1.43	5.71	PASS	XAIS
CB-L7-17	N/A	7	2	4/1/22	SF3-M	9.2	113.6	109.8	11.50	10.47	96.65	121.3	1.27	4.65	PASS	XAIS
CB-L7-18	N/A	7	2	4/1/22	SF3-M	9.2	113.6	109.6	11.90	10.86	96.48	121.5	1.66	4.48	PASS	XAIS
CB-L7-19	N/A	7	2	4/1/22	SF3-M	9.2	113.6	109.8	11.20	10.20	96.65	121.0	1.00	4.65	PASS	XAIS
CB-L7-20	N/A	7	2	4/1/22	SF3-M	9.2	113.6	110.4	11.60	10.51	97.18	122.0	1.31	5.18	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 8

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L8-01	N/A	8	1	4/2/22	SF3-M	9.2	113.6	112.4	10.40	9.25	98.94	122.8	0.05	6.94	PASS	XAIS
CB-L8-02	N/A	8	1	4/2/22	SF3-M	9.2	113.6	112.0	9.90	8.84	98.59	121.9	-0.36	6.59	PASS	XAIS
CB-L8-03	N/A	8	1	4/2/22	SF3-M	9.2	113.6	111.7	10.30	9.22	98.33	122.0	0.02	6.33	PASS	XAIS
CB-L8-04	N/A	8	1	4/2/22	SF3-M	9.2	113.6	111.9	10.50	9.38	98.50	122.4	0.18	6.50	PASS	XAIS
CB-L8-05	N/A	8	1	4/2/22	SF3-M	9.2	113.6	112.2	10.60	9.45	98.77	122.8	0.25	6.77	PASS	XAIS
CB-L8-06	N/A	8	1	4/2/22	SF3-M	9.2	113.6	109.9	11.20	10.19	96.74	121.1	0.99	4.74	PASS	XAIS
CB-L8-07	N/A	8	2	4/2/22	SF3-M	9.2	113.6	110.3	10.80	9.79	97.10	121.1	0.59	5.10	PASS	XAIS
CB-L8-08	N/A	8	2	4/2/22	SF3-M	9.2	113.6	110.8	10.50	9.48	97.54	121.3	0.28	5.54	PASS	XAIS
CB-L8-09	N/A	8	2	4/2/22	SF3-M	9.2	113.6	110.0	10.40	9.45	96.83	120.4	0.25	4.83	PASS	XAIS
CB-L8-10	N/A	8	2	4/2/22	SF3-M	9.2	113.6	109.3	11.20	10.25	96.21	120.5	1.05	4.21	PASS	XAIS
CB-L8-11	N/A	8	2	4/2/22	SF3-M	9.2	113.6	109.5	12.00	10.96	96.39	121.5	1.76	4.39	PASS	XAIS
CB-L8-12	N/A	8	2	4/2/22	SF3-M	9.2	113.6	108.9	11.10	10.19	95.86	120.0	0.99	3.86	PASS	XAIS
CB-L8-13	N/A	8	2	4/2/22	SF3-M	9.2	113.6	108.4	11.20	10.33	95.42	119.6	1.13	3.42	PASS	XAIS
CB-L8-14	N/A	8	2	4/2/22	SF3-M	9.2	113.6	108.6	11.60	10.68	95.60	120.2	1.48	3.60	PASS	XAIS
CB-L8-15	N/A	8	2	4/2/22	SF3-M	9.2	113.6	108.2	12.10	11.18	95.25	120.3	1.98	3.25	PASS	XAIS
CB-L8-16	N/A	8	2	4/2/22	SF3-M	9.2	113.6	108.0	11.90	11.02	95.07	119.9	1.82	3.07	PASS	XAIS
CB-L8-17	N/A	8	2	4/2/22	SF3-M	9.2	113.6	107.9	11.40	10.57	94.98	119.3	1.37	2.98	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 9

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L9-01	N/A	9	1	4/2/22	SF3-M	9.2	113.6	107.2	9.60	8.96	94.37	116.8	-0.24	2.37	PASS	XAIS
CB-L9-02	N/A	9	1	4/2/22	SF3-M	9.2	113.6	105.4	11.50	10.91	92.78	116.9	1.71	0.78	PASS	XAIS
CB-L9-03	N/A	9	1	4/2/22	SF3-M	9.2	113.6	108.3	12.10	11.17	95.33	120.4	1.97	3.33	PASS	XAIS
CB-L9-04	N/A	9	1	4/2/22	SF3-M	9.2	113.6	106.0	10.50	9.91	93.31	116.5	0.71	1.31	PASS	XAIS
CB-L9-05	N/A	9	1	4/2/22	SF3-M	9.2	113.6	108.0	10.50	9.72	95.07	118.5	0.52	3.07	PASS	XAIS
CB-L9-06	N/A	9	1	4/2/22	SF3-M	9.2	113.6	109.6	12.10	11.04	96.48	121.7	1.84	4.48	PASS	XAIS
CB-L9-07	N/A	9	2	4/2/22	SF3-M	9.2	113.6	106.4	11.40	10.71	93.66	117.8	1.51	1.66	PASS	XAIS
CB-L9-08	N/A	9	2	4/2/22	SF3-M	9.2	113.6	106.6	11.60	10.88	93.84	118.2	1.68	1.84	PASS	XAIS
CB-L9-09	N/A	9	2	4/2/22	SF3-M	9.2	113.6	107.0	11.90	11.12	94.19	118.9	1.92	2.19	PASS	XAIS
CB-L9-10	N/A	9	2	4/2/22	SF3-M	9.2	113.6	107.2	11.70	10.91	94.37	118.9	1.71	2.37	PASS	XAIS
CB-L9-11	N/A	9	2	4/2/22	SF3-M	9.2	113.6	109.0	11.80	10.83	95.95	120.8	1.63	3.95	PASS	XAIS
CB-L9-12	N/A	9	2	4/2/22	SF3-M	9.2	113.6	107.2	11.20	10.45	94.37	118.4	1.25	2.37	PASS	XAIS
CB-L9-13	N/A	9	2	4/2/22	SF3-M	9.2	113.6	106.9	11.40	10.66	94.10	118.3	1.46	2.10	PASS	XAIS
CB-L9-14	N/A	9	2	4/2/22	SF3-M	9.2	113.6	107.5	11.60	10.79	94.63	119.1	1.59	2.63	PASS	XAIS
CB-L9-15	N/A	9	2	4/2/22	SF3-M	9.2	113.6	107.2	11.80	11.01	94.37	119.0	1.81	2.37	PASS	XAIS
CB-L9-16	N/A	9	2	4/2/22	SF3-M	9.2	113.6	108.1	11.10	10.27	95.16	119.2	1.07	3.16	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 10

Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
10	1	4/4/22	SF3-M	9.2	113.6	110.4	11.90	10.78	97.18	122.3	1.58	5.18	PASS	XAIS
10	1	4/4/22	SF3-M	9.2	113.6	105.5	11.70	11.09	92.87	117.2	1.89	0.87	PASS	XAIS
10	1	4/4/22	SF3-M	9.2	113.6	105.4	11.80	11.20	92.78	117.2	2.00	0.78	PASS	XAIS
10	1	4/4/22	SF3-M	9.2	113.6	106.7	10.40	9.75	93.93	117.1	0.55	1.93	PASS	XAIS
10	1	4/4/22	SF3-M	9.2	113.6	104.6	11.60	11.09	92.08	116.2	1.89	0.08	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	108.8	10.90	10.02	95.77	119.7	0.82	3.77	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	107.6	11.80	10.97	94.72	119.4	1.77	2.72	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	107.7	11.90	11.05	94.81	119.6	1.85	2.81	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	107.4	11.40	10.61	94.54	118.8	1.41	2.54	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	106.9	11.20	10.48	94.10	118.1	1.28	2.10	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	106.4	11.00	10.34	93.66	117.4	1.14	1.66	PASS	XAIS
10	2	4/4/22	SF3-M	9.2	113.6	107.0	11.90	11.12	94.19	118.9	1.92	2.19	PASS	XAIS

12 tests/lift/acre
92 % of Modified Proctor (Per CQA Plan)
2% below OM to 2% above OM
8 inches

North Ranch
Density Test Log
Cell E-1 - Lift 11

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L11-01	N/A	11	1	4/4/22	SF3-M	9.2	113.6	107.1	11.70	10.92	94.28	118.8	1.72	2.28	PASS	XAIS
CB-L11-02	N/A	11	1	4/4/22	SF3-M	9.2	113.6	109.5	12.20	11.14	96.39	121.7	1.94	4.39	PASS	XAIS
CB-L11-03	N/A	11	1	4/4/22	SF3-M	9.2	113.6	105.0	11.60	11.05	92.43	116.6	1.85	0.43	PASS	XAIS
CB-L11-04	N/A	11	1	4/4/22	SF3-M	9.2	113.6	106.5	11.40	10.70	93.75	117.9	1.50	1.75	PASS	XAIS
CB-L11-05	N/A	11	2	4/4/22	SF3-M	9.2	113.6	106.1	11.50	10.84	93.40	117.6	1.64	1.40	PASS	XAIS
CB-L11-06	N/A	11	3	4/5/22	SF3-M	9.2	113.6	107.2	11.60	10.82	94.37	118.8	1.62	2.37	PASS	XAIS
CB-L11-07	N/A	11	3	4/5/22	SF3-M	9.2	113.6	106.4	11.00	10.34	93.66	117.4	1.14	1.66	PASS	XAIS
CB-L11-08	N/A	11	3	4/5/22	SF3-M	9.2	113.6	107.0	11.20	10.47	94.19	118.2	1.27	2.19	PASS	XAIS
CB-L11-09	N/A	11	3	4/5/22	SF3-M	9.2	113.6	106.0	11.80	11.13	93.31	117.8	1.93	1.31	PASS	XAIS
CB-L11-10	N/A	11	3	4/5/22	SF3-M	9.2	113.6	106.5	11.60	10.89	93.75	118.1	1.69	1.75	PASS	XAIS
CB-L11-11	N/A	11	3	4/5/22	SF3-M	9.2	113.6	106.8	11.40	10.67	94.01	118.2	1.47	2.01	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 12

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L12-01	N/A	12	1	4/6/22	SF3-M	9.2	113.6	107.7	10.30	9.56	94.81	118.0	0.36	2.81	PASS	XAIS
CB-L12-02	N/A	12	1	4/6/22	SF3-M	9.2	113.6	104.8	10.80	10.31	92.25	115.6	1.11	0.25	PASS	XAIS
CB-L12-03	N/A	12	1	4/6/22	SF3-M	9.2	113.6	105.1	10.80	10.28	92.52	115.9	1.08	0.52	PASS	XAIS
CB-L12-04	N/A	12	2	4/6/22	SF3-M	9.2	113.6	104.6	10.10	9.66	92.08	114.7	0.46	0.08	PASS	XAIS
CB-L12-05	N/A	12	2	4/6/22	SF3-M	9.2	113.6	105.1	11.00	10.47	92.52	116.1	1.27	0.52	PASS	XAIS
CB-L12-06	N/A	12	2	4/6/22	SF3-M	9.2	113.6	105.2	10.80	10.27	92.61	116.0	1.07	0.61	PASS	XAIS
CB-L12-07	N/A	12	2	4/6/22	SF3-M	9.2	113.6	105.2	10.40	9.89	92.61	115.6	0.69	0.61	PASS	XAIS
CB-L12-08	N/A	12	2	4/6/22	SF3-M	9.2	113.6	104.8	11.20	10.69	92.25	116.0	1.49	0.25	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 13

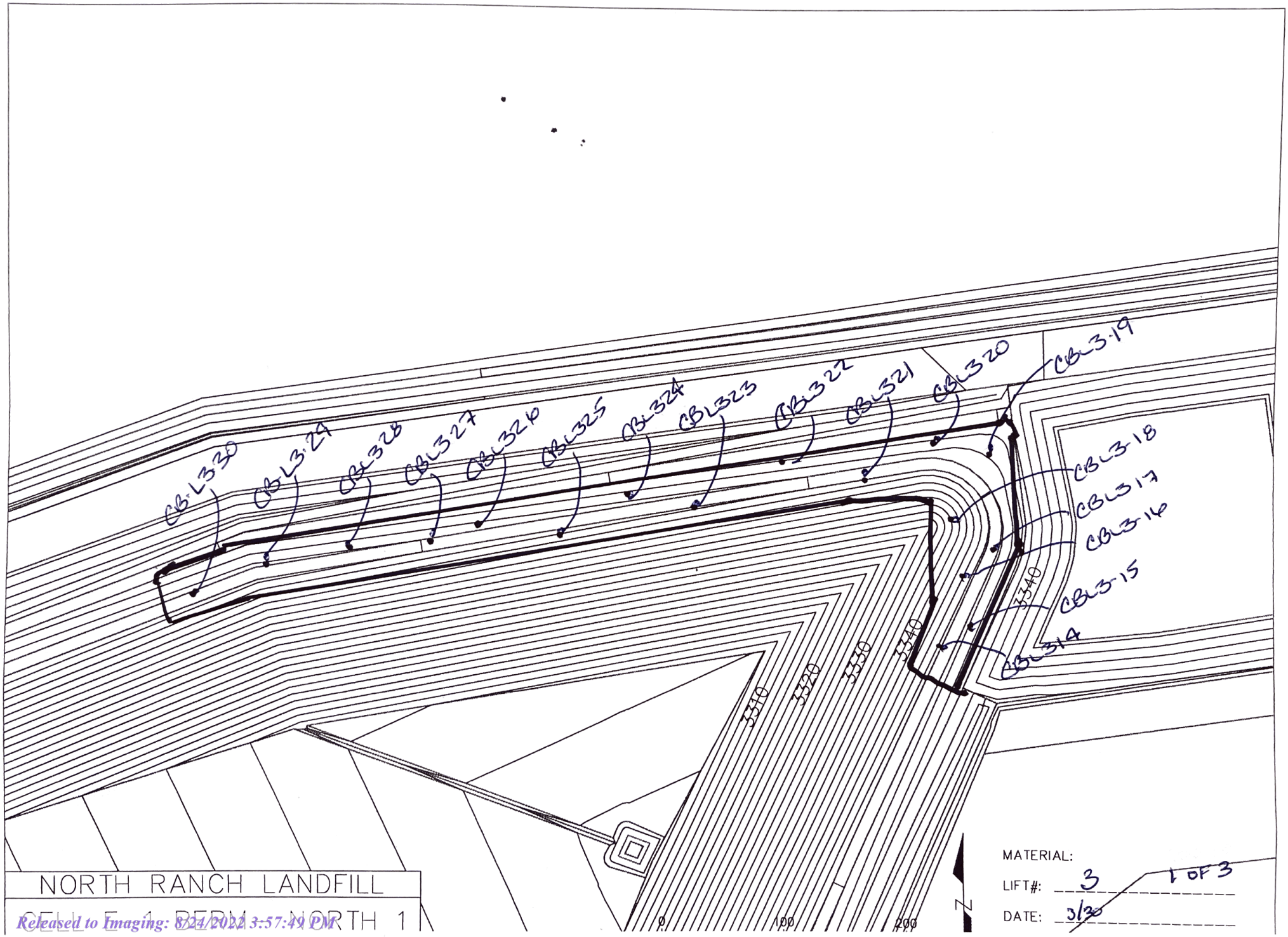
Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L13-01	N/A	13	1	4/7/22	SF3-M	9.2	113.6	106.9	11.80	11.04	94.10	118.7	1.84	2.10	PASS	XAIS
CB-L13-02	N/A	13	1	4/7/22	SF3-M	9.2	113.6	108.1	11.90	11.01	95.16	120.0	1.81	3.16	PASS	XAIS
CB-L13-03	N/A	13	2	4/7/22	SF3-M	9.2	113.6	105.5	11.60	11.00	92.87	117.1	1.80	0.87	PASS	XAIS
CB-L13-04	N/A	13	2	4/7/22	SF3-M	9.2	113.6	106.2	11.20	10.55	93.49	117.4	1.35	1.49	PASS	XAIS
CB-L13-05	N/A	13	2	4/7/22	SF3-M	9.2	113.6	105.3	11.40	10.83	92.69	116.7	1.63	0.69	PASS	XAIS
CB-L13-06	N/A	13	2	4/7/22	SF3-M	9.2	113.6	105.7	11.30	10.69	93.05	117.0	1.49	1.05	PASS	XAIS
CB-L13-07	N/A	13	2	4/7/22	SF3-M	9.2	113.6	105.2	11.00	10.46	92.61	116.2	1.26	0.61	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Cell E-1 - Lift 14

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
CB-L14-01	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.6	11.80	11.07	93.84	118.4	1.87	1.84	PASS	XAIS
CB-L14-02	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.0	11.40	10.75	93.31	117.4	1.55	1.31	PASS	XAIS
CB-L14-03	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.2	11.20	10.55	93.49	117.4	1.35	1.49	PASS	XAIS
CB-L14-04	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.4	10.50	9.87	93.66	116.9	0.67	1.66	PASS	XAIS
CB-L14-05	N/A	14	1	4/7/22	SF3-M	9.2	113.6	105.4	10.90	10.34	92.78	116.3	1.14	0.78	PASS	XAIS
CB-L14-06	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.3	11.10	10.44	93.57	117.4	1.24	1.57	PASS	XAIS
CB-L14-07	N/A	14	1	4/7/22	SF3-M	9.2	113.6	106.7	11.50	10.78	93.93	118.2	1.58	1.93	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		2% below OM to 2% above OM
Loose Lift Thickness:	8	inches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CBL316
CBL315
CBL314
3310
3320
3330
3340
3340
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100
200
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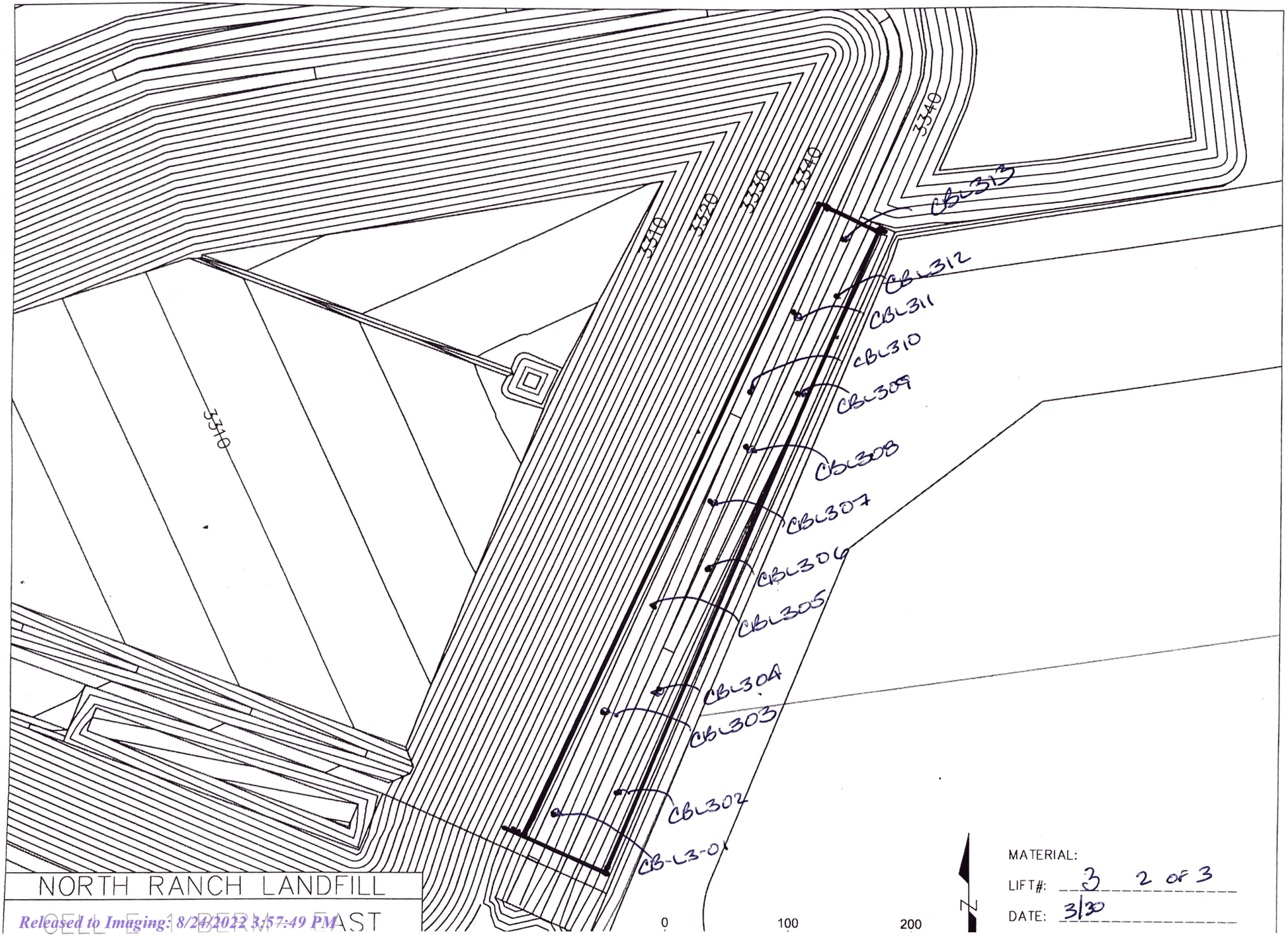
CELL E 1 PERM NORTH 1
MATERIAL:
LIFT#: 3
DATE: 3/30
1 OF 3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CBL304
CBL303
CBL302
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CELL 3 PHASE 1 EAST
0
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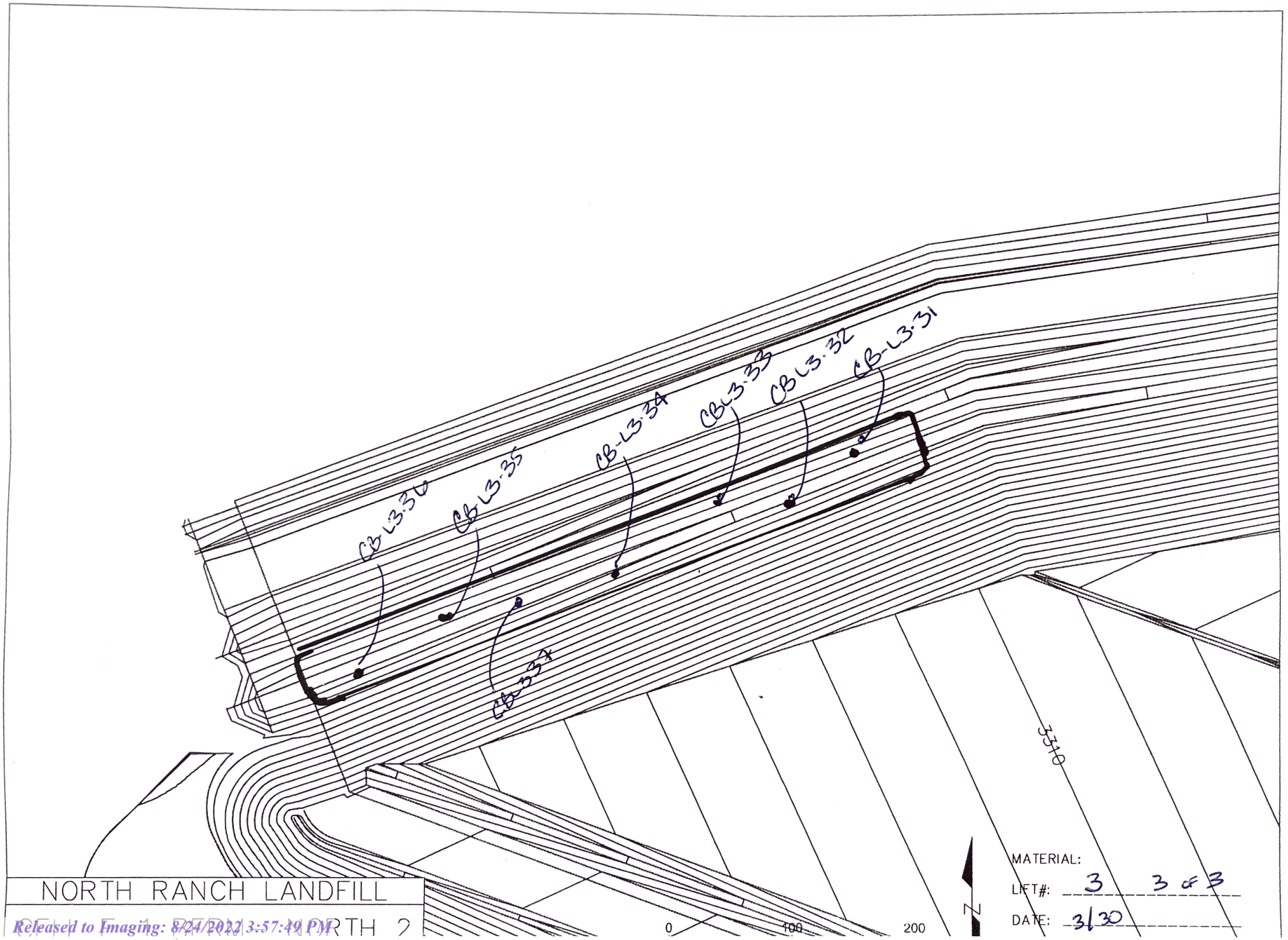
MATERIAL:
LIFT#: 3 2 OF 3
DATE: 3/30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CB-L3-35
CB-L3-34
CB-L3-33
CB-L3-32
CB-L3-31
CB-L3-36
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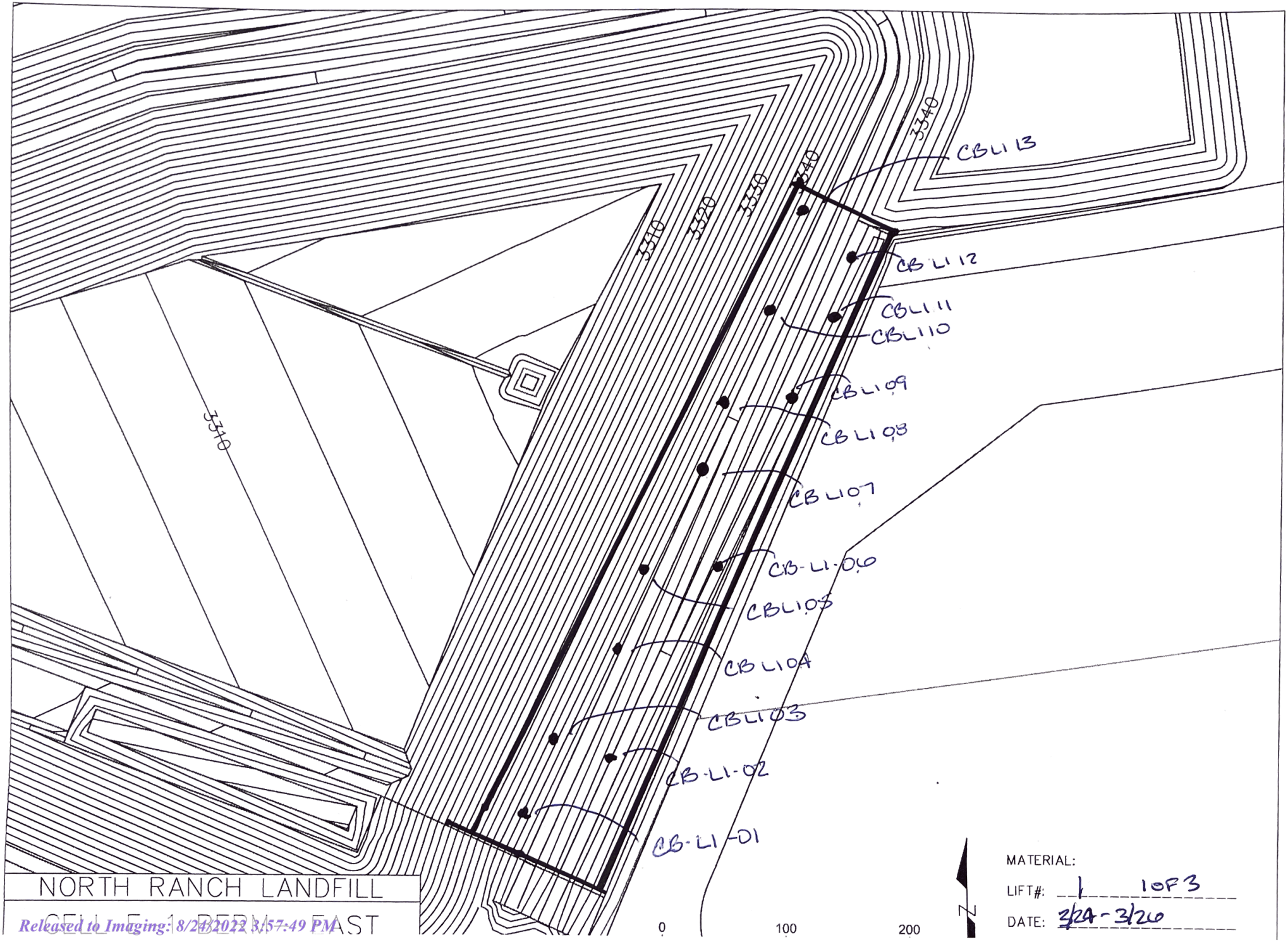
0
100
200
N
MATERIAL:
LIFT#: 3 3 of 3
DATE: 3/30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CBLI05
CBLI04
CBLI03
CB-LI-02
CB-LI-01
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CELL 5 PERIMETER EAST
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100
200
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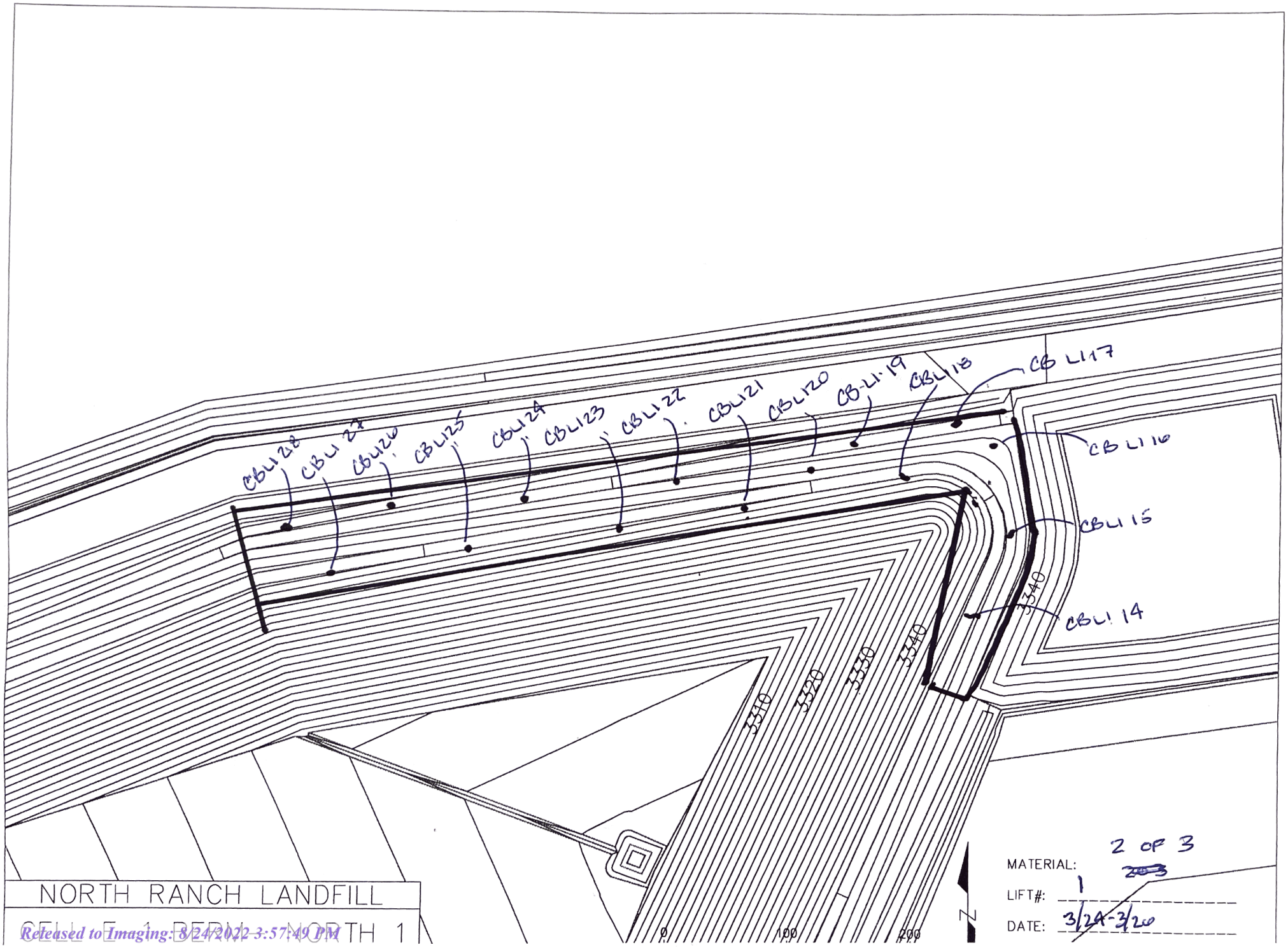
MATERIAL:
LIFT#: 1 1OF3
DATE: 3/24-3/26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3330
3320
3310
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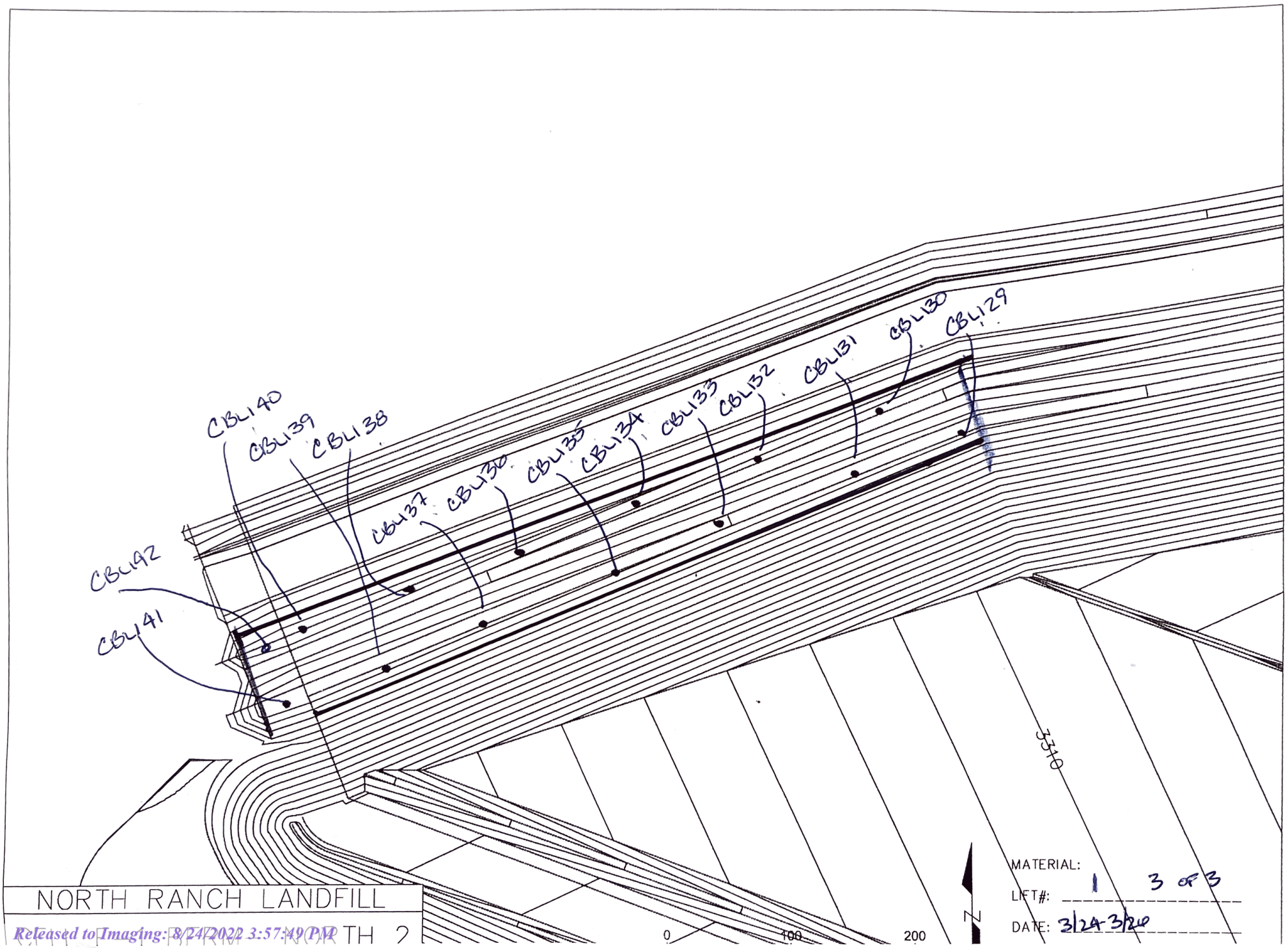
CELL 1 PERIMETER NORTH 1
MATERIAL:
LIFT#: 1
DATE: 3/24-3/26
2 OF 3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NORTH RANCH LANDFILL
0
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200
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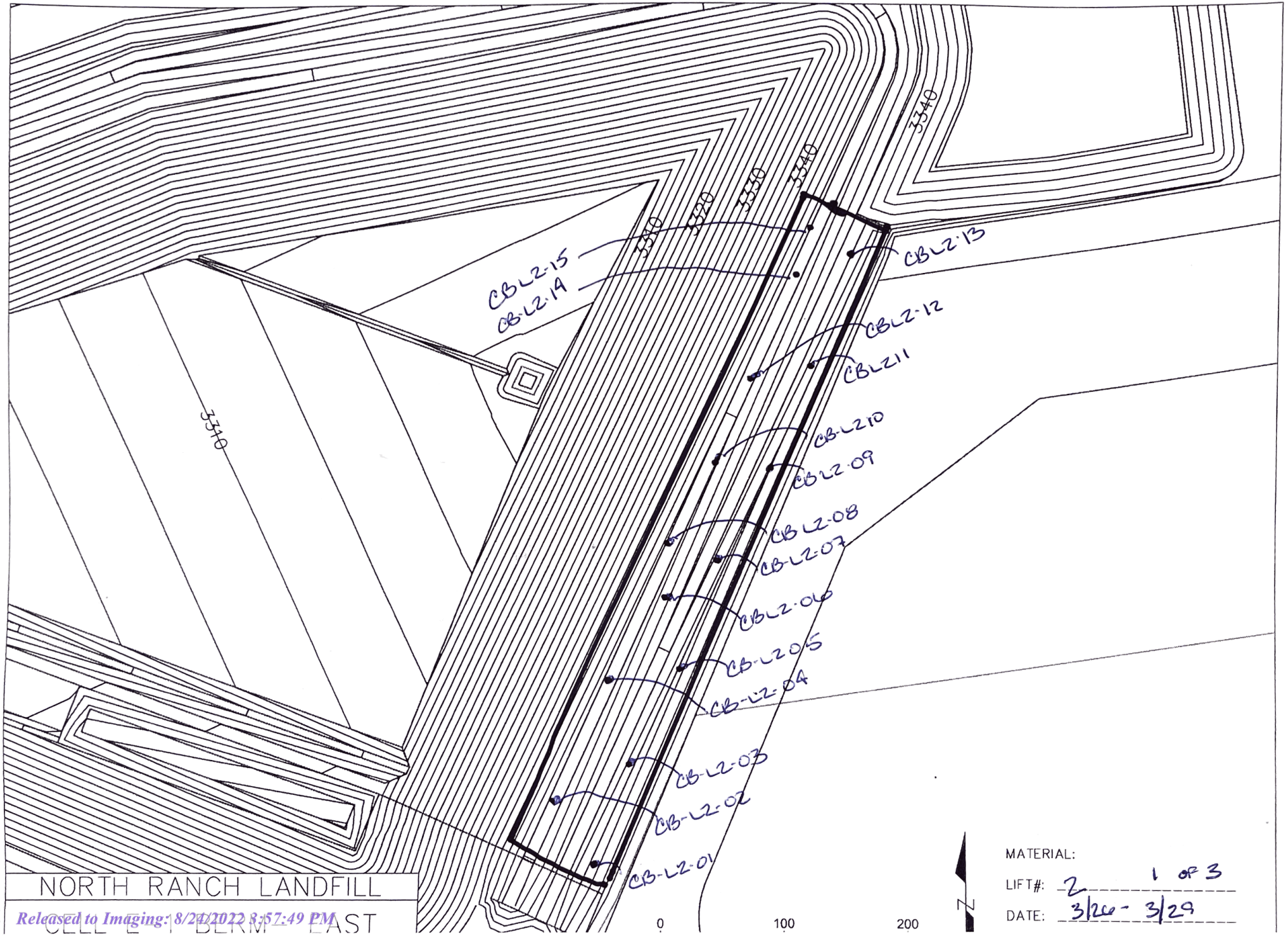
MATERIAL:
LIFT#: 1 3 OF 3
DATE: 3/24-3/26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CB-L2-07
CB-L2-06
CB-L2-05
CB-L2-04
CB-L2-03
CB-L2-02
CB-L2-01
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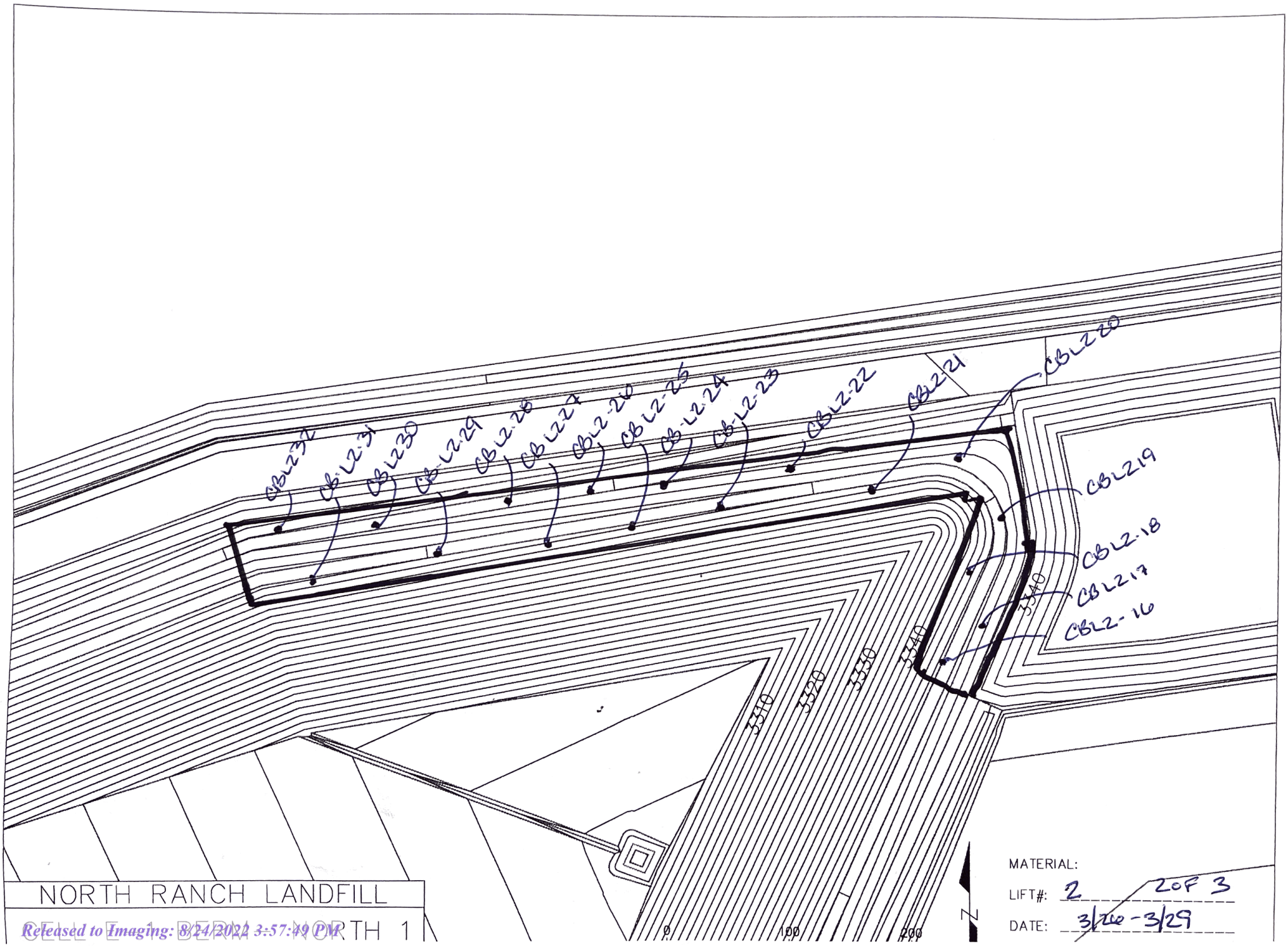
0
100
200
N
MATERIAL:
LIFT#: 2
1 OF 3
DATE: 3/20 - 3/29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CBL2-19
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3320
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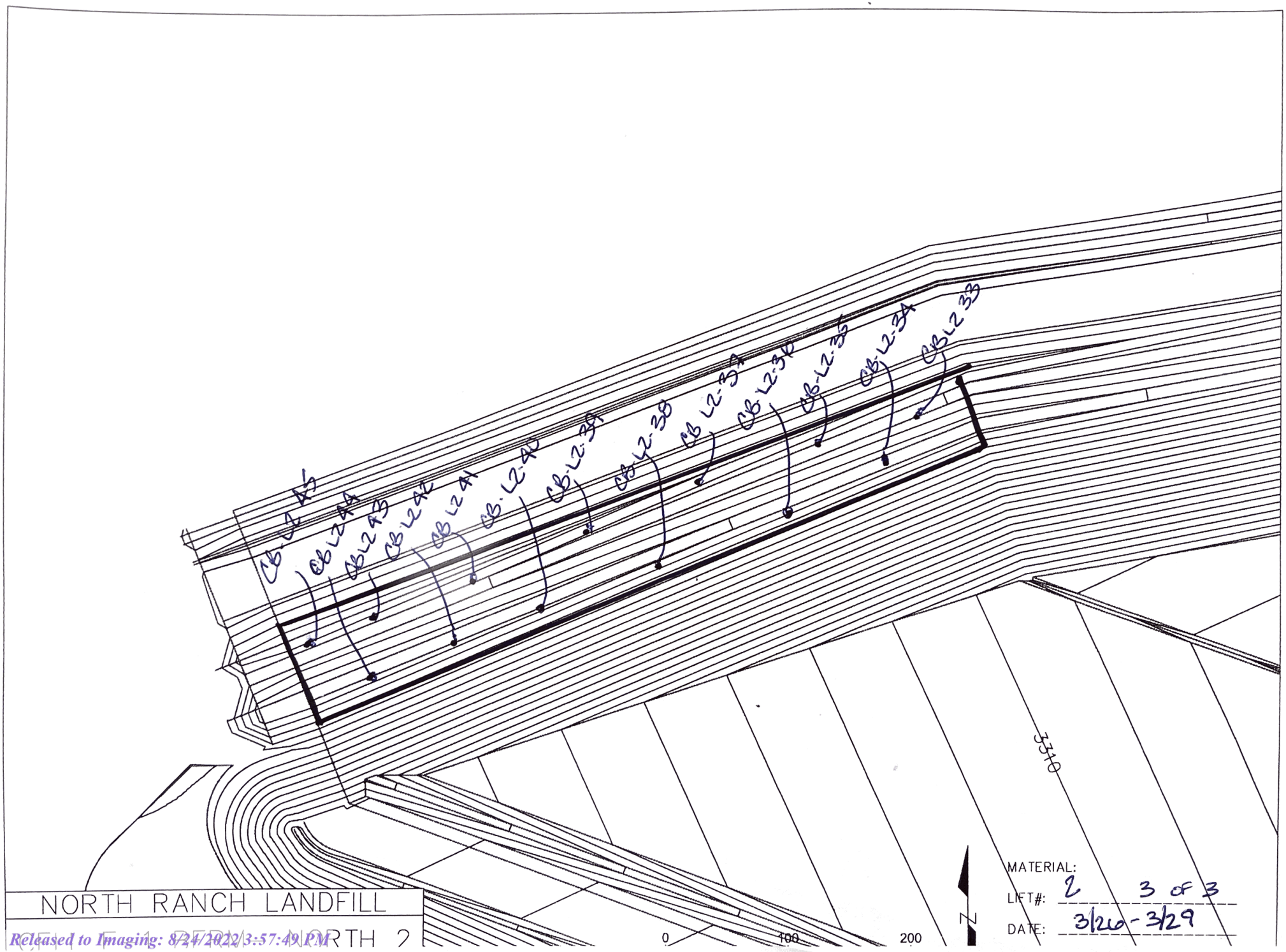
MATERIAL:
LIFT#: 2
2 OF 3
DATE: 3/26-3/29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CB-L2-3A
CB-L2-3C
CB-L2-3D
CB-L2-3E
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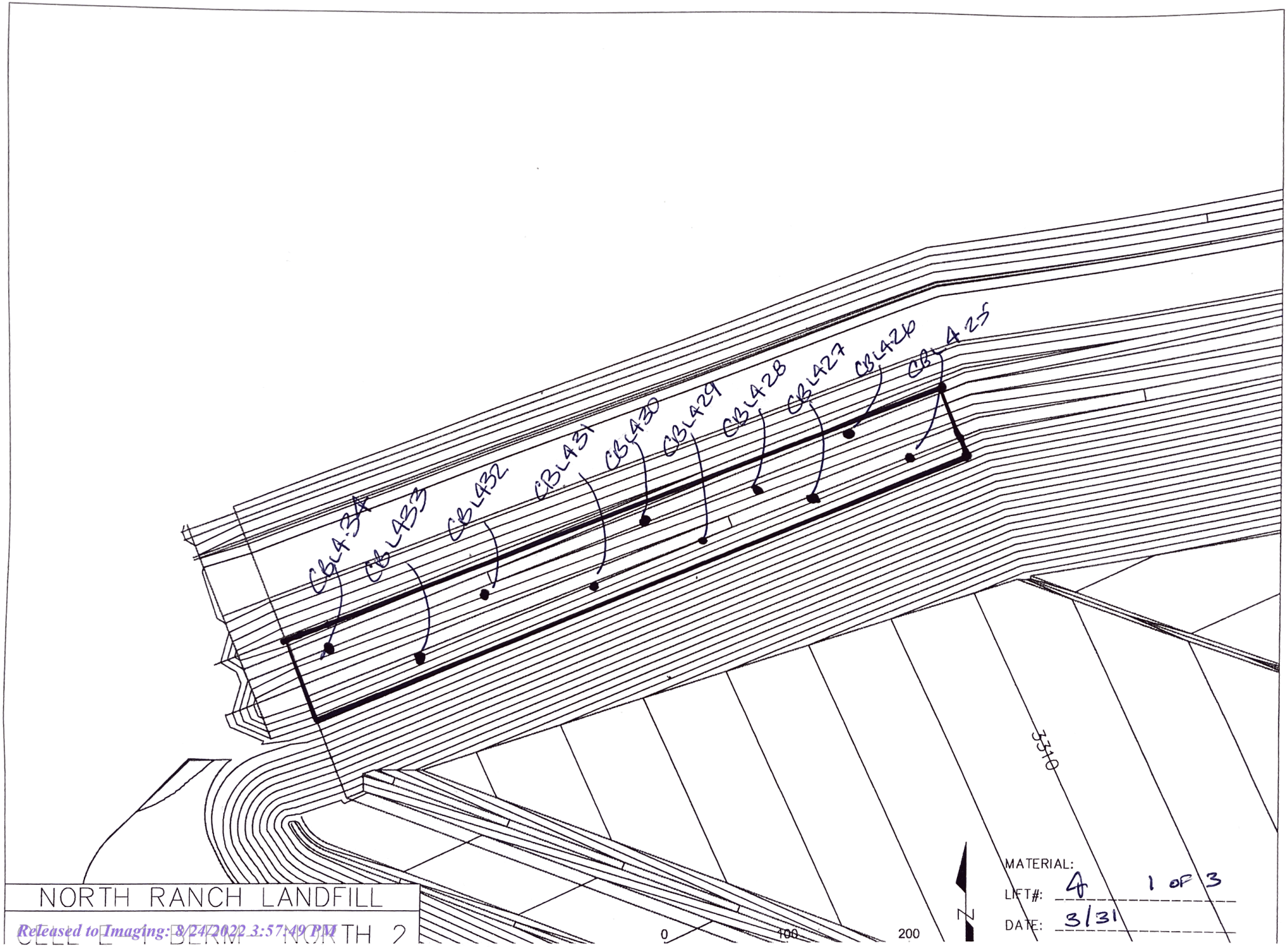
MATERIAL:
LIFT#: 2 3 of 3
DATE: 3/20-3/29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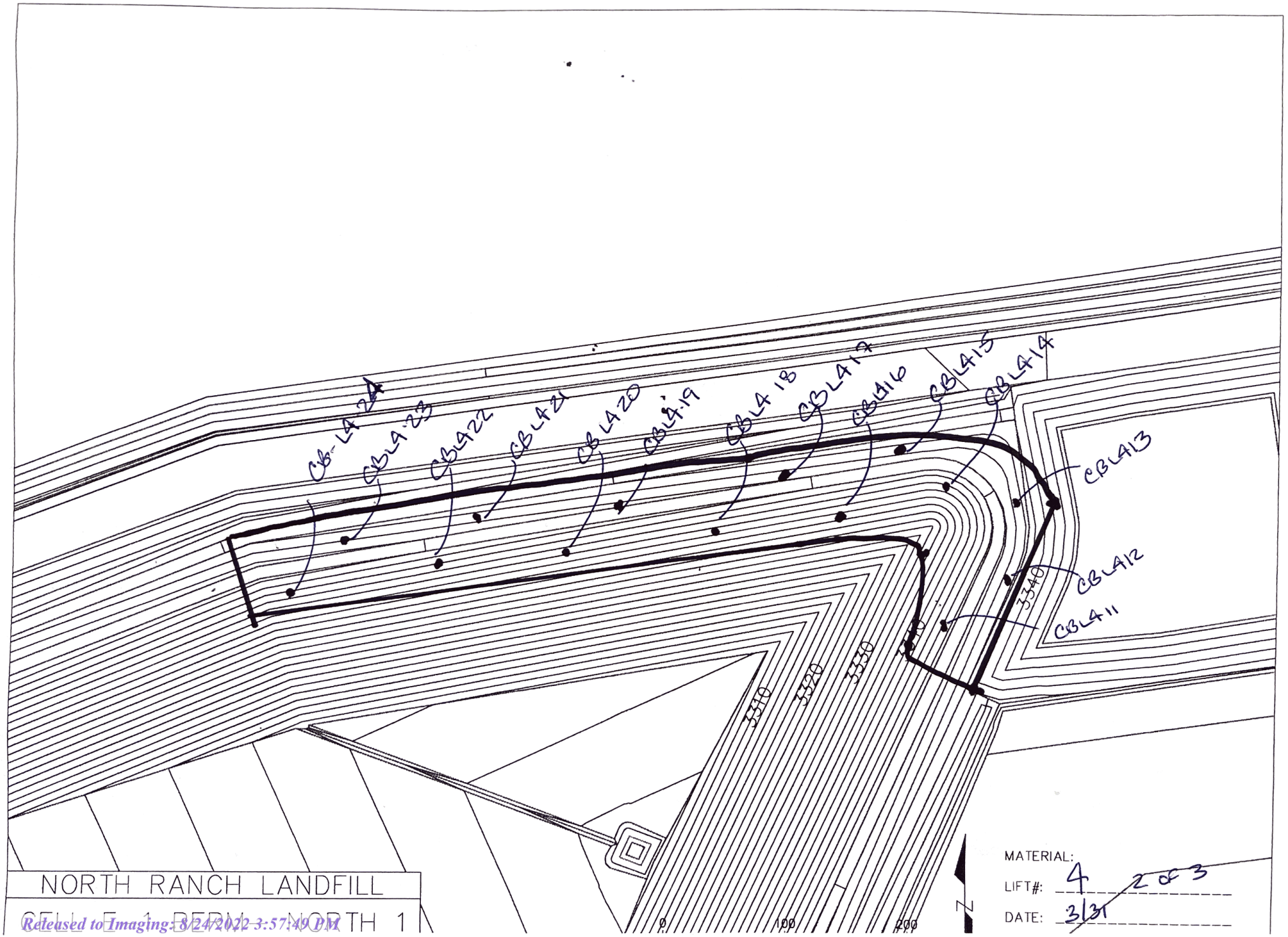
MATERIAL:
LIFT#: 4 1 OF 3
DATE: 3/31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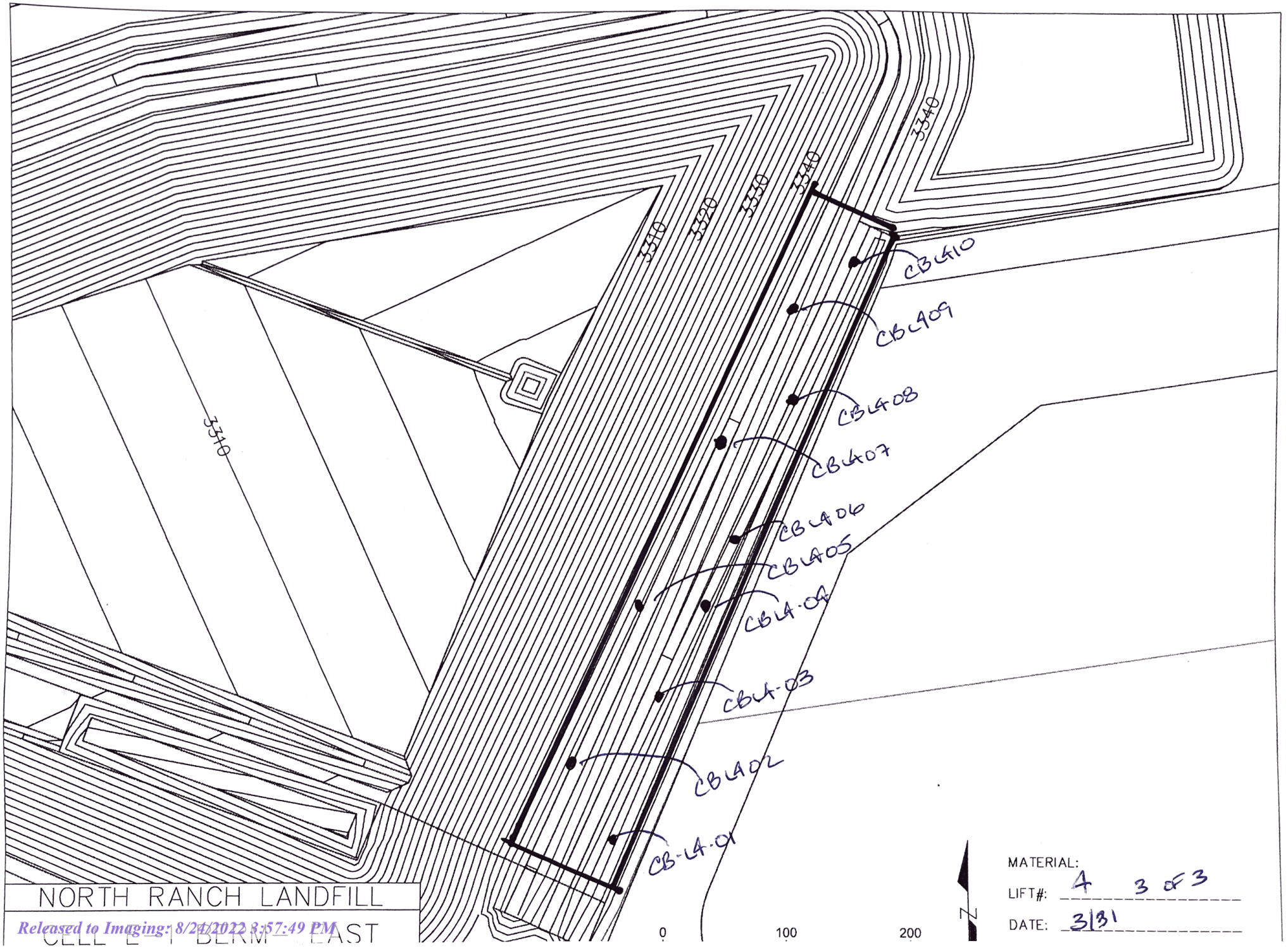
MATERIAL:
LIFT#: 4
DATE: 3/31
2 of 3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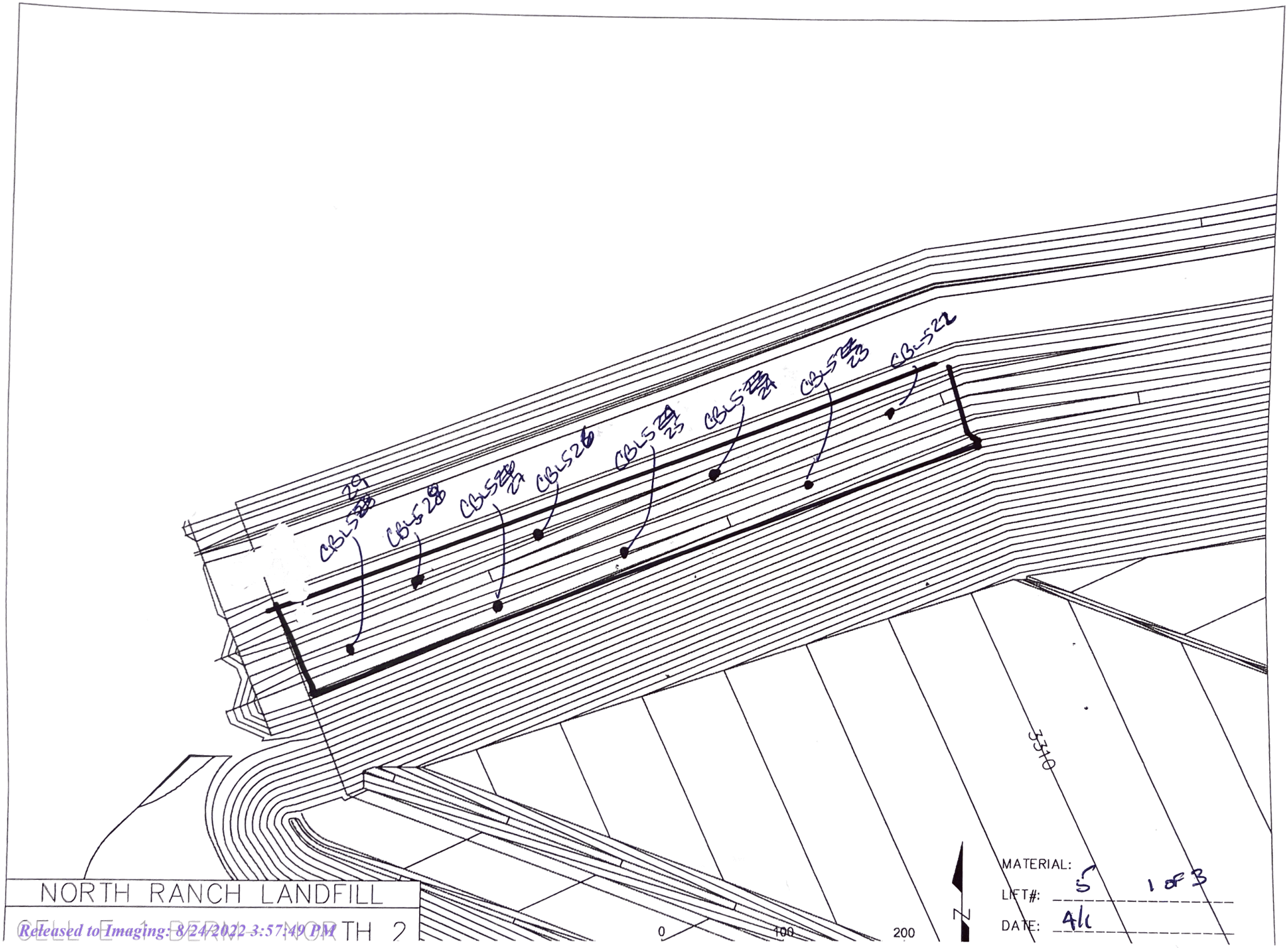
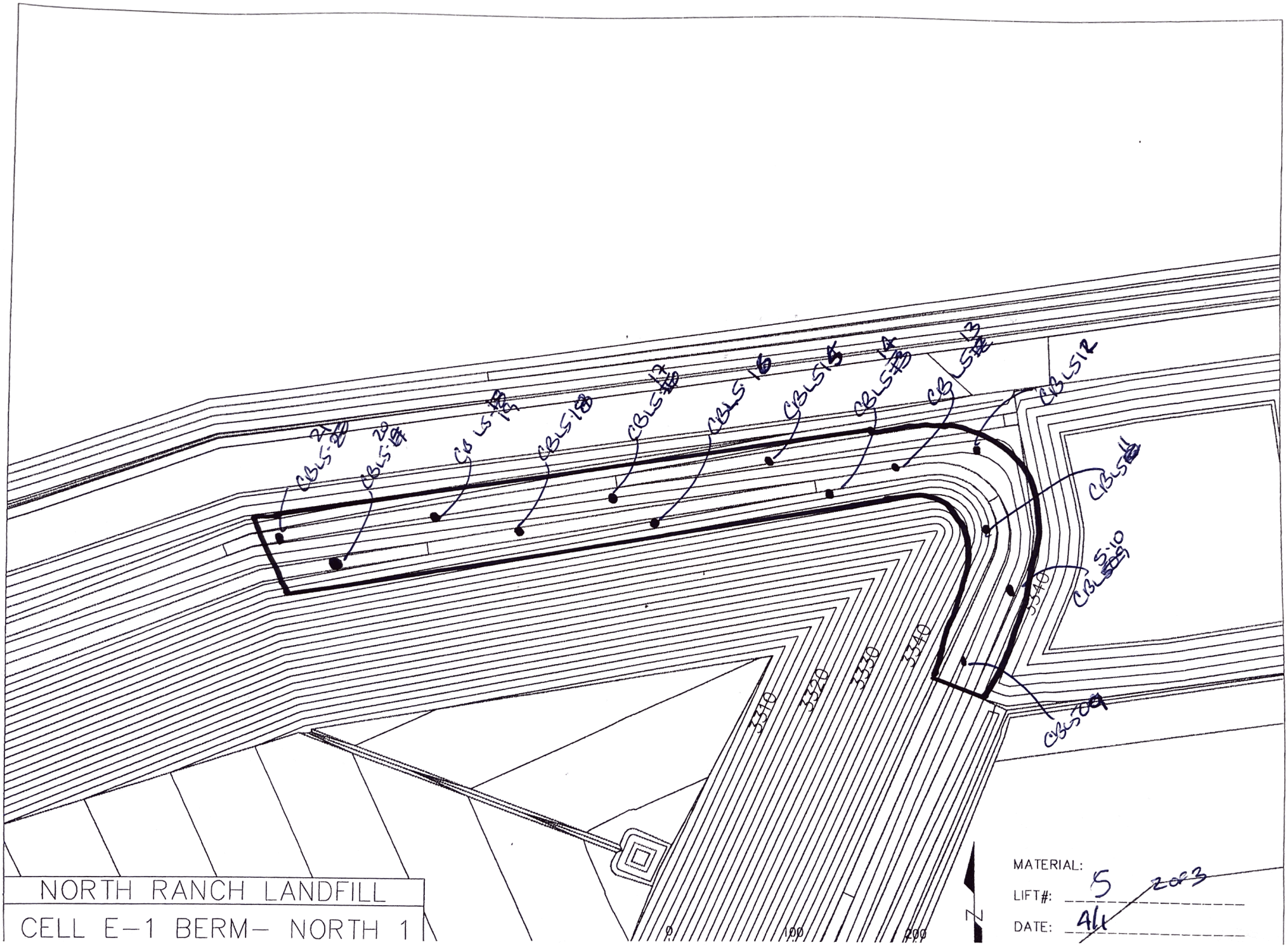
CB-L-04
CB-L-03
CB-L-02
CB-L-01
NORTH RANCH LANDFILL
CELL 2 - 1 BERM - EAST
0
100
200
N
MATERIAL:
LIFT#: 4 3 of 3
DATE: 3/31



NORTH RANCH LANDFILL

CELL 5 BERM NORTH 2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CELL E-1 BERM- NORTH 1
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200
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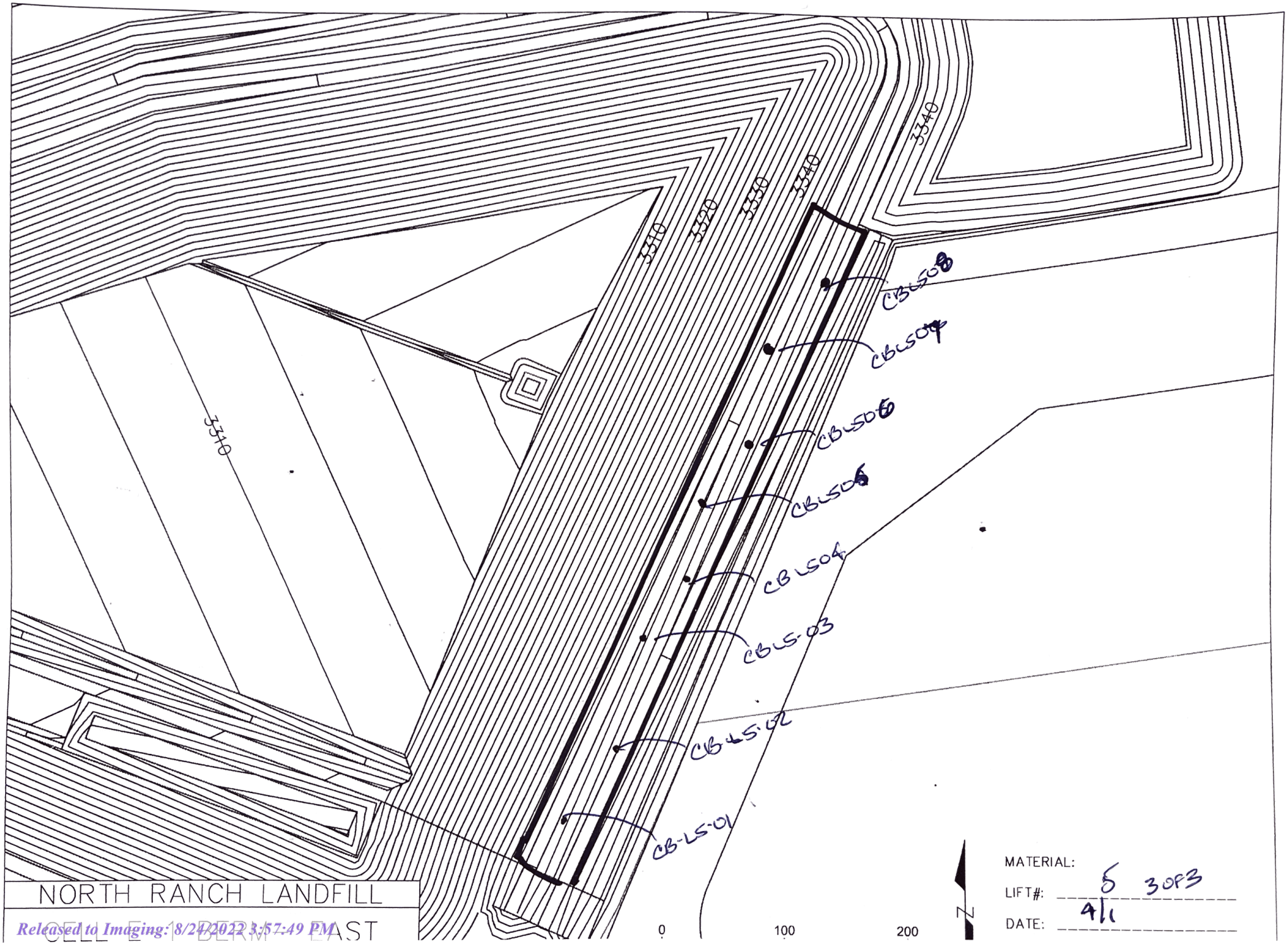
MATERIAL:
LIFT#: 5
DATE: 4/1
2023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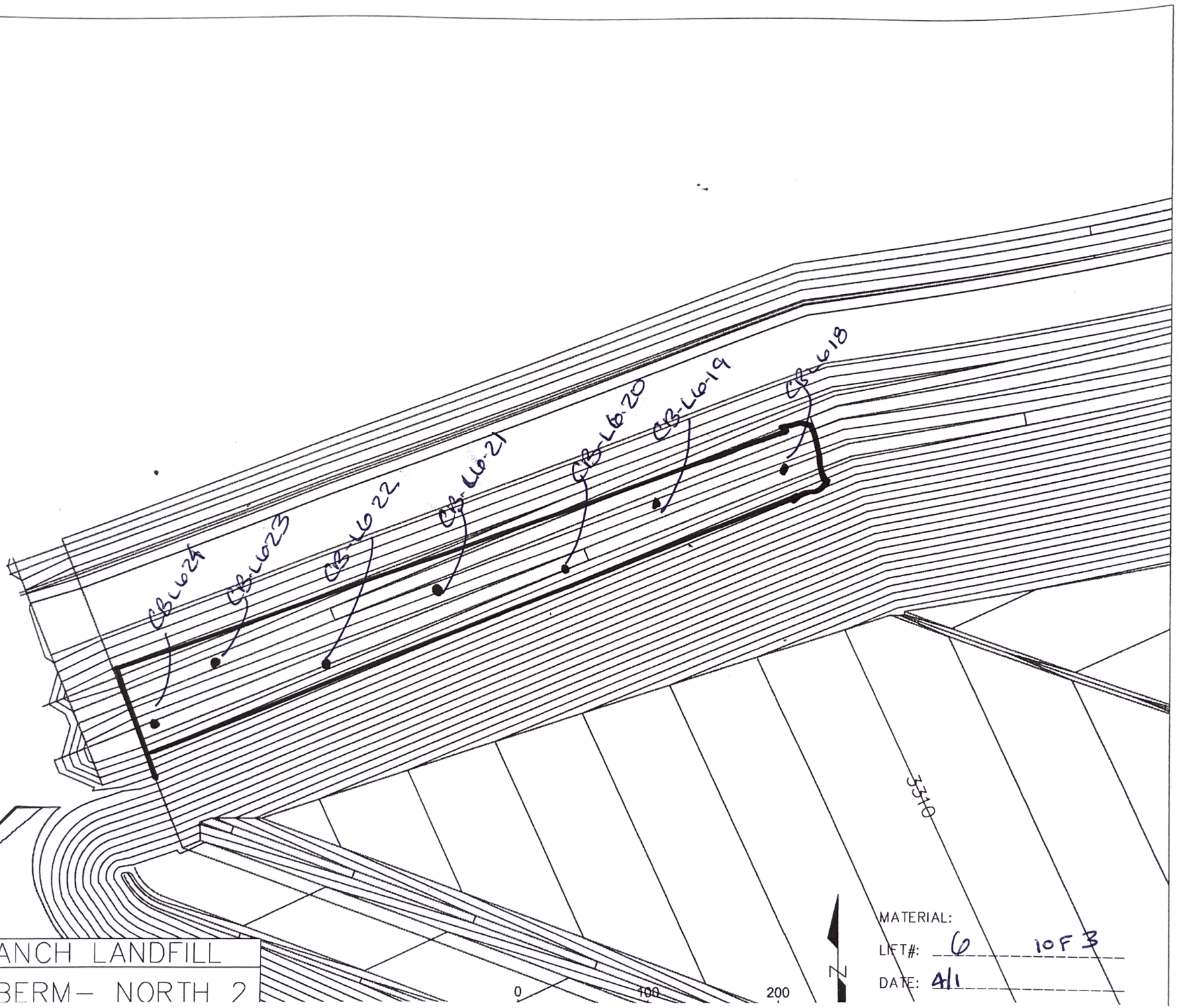
CB LS 07
CB LS 06
CB LS 05
CB LS 04
CB LS-03
CB LS-02
CB-LS-01
NORTH RANCH LANDFILL
CELL E - 1 BERM - EAST
0
100
200
N
MATERIAL:
LIFT#: 8 3 OF 3
DATE: 4/1



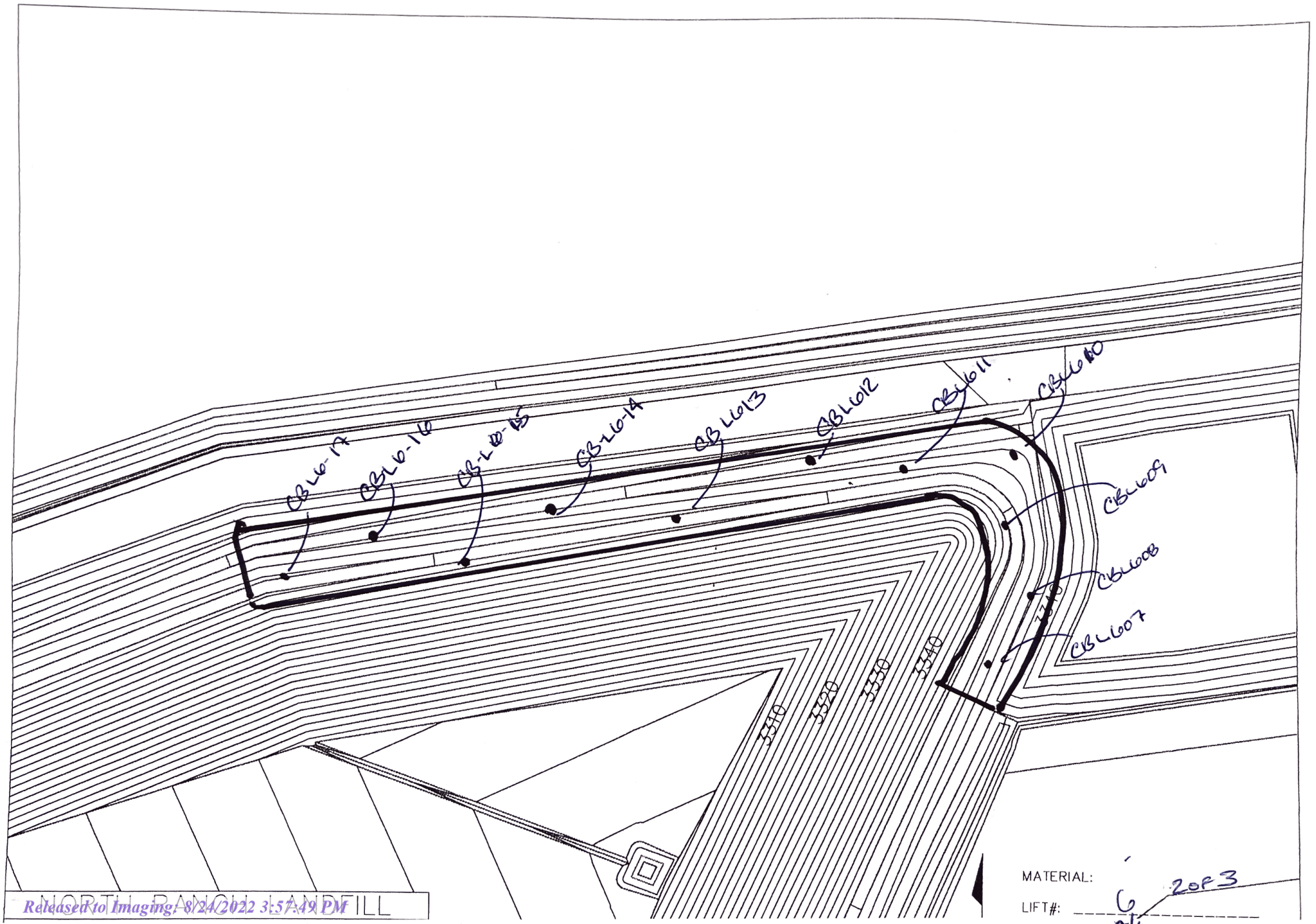
NORTH RANCH LANDFILL

CELL E-1 BERM- NORTH 2

MATERIAL:

LIFT#: 6 10F3

DATE: 4/1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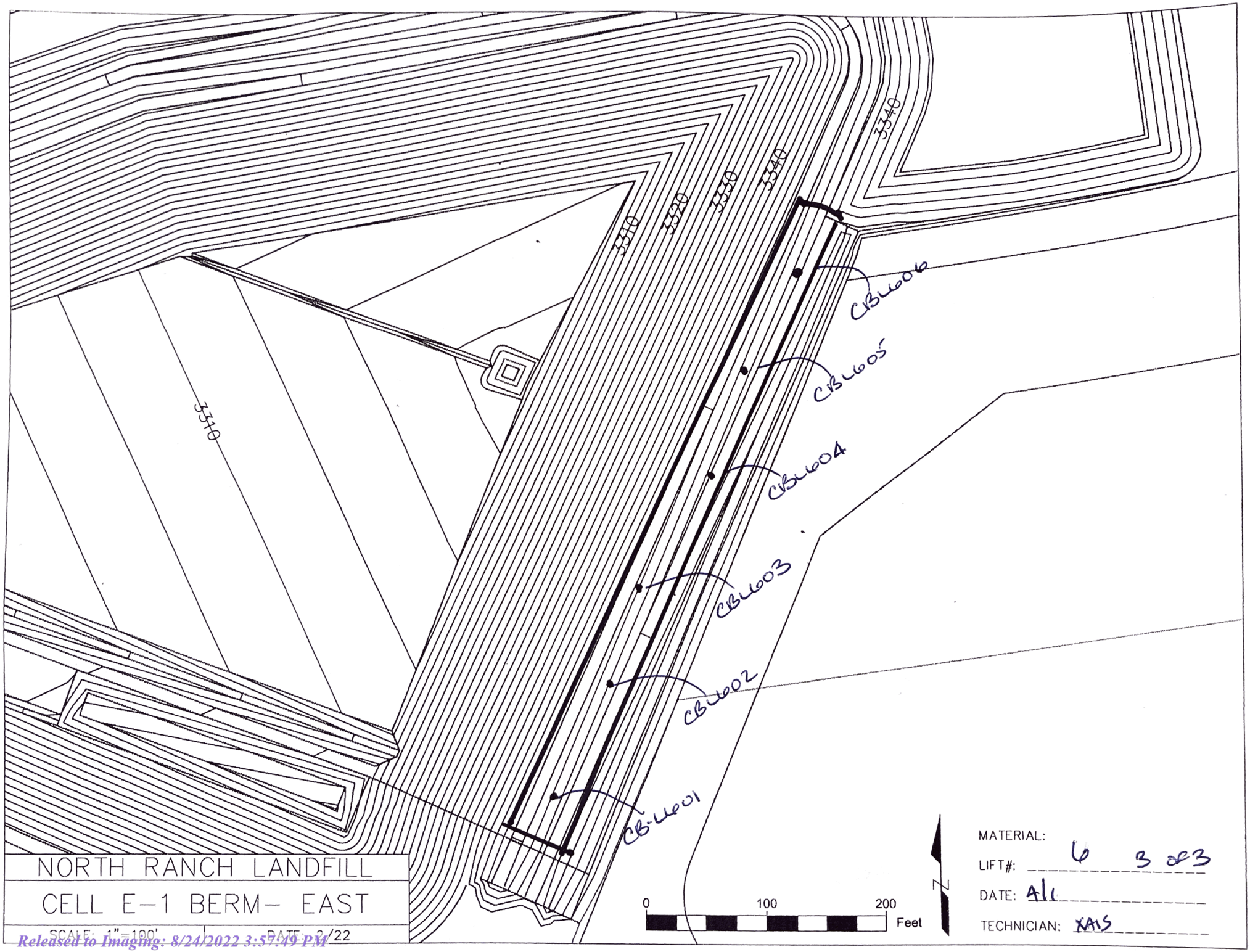
3340
NORTH RANCH LANDFILL
MATERIAL:
LIFT#: 6
2 OF 3
9ft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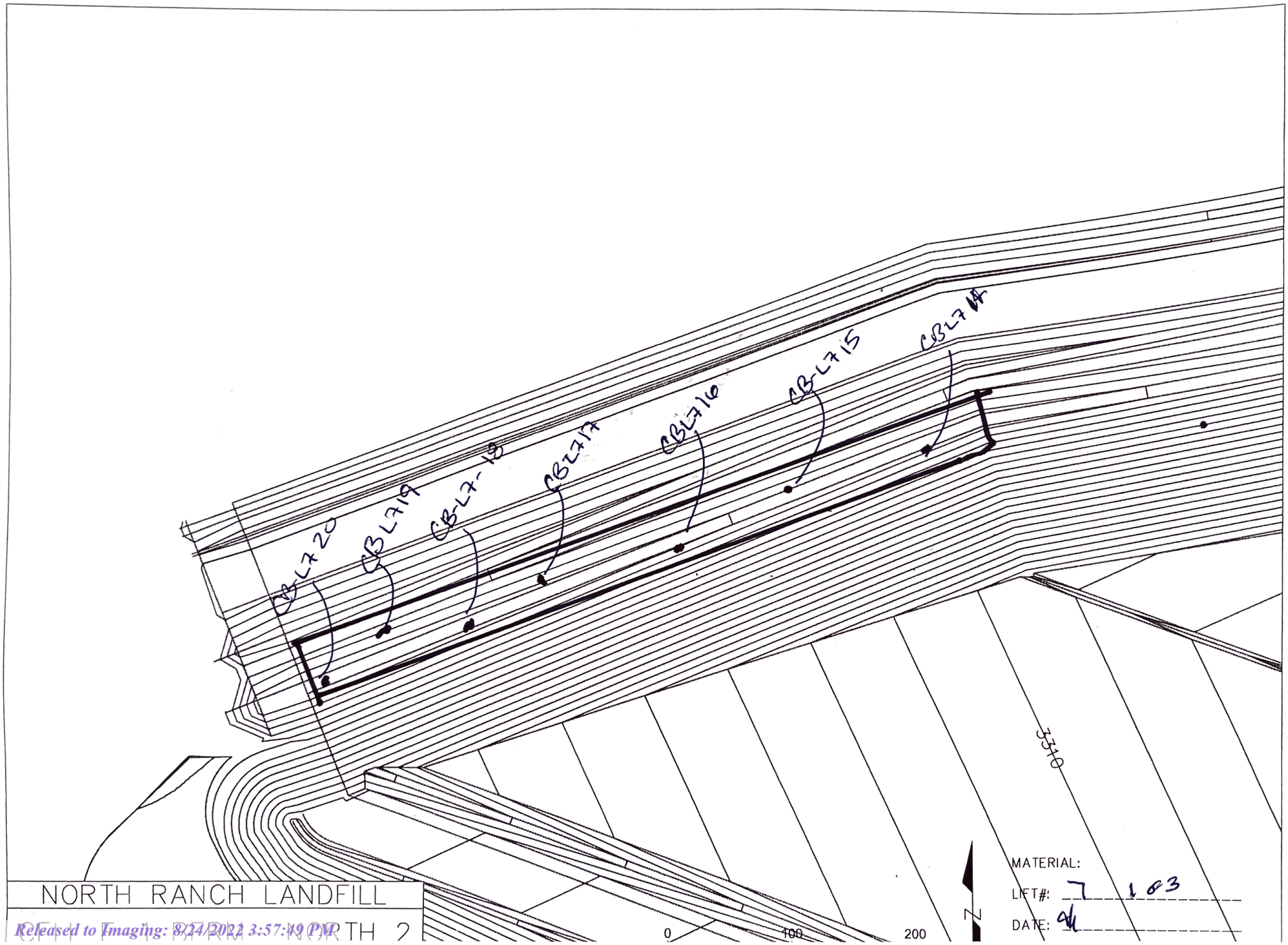
0
100
200
Feet
N
MATERIAL:
LIFT#: 6 3 of 3
DATE: 4/1
TECHNICIAN: XAIS
NORTH RANCH LANDFILL
CELL E-1 BERM- EAST
SCALE: 1"=100'
DATE: 2/22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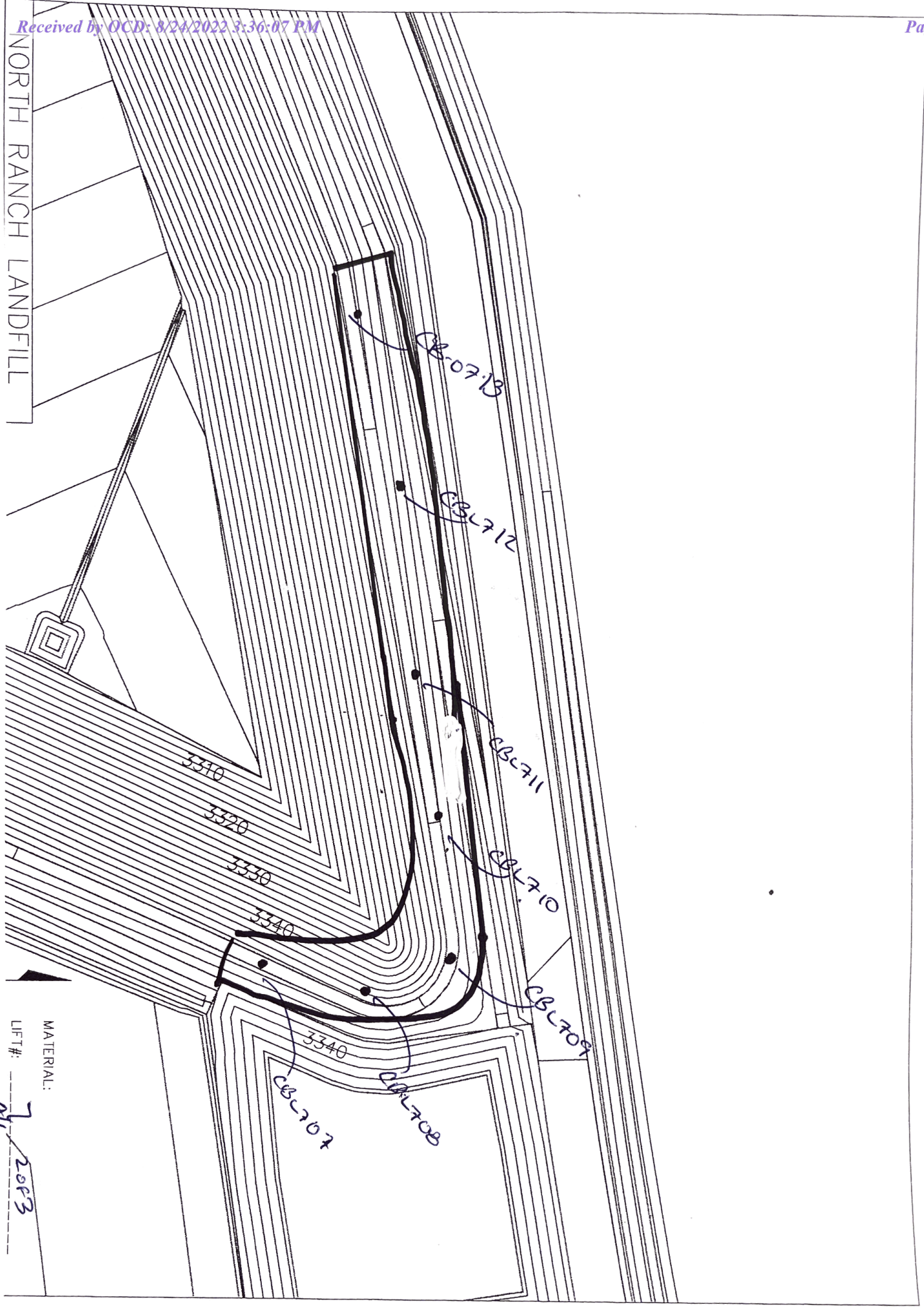
0
100
200
N
MATERIAL:
LIFT#: 7 1 03
DATE: 9/1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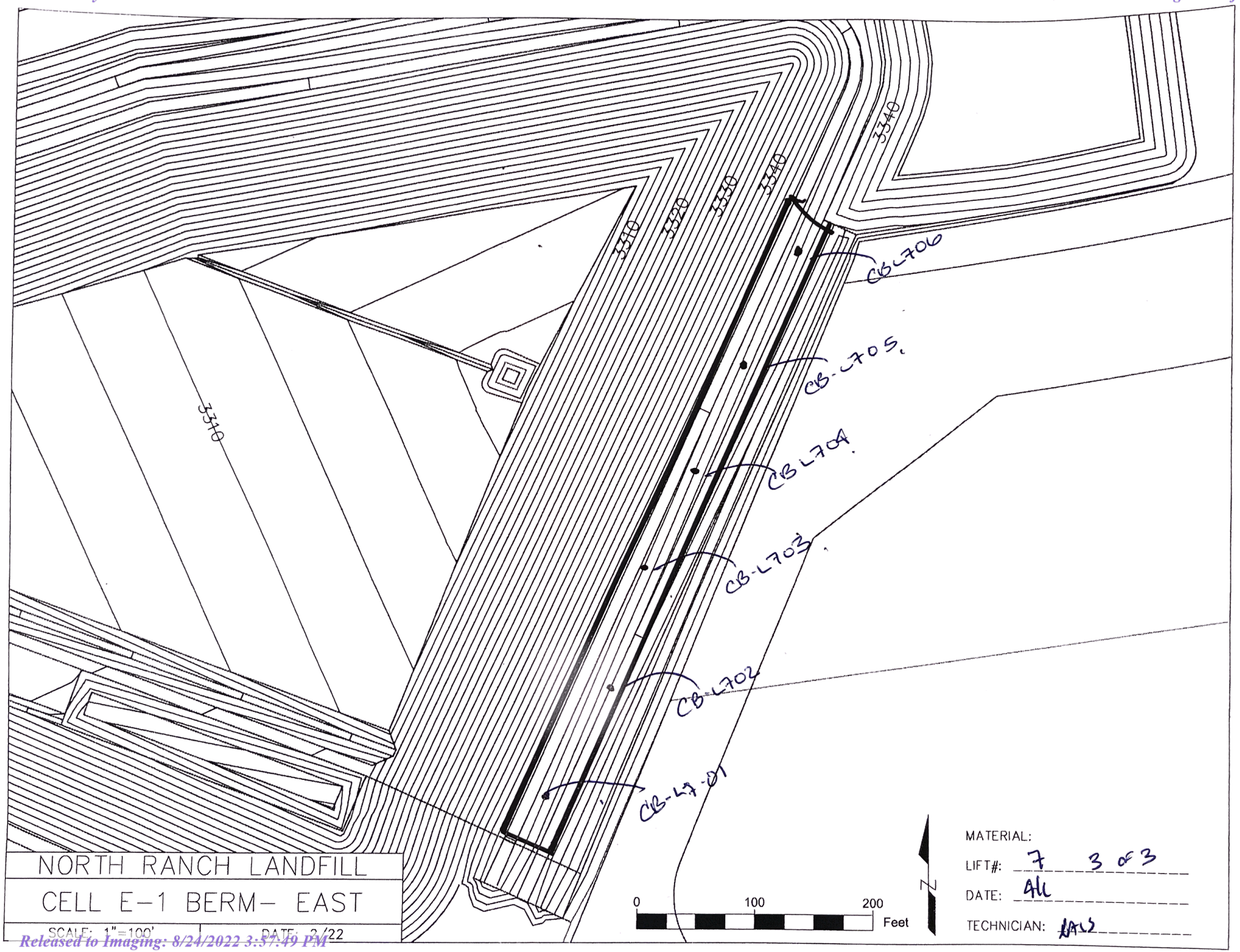
MATERIAL:
LIFT #: 7
2 of 3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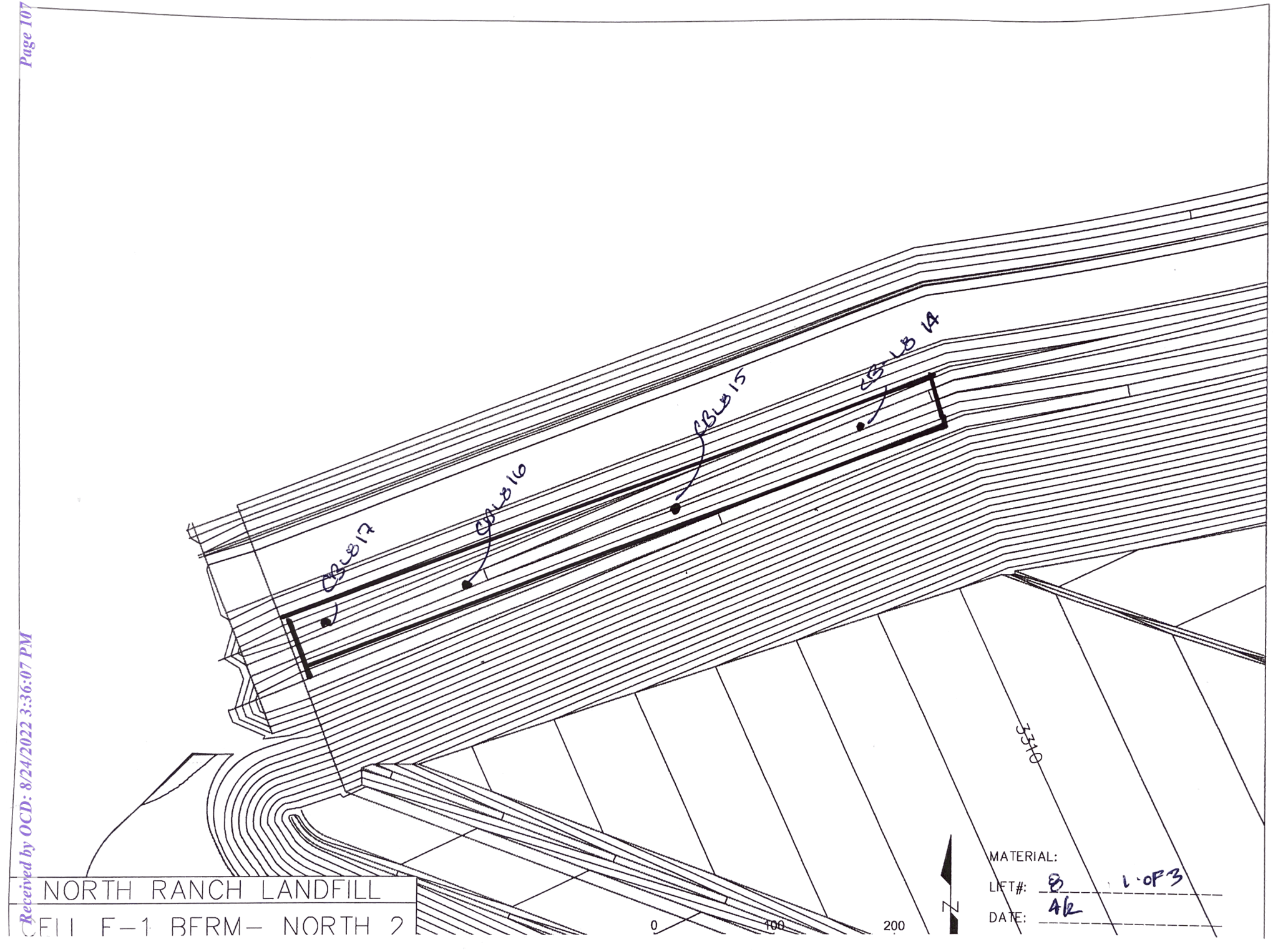
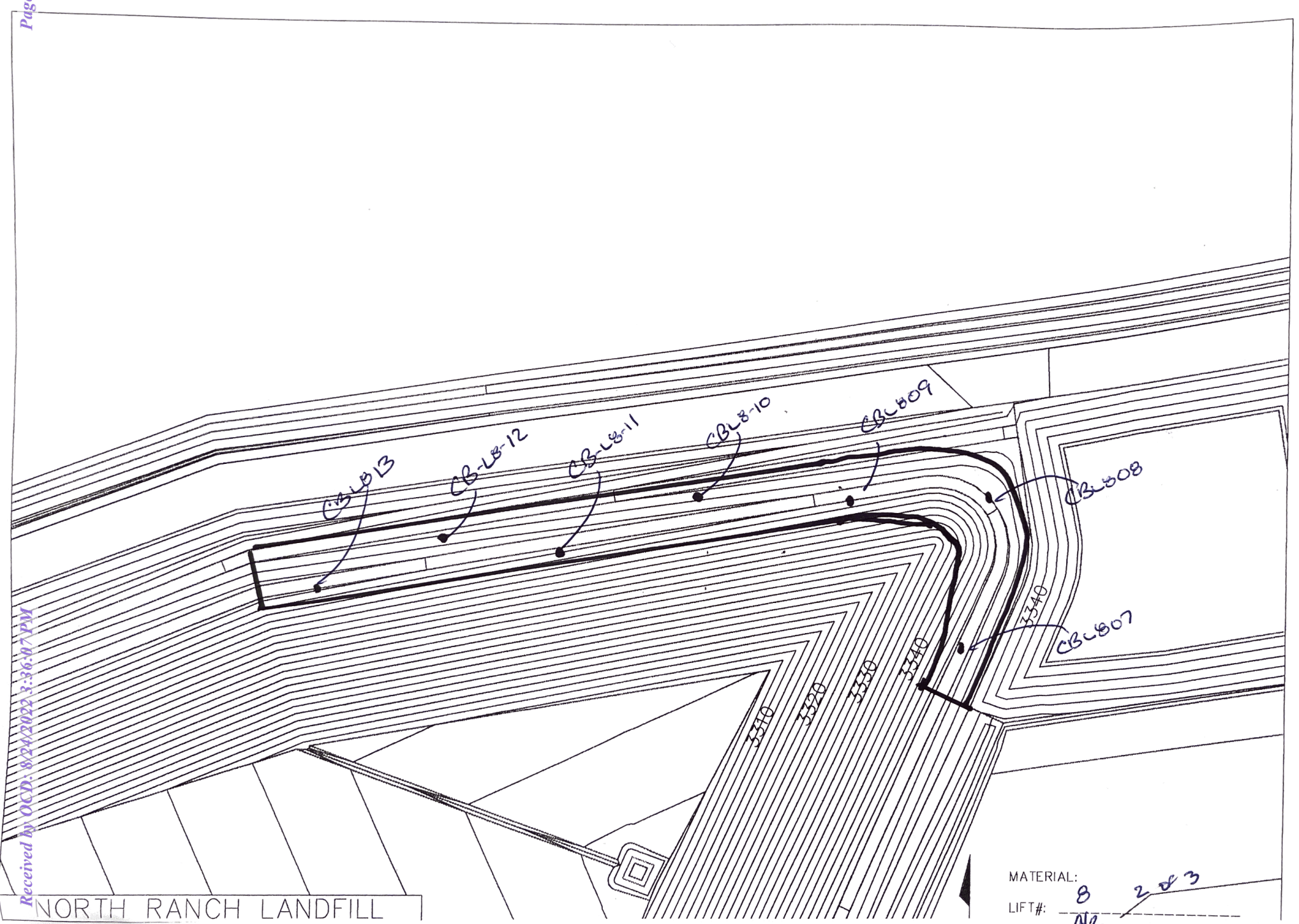
CB-L704
CB-L703
CB-L702
CB-L7-01
NORTH RANCH LANDFILL
CELL E-1 BERM- EAST
SCALE: 1"=100'
DATE: 3/22
0
100
200
Feet
N
MATERIAL:
LIFT#: 7 3 of 3
DATE: 4/6
TECHNICIAN: DAS



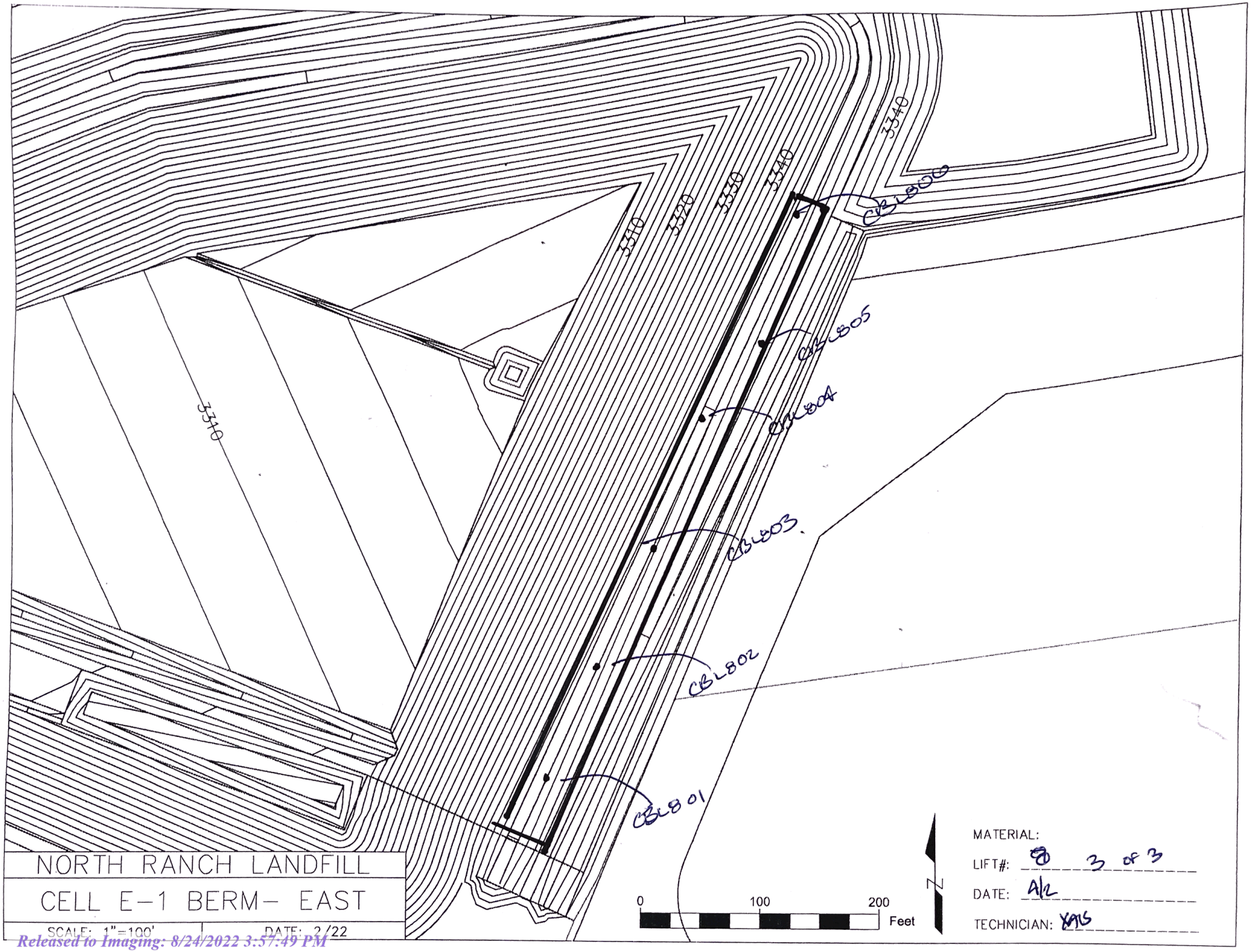


NORTH RANCH LANDFILL

MATERIAL:

LIFT#: 8 2 of 3

9/2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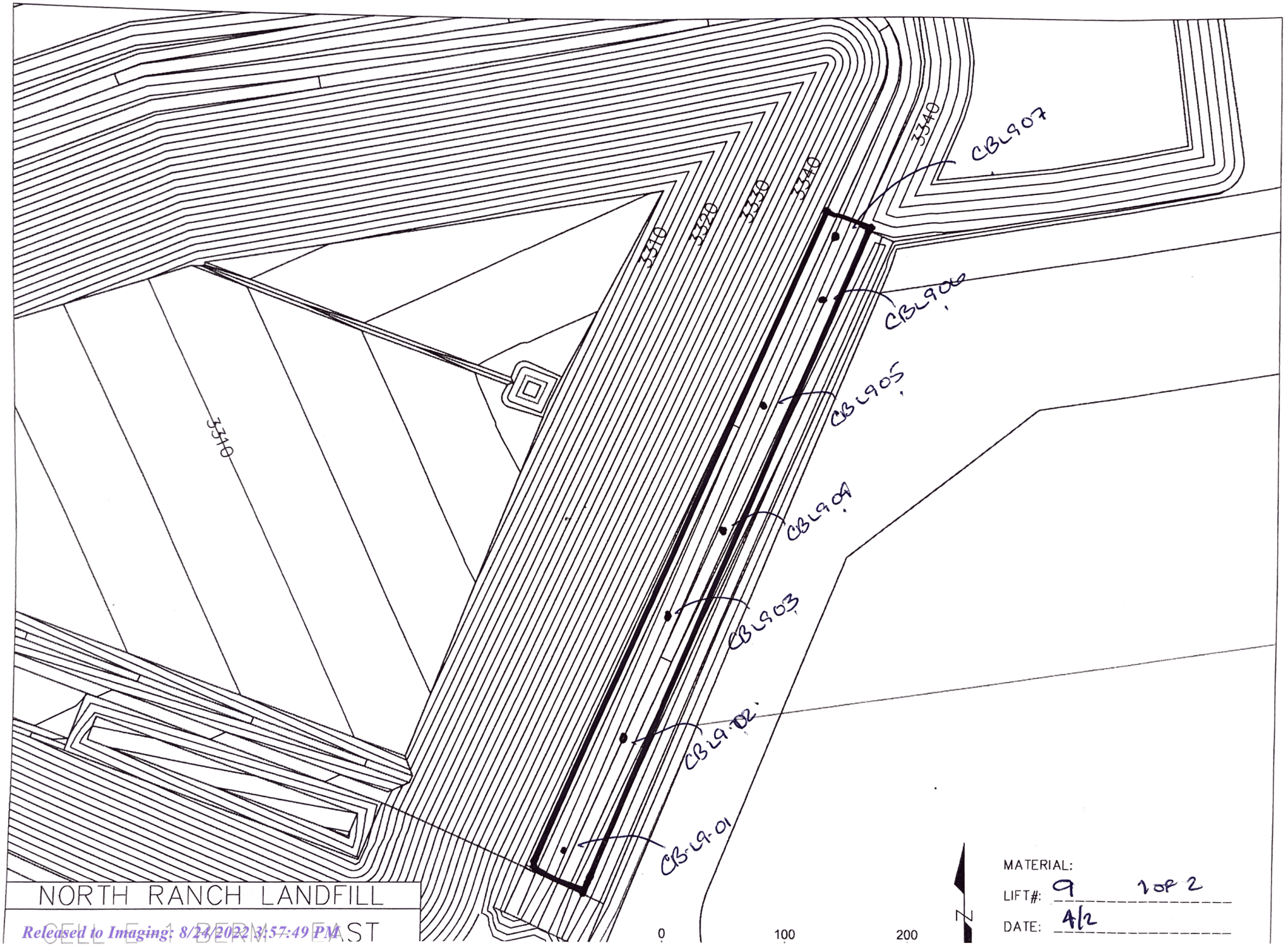
200
Feet
N
MATERIAL:
LIFT#: 3 of 3
DATE: 4/2
TECHNICIAN:
NORTH RANCH LANDFILL
CELL E-1 BERM- EAST
SCALE: 1"=100'
DATE: 2/22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CB-L9-01
NORTH RANCH LANDFILL
CELL E-1 PERIMETER
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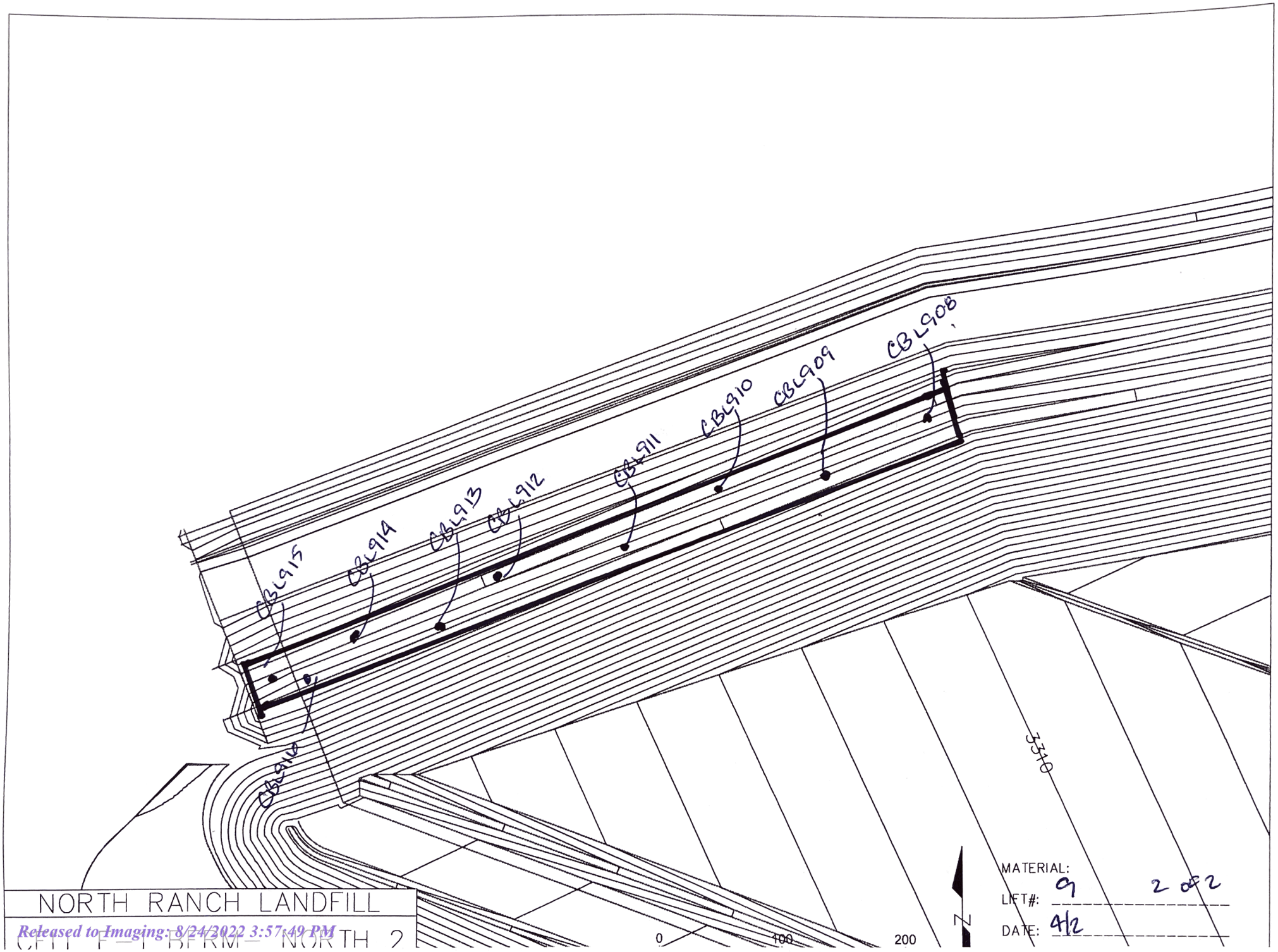
N
MATERIAL:
LIFT#: 9 TOP 2
DATE: 4/2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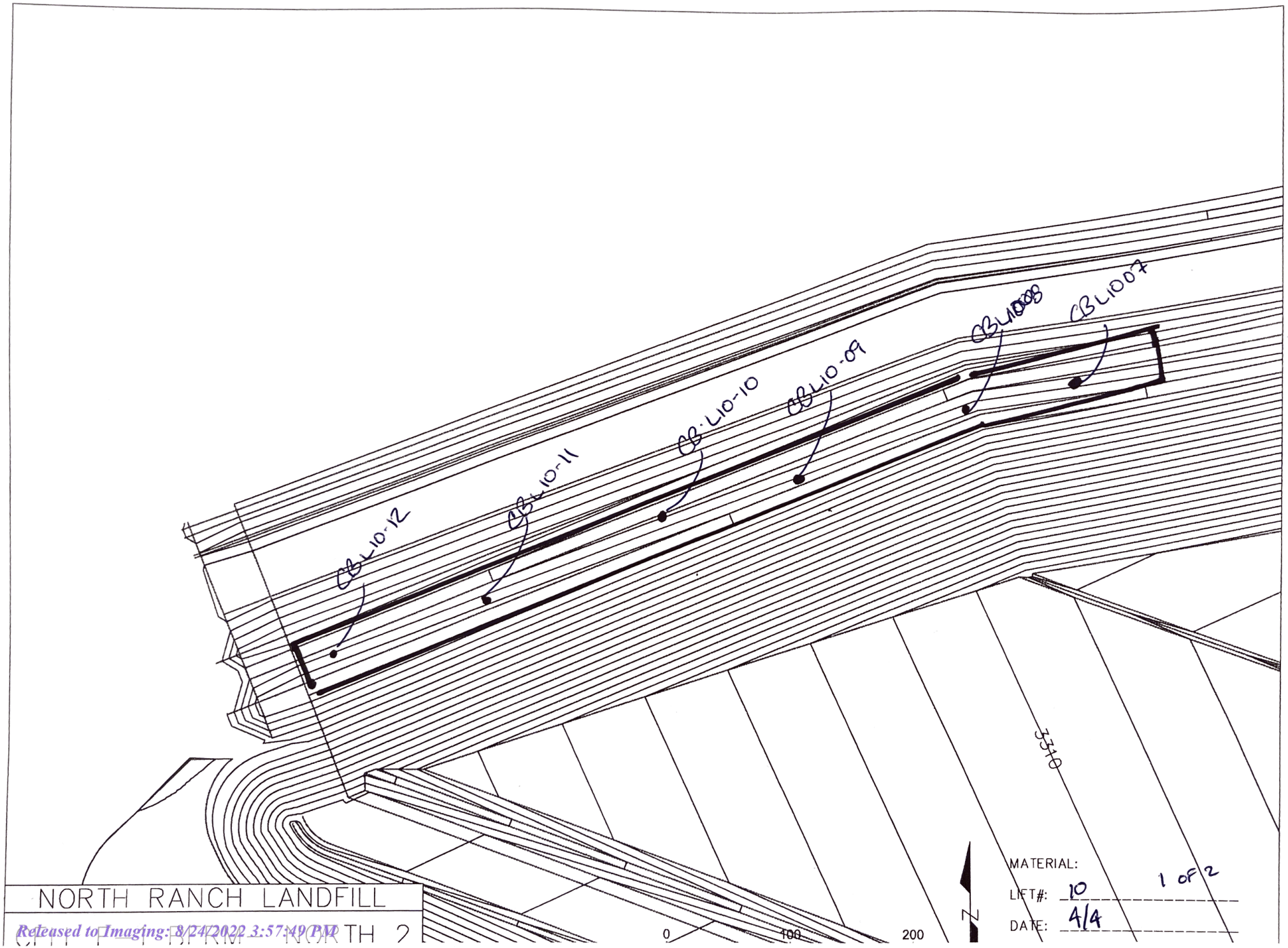
CELL 1 – 1 BERM – NORTH 2
0
100
200
N
MATERIAL:
LIFT#: 9
2 of 2
DATE: 9/2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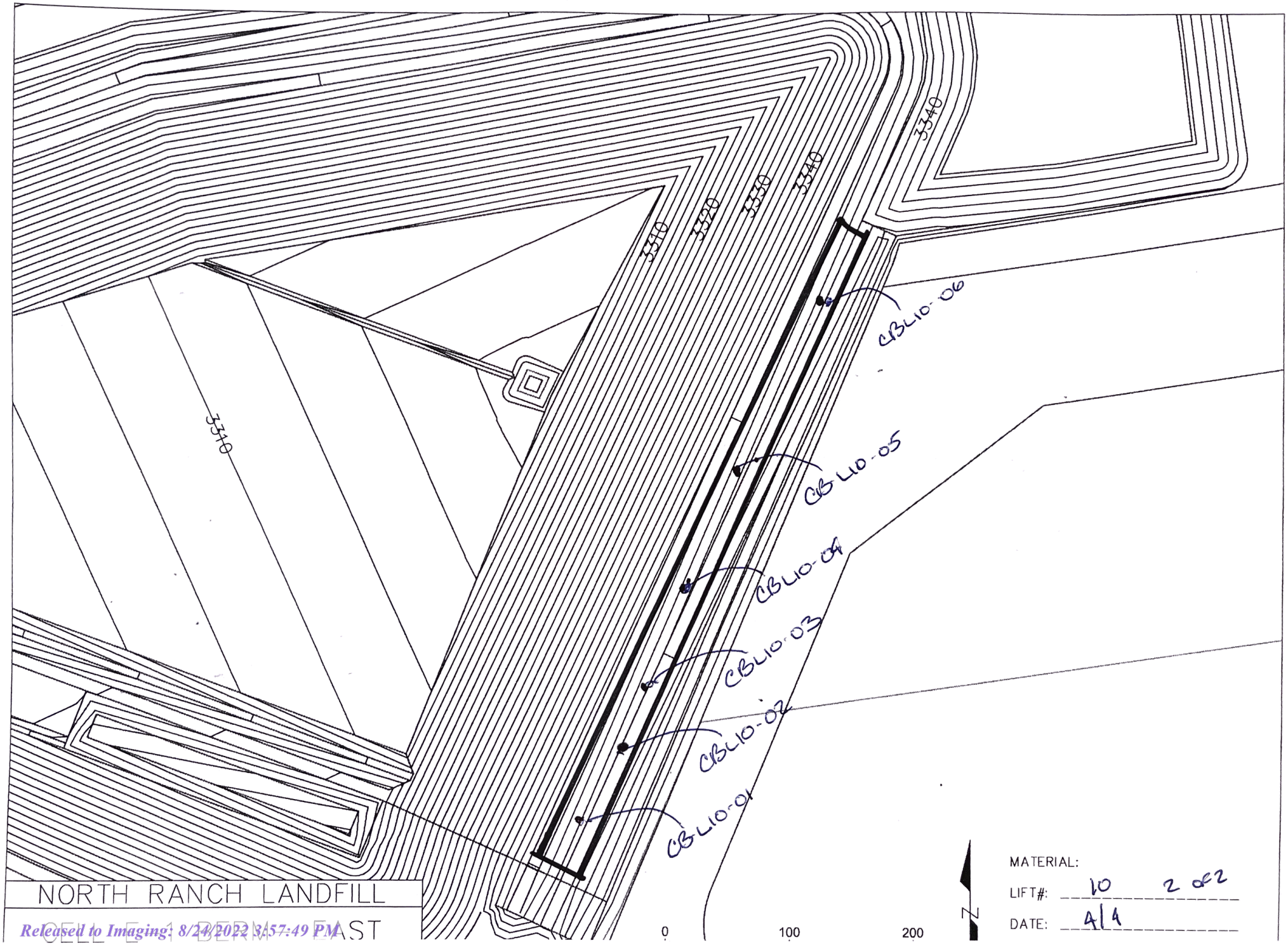
MATERIAL:
LIFT#: 10
DATE: 4/4
1 of 2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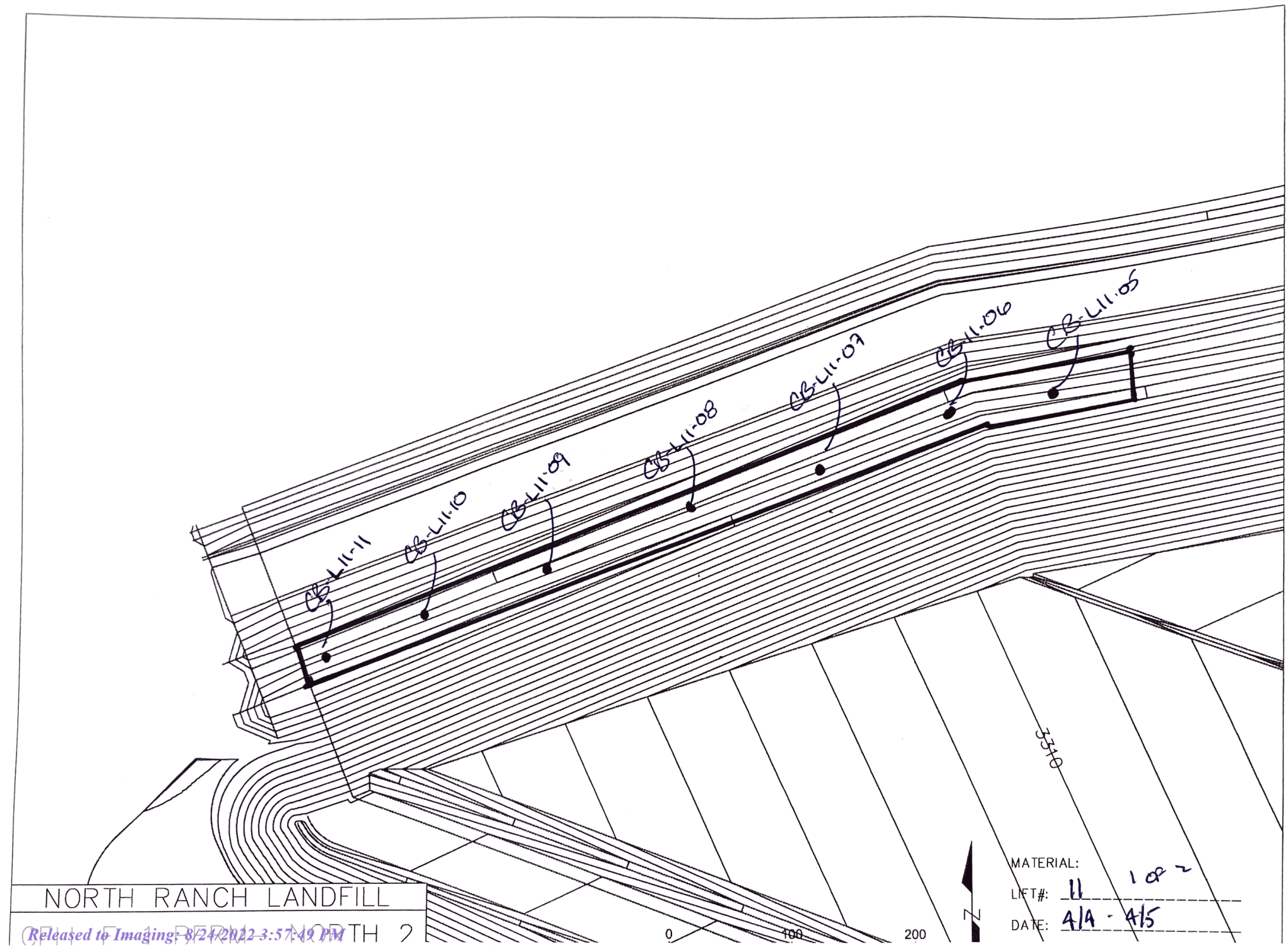
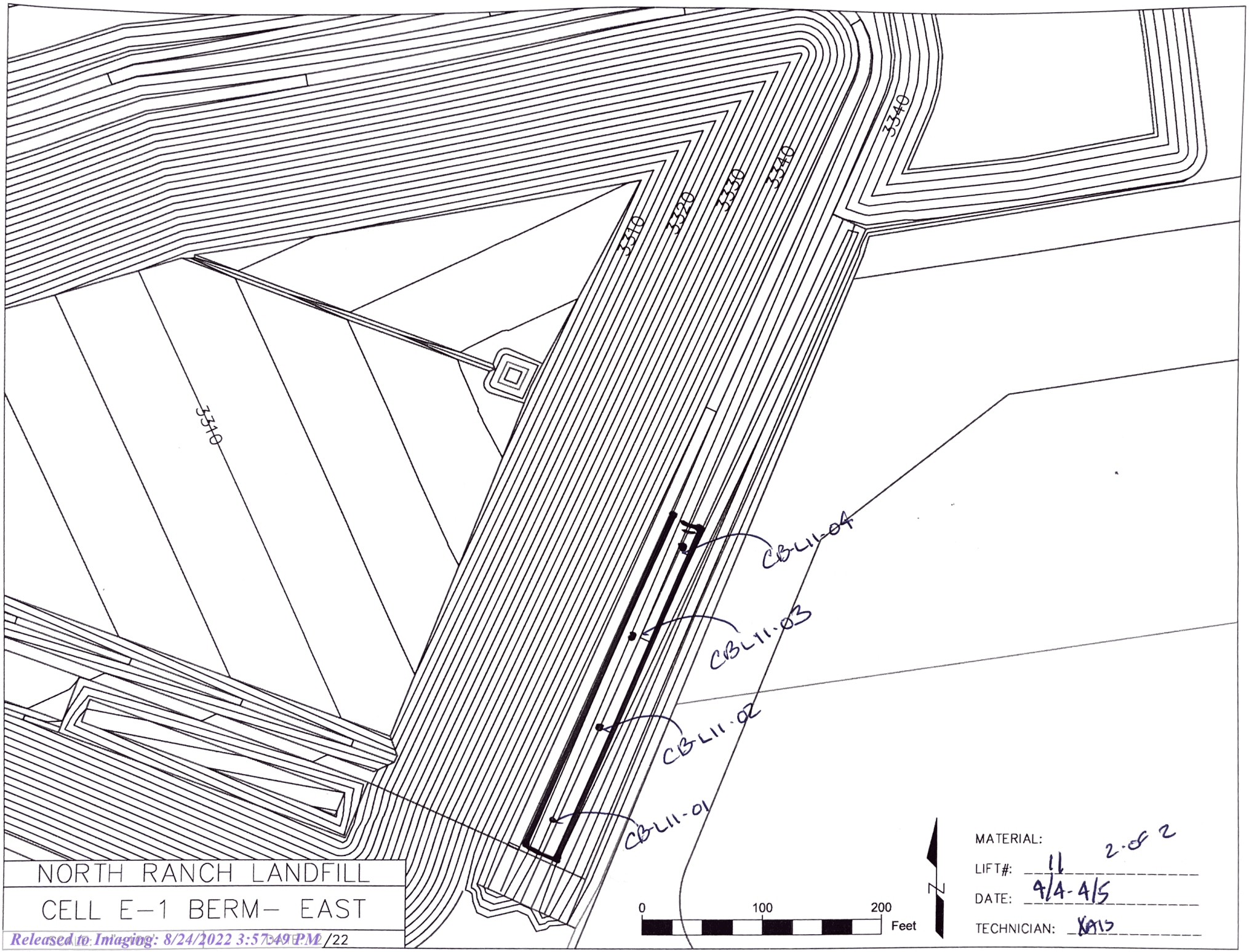
CBL10-01
NORTH RANCH LANDFILL
CELL EAST BERM EAST
0
100
200
N
MATERIAL:
LIFT#: 10 2 of 2
DATE: 4/4



NORTH RANCH LANDFILL

CELL 1 PERIMETER NORTH 2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100
200
Feet
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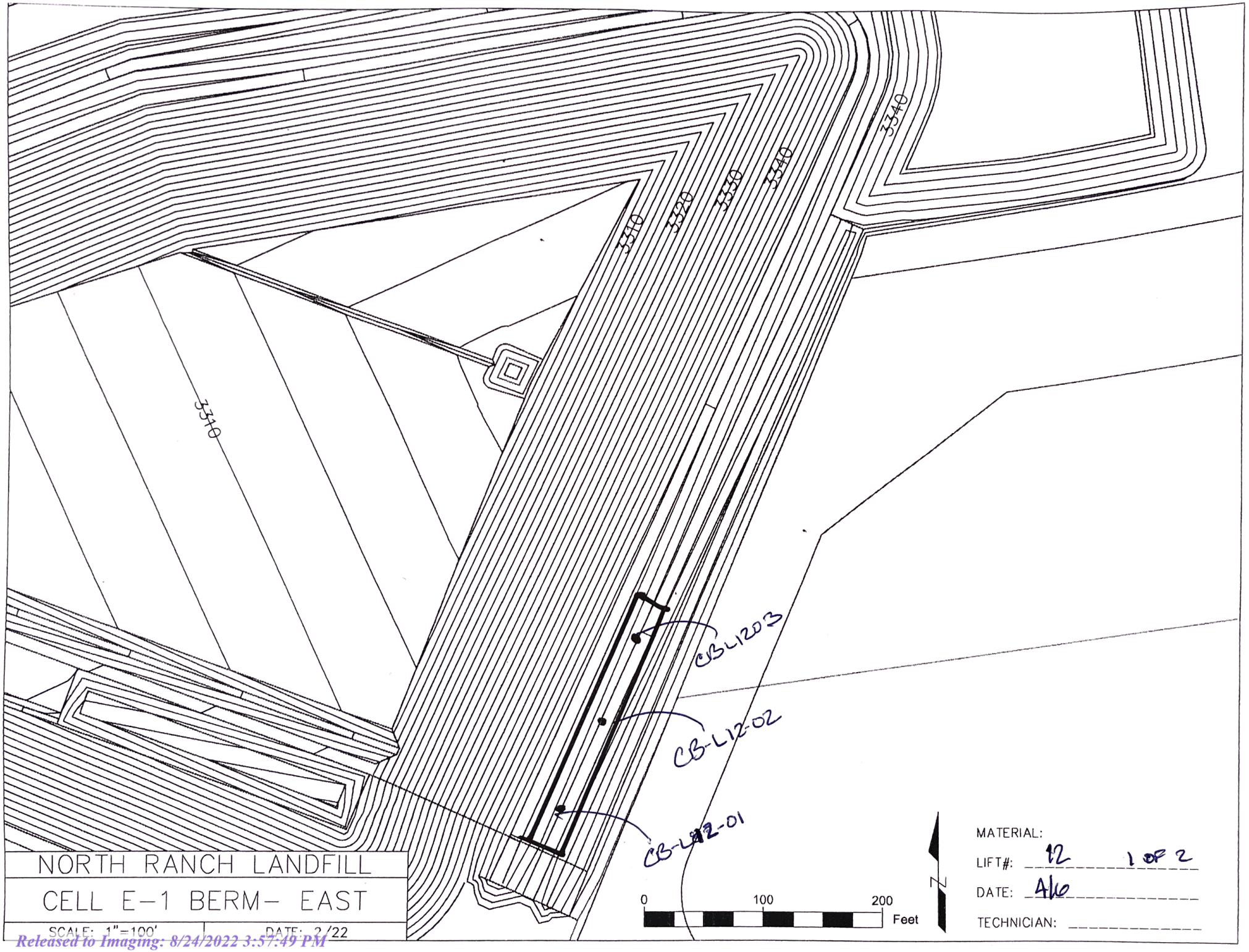
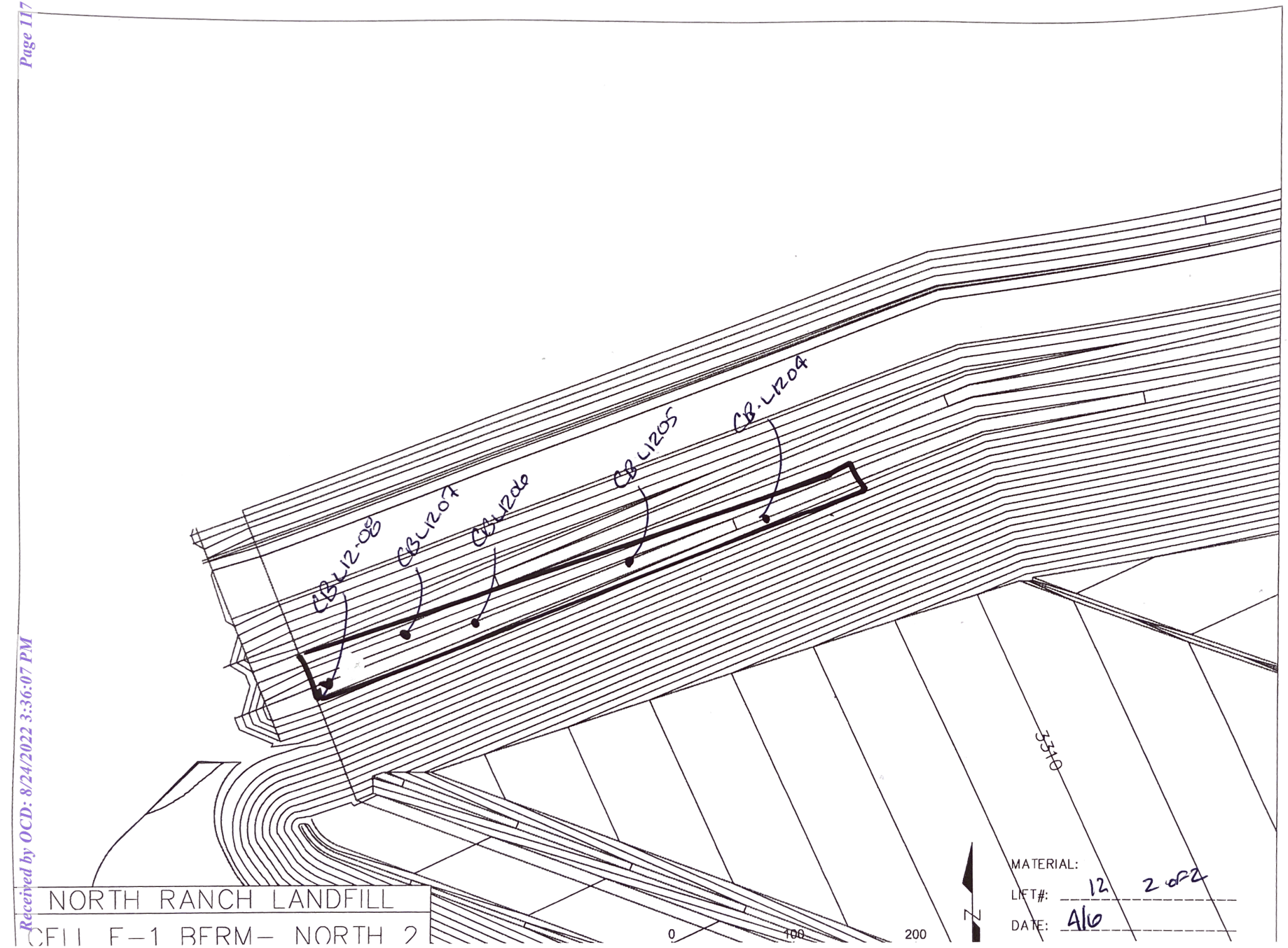
MATERIAL:
LIFT#: 11 2-of 2
DATE: 4/4-4/5
TECHNICIAN: KMS
NORTH RANCH LANDFILL
CELL E-1 BERM- EAST



NORTH RANCH LANDFILL

CELL E-1 BERM- EAST

SCALE: 1"=100' DATE: 2/22



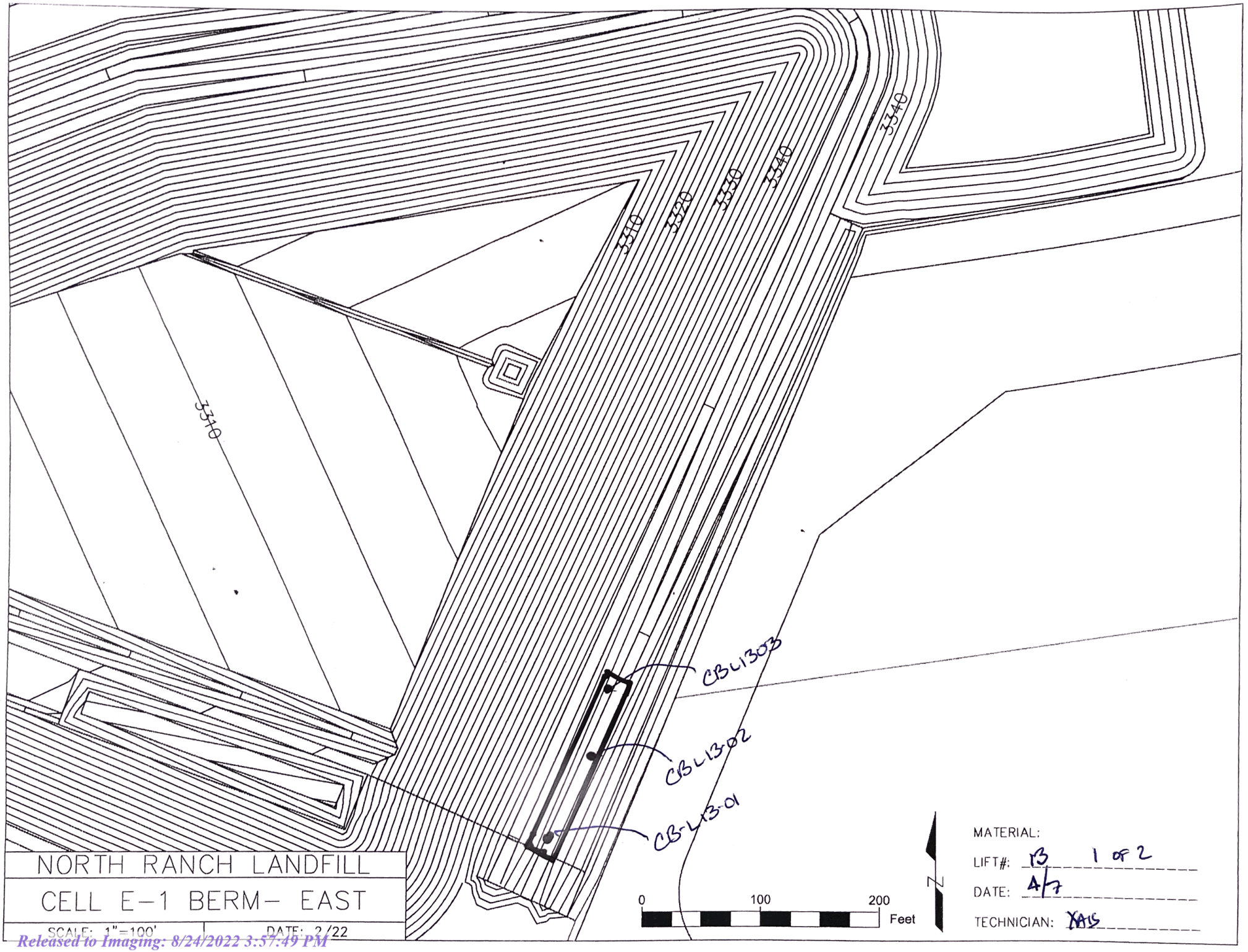
NORTH RANCH LANDFILL

CELL F-1 BERM- NORTH 2

MATERIAL:

LIFT#: 12 2022

DATE: 4/6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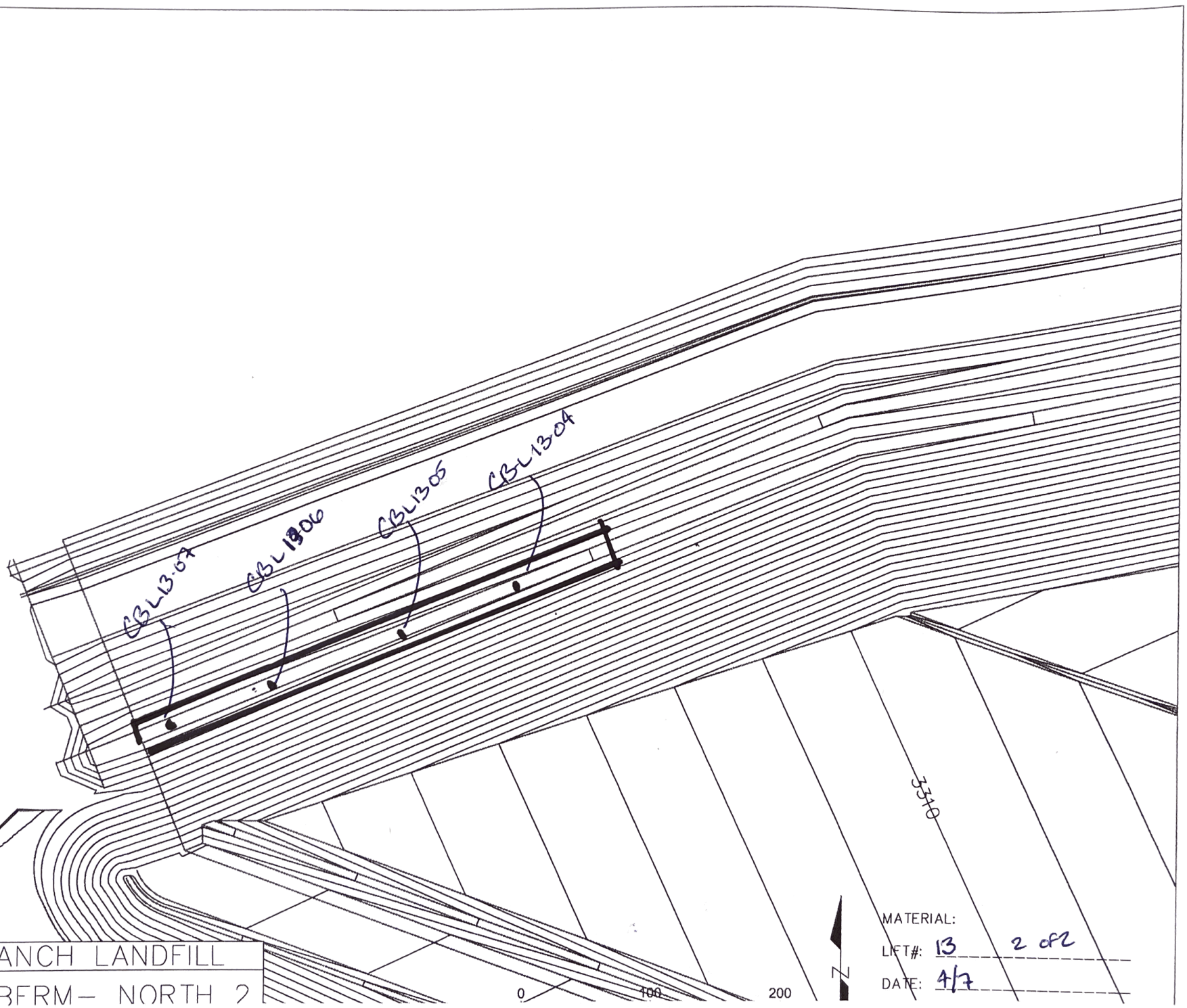
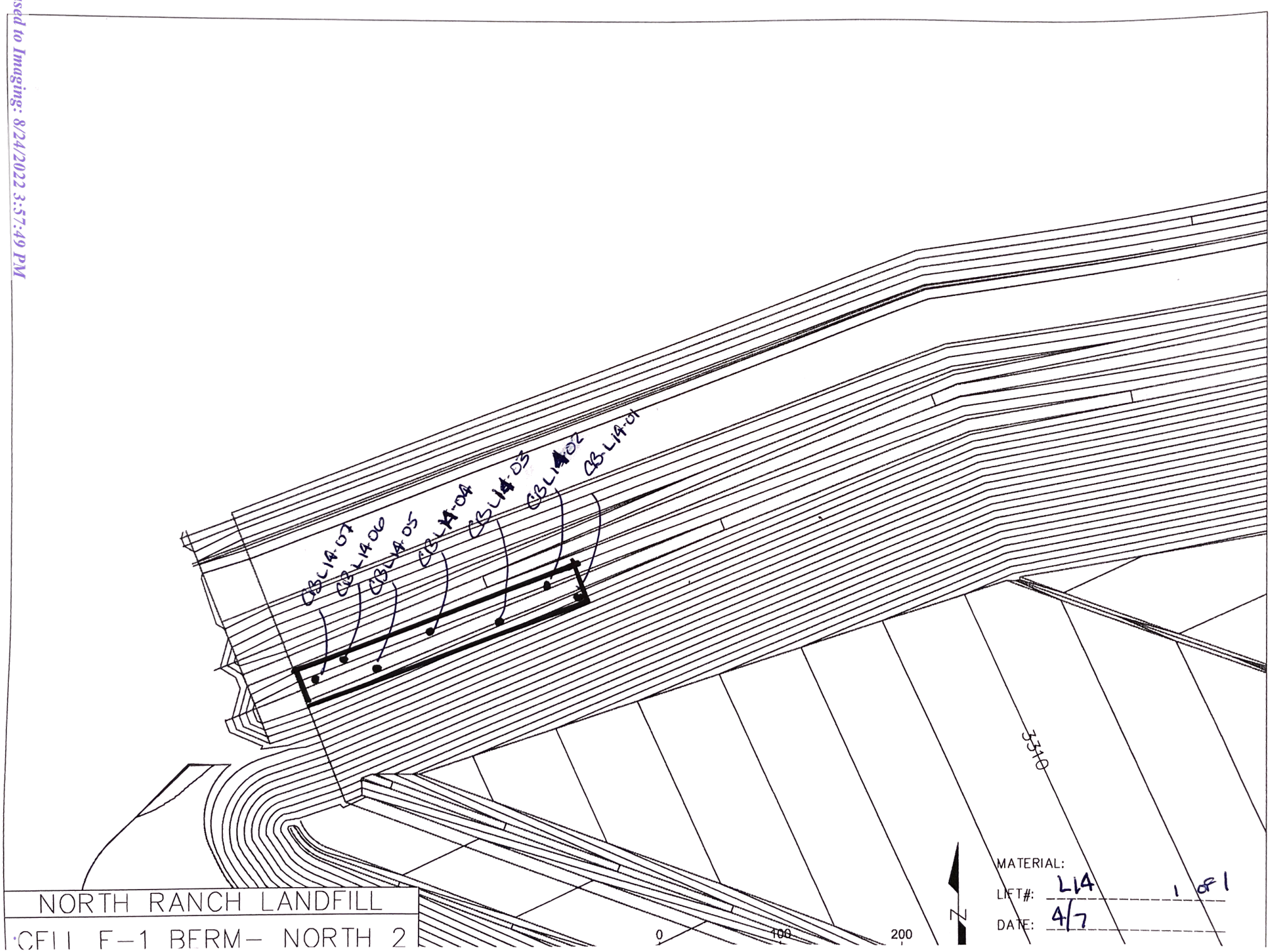
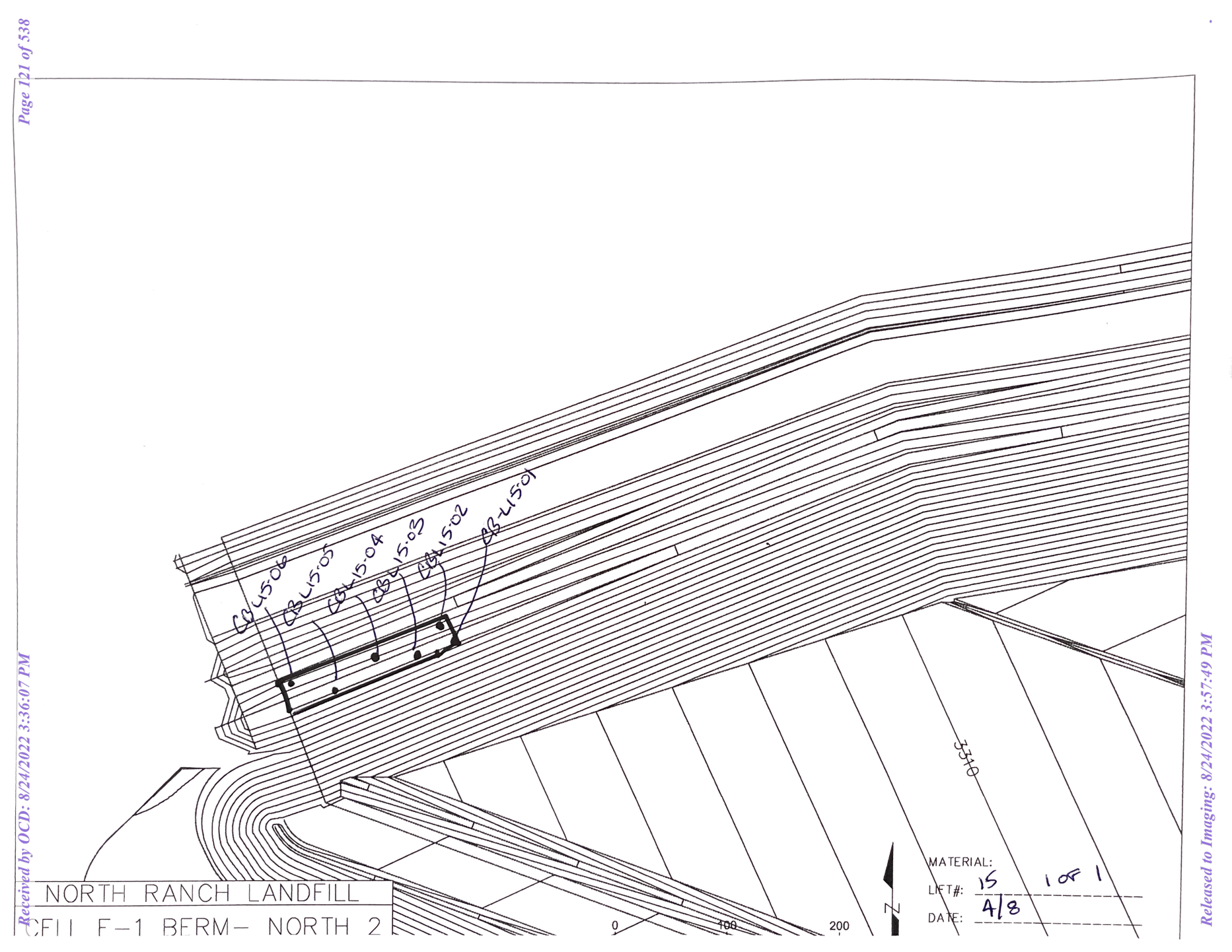
3340
CBL13-03
CBL13-02
CBL13-01
0
100
200
Feet
N
MATERIAL:
LIFT#: 13 1 of 2
DATE: 4/7
TECHNICIAN: XAS
NORTH RANCH LANDFILL
CELL E-1 BERM- EAST
SCALE: 1"=100'
DATE: 2/22

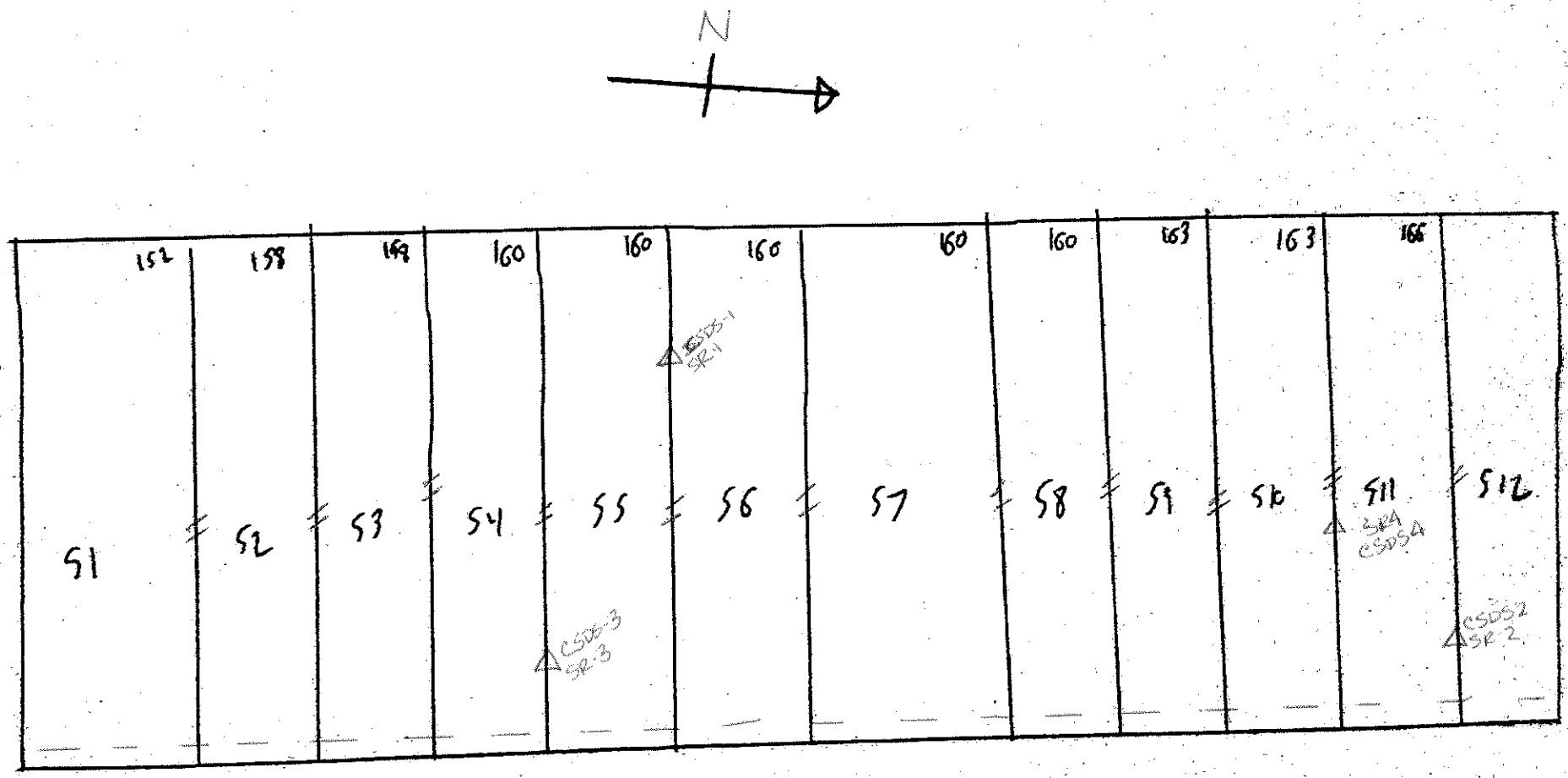


NORTH RANCH LANDFILL
CELL F-1 BERM- NORTH 2





APPENDIX H-4-B:
CQA Field Records – Cell E-1
Geosynthetics - Secondary

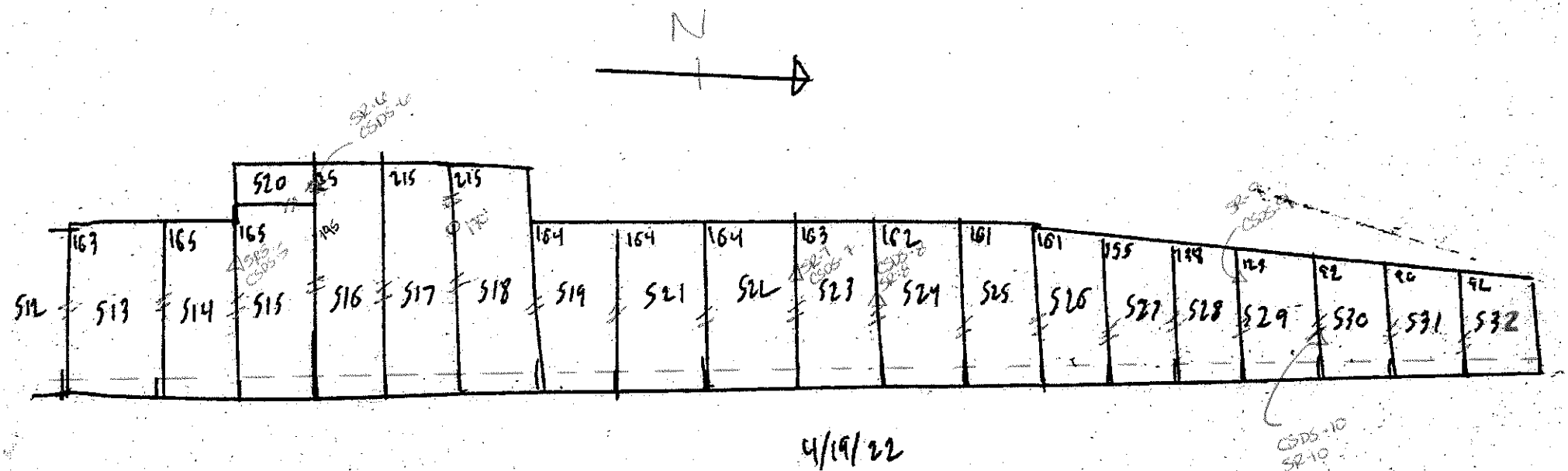


22-SCS-MRL-01

4/18/22

Cell 61 Secondary

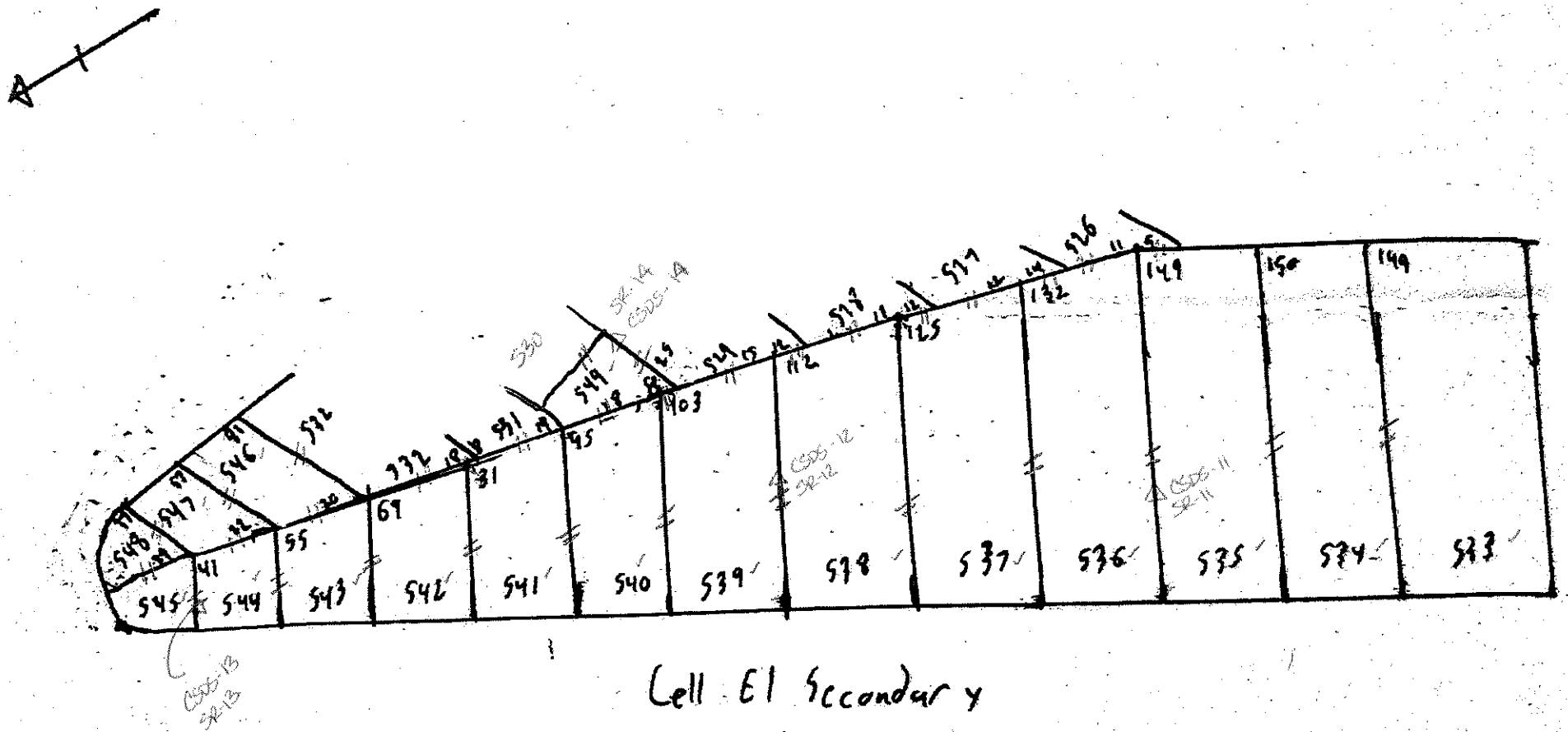
PG 1 OF 10



4/19/22

Cell 61 Secondary

22-SCS-NRL-01

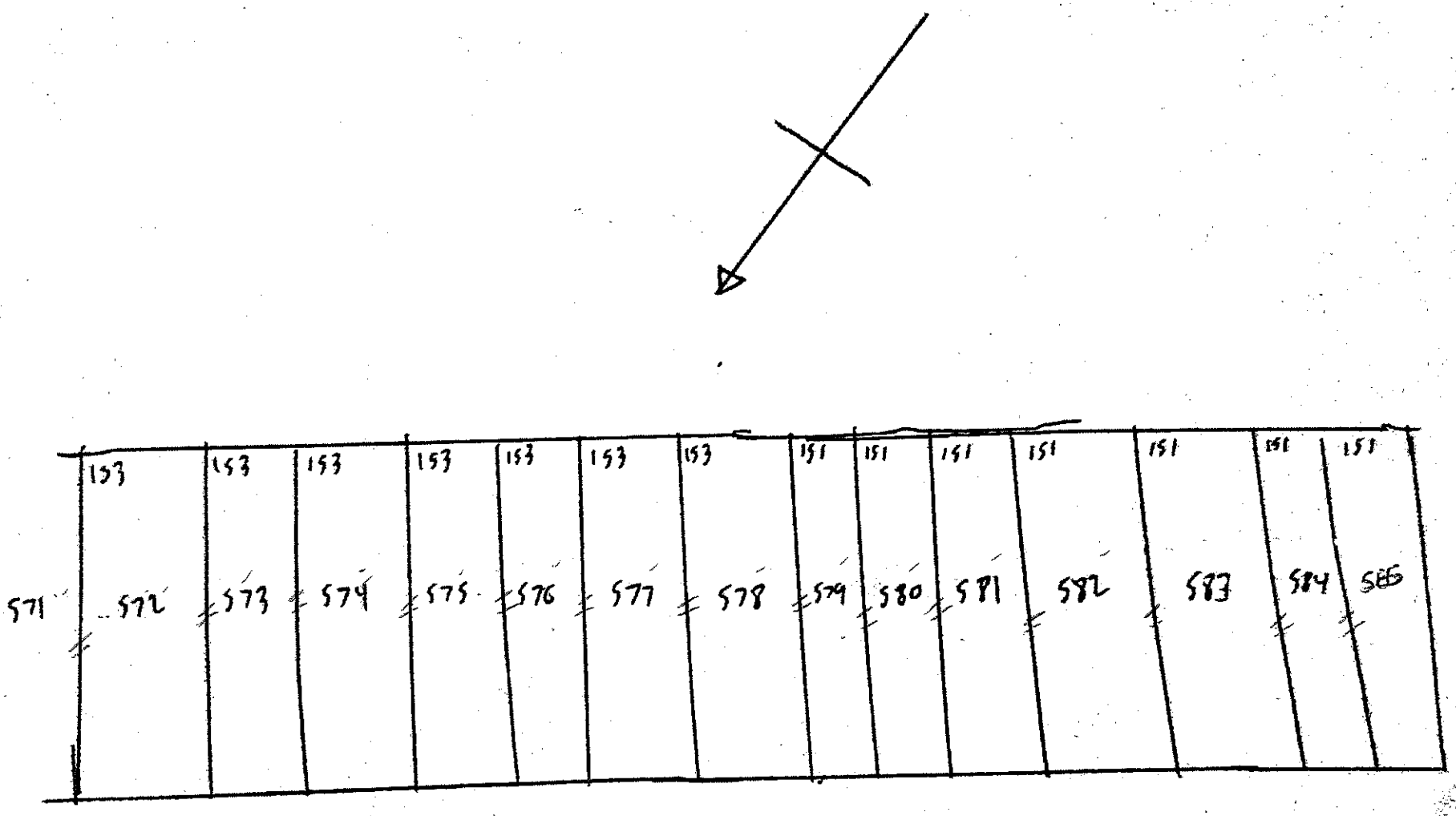


Cell E1 Secondary

4/20/22

2L-SCS-NRL-01

Pg 4 of 10

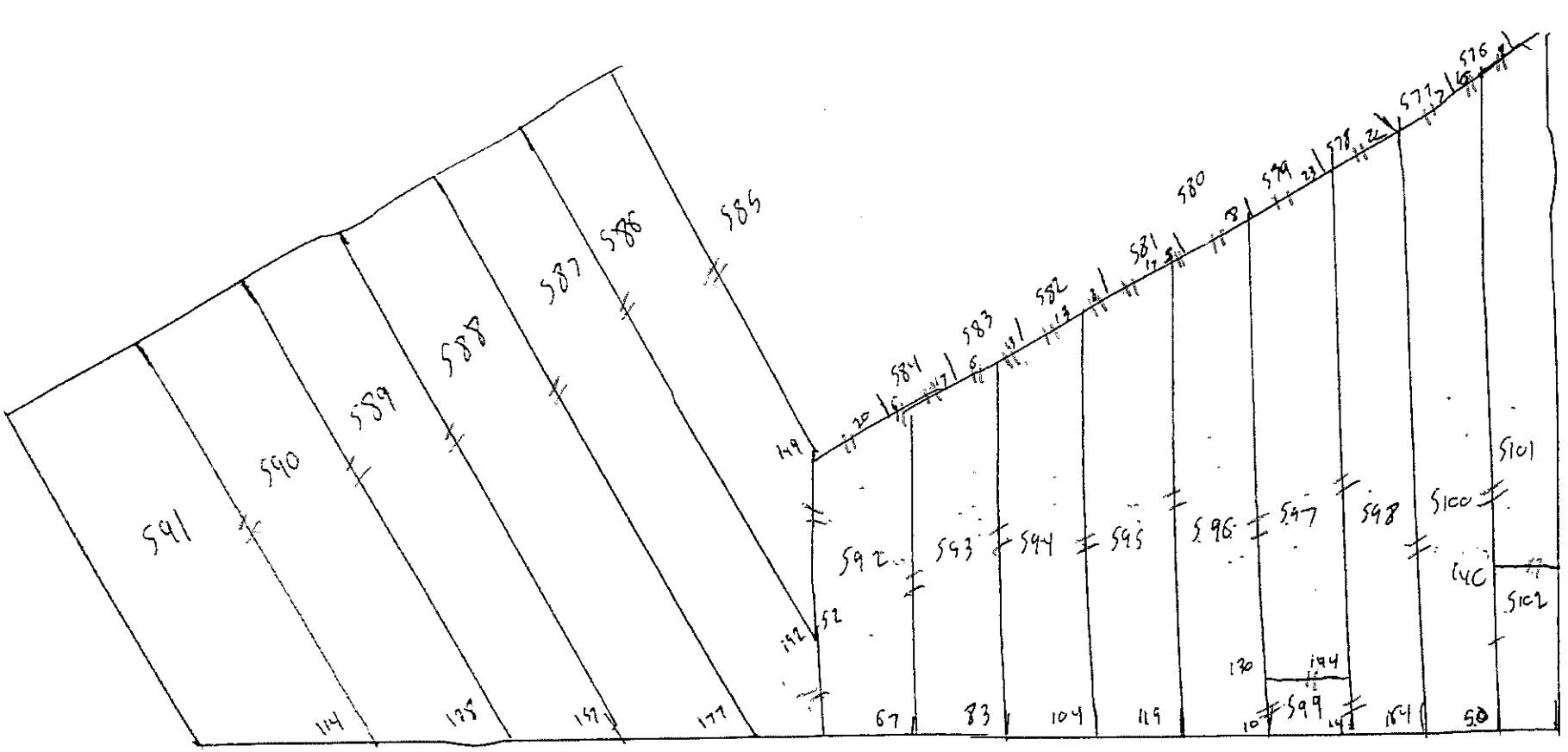


4/13/22

Cell E1 Secondary

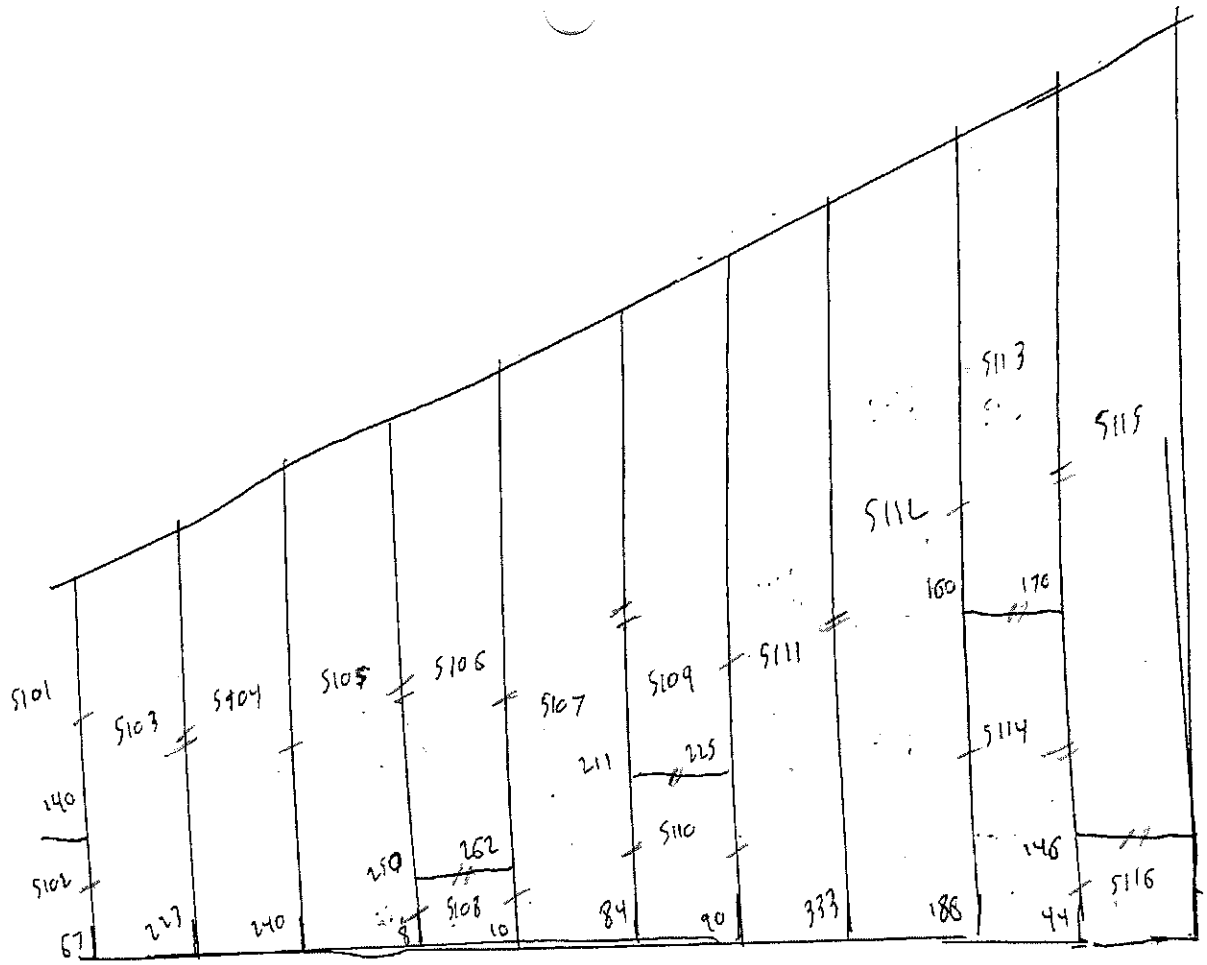
22-SCS-NRL-01

PG (5) OF (10)



4/25/22
27-SCS-NRL-01
Gell El Secondary

PG (6) OF (10)

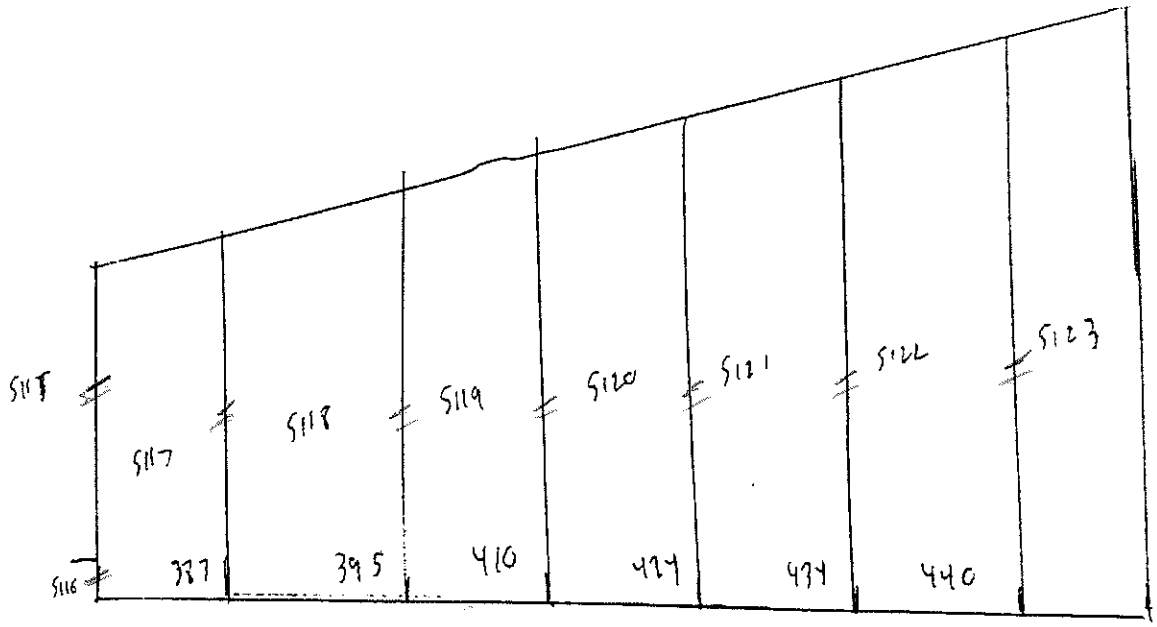


4/26/22

22-SCS-NRL-01

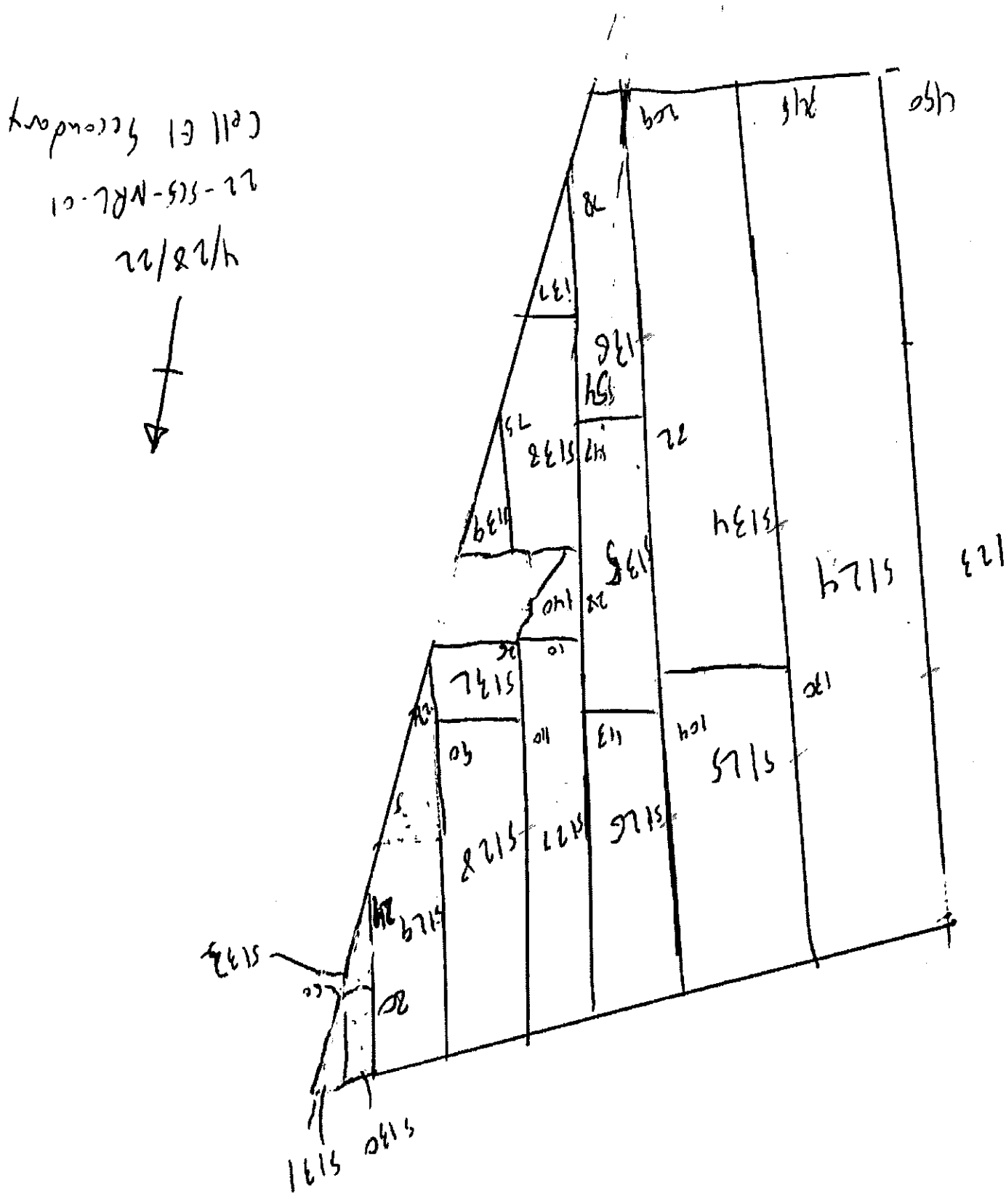
Cell E1 Secondary

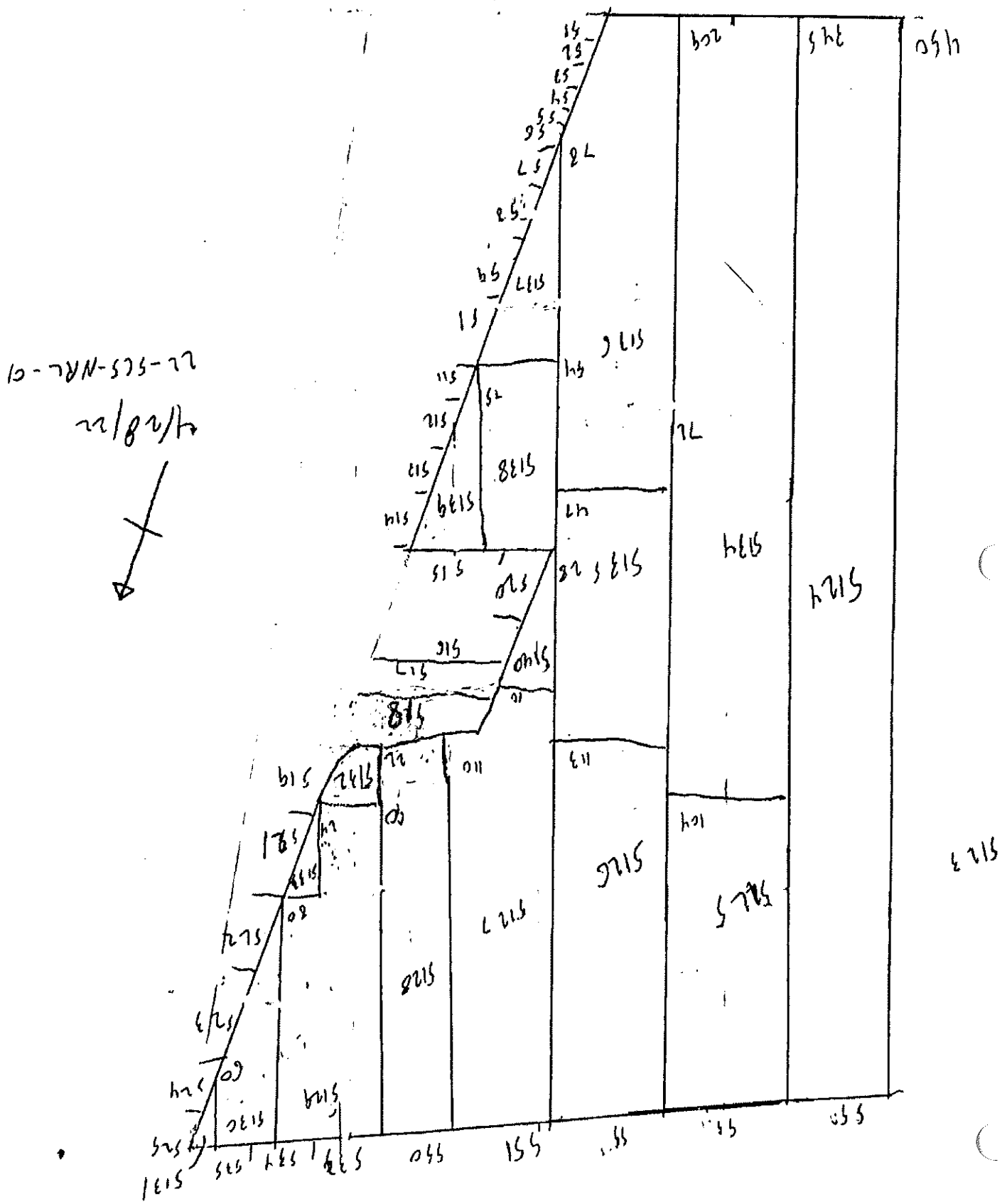
PG (9) OF (10)



4/27/22
22-SCS-NRL-01

Cell E1 Secondary


Cell 61 Secondary
22-525-NRL-01
4/28/22



Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 1 of 9
Date: 4/18/22
Rev. Date:

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1 Secondary

Liner Installer: Mustang

Subgrade covered by panels: S1-S12

Approximate Area (SF): 44160

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments:

Liner Installer's Signature — Date: 4/18/22

Quality Technician's Signature — Date: 4/18/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 2 of 6
Date: 4/19/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 513 – 532

Approximate Area (SF): 69414

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/19/22

Quality Technician's Signature — Date: 4/19/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 3 of 4
Date: 4/20/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 533 - 549

Approximate Area (SF): 36347.5

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Sketch of Approved Area

SEE AS-BUILT SKETCH

4/20/22
Liner Installer's Signature Date

4/20/22
Quality Technician's Signature Date

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 4 of 9
Date: 4/21/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 550 – 571

Approximate Area (SF): 74442

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/21/22

Quality Technician's Signature — Date: 4/21/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 1 of 9
Date: 4/23/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 572 - 585

Approximate Area (SF): 48944

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/23/22

Quality Technician's Signature — Date: 4/23/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: " North Ranch Landfill
Project Number: 22-SCS-NRL-0

Sheet 6 of 9
Date: 4/25/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 586 - 602

Approximate Area (SF): 50 255

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/25/22

Quality Technician's Signature — Date: 4/25/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 7 of 9
Date: 4/26/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 5103 - 5116

Approximate Area (SF): 68784

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/26/22

Quality Technician's Signature — Date: 4/26/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 8 of 9
Date: 4/27/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E

Liner Installer: Mustang

Subgrade covered by panels: S17 - S123

Approximate Area (SF): 67790

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Sketch of Approved Area

SEE AS-BUILT SKETCH

Liner Installer's Signature — Date: 4/27/22

Quality Technician's Signature — Date: 4/27/22

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 9 of 9
Date: 4/29/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Cell E1

Liner Installer: Mustang

Subgrade covered by panels: 5124 - 5140

Approximate Area (SF): 48,283

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Liner Installer's Signature — Date: 4/29/22

Quality Technician's Signature — Date: 4/28/22

Sketch of Approved Area

SEE AS-BUILT SKETCH

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of
Date: 4/18/20

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell H Rr Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Width	Gross Area (SF)	Installed Measurements Length	Installed Width	Installed Area (SF)	Location	Observer	Comments
S1	0102-207960	1316	152	23	3496	152	22.5	3,420	E. Berm	XAIS	
S2	0102-207960	1309	158	23	3634	155	22.5	3,487.5	E. Berm	XAIS	
S3	0102-207960	1340	158	23	3634	158	22.5	3555	E. Berm	XAIS	
S4	0102-207955	1400	160	23	3680	159	22.5	3577.5	E. Berm	XAIS	
S5	0102-207955	1405	160	23	3680	160	22.5	3600	E. Berm	XAIS	
S6	0102-207955	1411	160	23	3680	160	22.5	3600	E. Berm	XAIS	
S7	0102-207959	1422	160	23	3680	160	22.5	3600	E. Berm	XAIS	
S8	0102-207959	1427	160	23	3680	160	22.5	3600	E. Berm	XAIS	
S9	0102-207959	1430	163	23	3749	162	22.5	3645	E. Berm	XAIS	
S10	0102-207961	1443	163	23	3749	163	22.5	3667.5	E. Berm	XAIS	
S11	0102-207961	1451	163	23	3749	163	22.5	3667.5	E. Berm	XAIS	
S12	0102-207961	1456	163	23	3749	163	22.5	3667.5	E. Berm	XAIS	
			Total SF (Page)		44160	Total SF (Page)		43087.5			
			Total SF (Project)		44160	Total SF (Project)		43087.5			

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PG 1 of 9

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of ____
Date: 4/19/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 6 Secondary Material Type: HDPE Thickness: 80 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
S13	3991	1319	165	23	3795	164	22.5	3690	E. Berm	XAIS	
S14	3971	1324	165	23	3795	164	22.5	3690	E. Berm	XAIS	
S15	3971	1329	190	23	4370	178	22.5	4005	E. Berm	XAIS	
S16	3956	1345	215	23	4945	215	22.5	4837.5	E. Berm	YAIS	
S17	3956	1352	215	23	4945	214	22.5	4837.5	E. Berm	XAIS	
S18	3956	1357	212	23	4876	188	22.5	4230	E. Berm	XAIS	
S19	3944	1410	164	23	3772	164	22.5	3690	E. Berm	XAIS	
S20	3992	1421	25	23	575	25	22.5	562.5	Floor	XAIS	
S21	3972	1426	164	23	3772	164	22.5	3690	E. Berm	YAIS	
S22	3932	1431	164	23	3772	164	22.5	3690	E. Berm	XAIS	
S23	3992	1437	163	23	3749	163	22.5	3667.5	E. Berm	XAIS	
S24	3939	1452	162	23	3726	162	22.5	3645	E. Berm	XAIS	
S25	3939	1457	161	23	3709	161	22.5	3622.5	E. Berm	XAIS	
S26	3979	1504	161	23	3703	158	22.5	3555	E. Berm	XAIS	
S27	3926	1520	155	23	3565	147	22.5	3307.5	E. Berm	XAIS	
S28	3926	1526	138	23	3174	132	22.5	2970	E. Berm	XAIS	
S29	3926	1531	125	23	2875	169	22.5	2430	E. Berm	XAIS	
S30	3925	1539	92	23	2116	91	22.5	2047.5	E. Berm	XAIS	
S31	3931	1552	92	23	2116	91	22.5	2047.5	E. Berm	XAIS	
S32	3931	1559	90	23	2070	90	22.5	2025	E. Berm	XAIS	
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			Total SF (Project)		113,574		Total SF (Project)	109,597.5			

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RG (2) of (9)

Client: SCS
Project: NORTH RANCH
Project Number: 22 SCS NRL 01

CQA SOLUTIONS

Sheet 2 of
Date: 4/20/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell F1 Secondary Material Type: HDPE Thickness: 60 MIL Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
537	3931	1315	149	23	3427	149	22.5	3352.5	N. Berm	XAIS	
534	3931	1325	150	23	3450	150	22.5	3375	N. Berm	XAIS	
535	3911	1341	150	23	3450	150	22.5	3375	N. Berm	XAIS	
536	3911	1400	149	23	3427	141	22.5	3172.5	N. Berm	XAIS	
537	3911	1419	132	23	3036	129	22.5	2902.5	N. Berm	XAIS	
538	4008	1430	125	23	2875	119	22.5	2677.5	N. Berm	XAIS	
539	4008	1455	112	23	2576	108	22.5	2430	N. Berm	XAIS	
540	4008	1501	103	23	2369	99	22.5	2227.5	N. Berm	XAIS	
541	4008	1506	95	23	2185	99	22.5	1980	N. Berm	XAIS	
542	3909	1521	91	23	1893	75	22.5	1687.5	N. Berm	XAIS	
543	3909	1527	69	23	1587	62	22.5	1395	N. Berm	XAIS	
544	3909	1533	55	23	1265	48	22.5	1080	N. Berm	XAIS	
545	3909	1541	41	23	943	41	22.5	922.5	N. Berm	XAIS	
546	3909	1555	70	23	1610	64	22.5	1440	E. Berm	XAIS	
547	3909	1609	57	23	1311	47	22.5	1057.5	E. Berm	XAIS	
548	3909	1612	37	23	1425.5	32	22.5	360	E. Berm	XAIS	Triangle
549	3931	1628	25	23	575	18	22.5	405	E. Berm	XAIS	

Total SF (Page)	36,347.5	Total SF (Page)	33,840
Total SF (Project)	149,921.5	Total SF (Project)	147,437.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 9

Client: SCS
Project: NORTH RANCH
Project Number: 22 SCS NRL-01

CQA SOLUTIONS

Sheet 4 of ____
Date: 7/21/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
550	3915	1118	154	23	3542	153	22.5	3442.5	N. Berm	XAIS	
551	3915	1322	154	23	3542	154	22.5	3465	N. Berm	XAIS	
552	3915	1330	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
553	3894	1351	153	23	3519	152	22.5	3420	N. Berm	XAIS	
554	3894	1356	154	23	3542	153	22.5	3442.5	N. Berm	XAIS	
555	3894	1409	154	23	3542	154	22.5	3465	N. Berm	XAIS	
556	3920	1410	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
557	3920	1416	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
558	3920	1420	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
559	3917	1433	154	23	3542	154	22.5	3465	N. Berm	XAIS	
560	3917	1440	154	23	3542	153	22.5	3442.5	N. Berm	XAIS	
561	3917	1506	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
562	3918	1515	152	23	3496	152	22.5	3420	N. Berm	XAIS	
563	3918	1522	152	23	3496	152	22.5	3420	N. Berm	XAIS	
564	3918	1529	152	23	3496	152	22.5	3420	N. Berm	XAIS	
565	3942	1540	152	23	3496	151	22.5	3397.5	N. Berm	XAIS	
566	3942	1545	150	23	3450	149	22.5	3352.5	N. Berm	XAIS	
567	3942	1551	153	23	3519	151	22.5	3397.5	N. Berm	XAIS	
568	3974	1554	153	23	3565	154	22.5	3465	N. Berm	XAIS	
569	3974	1620	74	12	474	79	12	474	N. Berm	XAIS	Triangle
570	3974	1627	155	23	3565	154	22.5	3465	N. Berm	XAIS	
571	3974	1634	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
			Total SF (Page)		74442	Total SF (Page)		72609			
			Total SF (Project)		224767.5	Total SF (Project)		216048.5			

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PG 4 OF 9

Client: XS
Project: NORTH RANCH LF
Project Number: 22-SCS-NRL-21

CQA SOLUTIONS

Sheet ___
Date: 4/1/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
572	3929	0800	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
573	3929	0805	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
574	3929	0809	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
575	3937	0830	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
576	3937	0837	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
577	3937	0842	153	23	3519	153	22.5	3442.5	N. Berm	XAIS	
578	3927	0915	153	23	3519	152	22.5	3420	N. Berm	XAIS	
579	3927	0921	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
580	3927	0926	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
581	3934	1030	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
582	3934	1035	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
583	3934	1042	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
584	3896	1300	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	
585	3896	1305	151	23	3473	151	22.5	3397.5	N. Berm	XAIS	

	Gross		Installed
Total SF (Page)	48944	Total SF (Page)	47857.5
Total SF (Project)	273107.5	Total SF (Project)	263904

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PG 5 of 9

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

Sheet ____ of ____
Date: 4/25/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 61 Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
S76		0800	192	23	4416	171	22.5	3847.5	N. Berm	XAIS	
S77		0815	192	23	4416	185	22.5	4162.5	N. Berm	XAIS	
S78		0830	177	23	4071	167	22.5	3757.5	N. Berm	XAIS	
S79		0845	157	23	3611	148	22.5	3330	N. Berm	XAIS	
S80		0900	138	23	3174	126	22.5	2835	N. Berm	XAIS	
S81		0915	114	23	2622	114	22.5	2565	N. Berm	XAIS	
S82		1330	67	23	1541	60	22.5	1350	Floor	XAIS	
S83		1335	83	23	1909	75	22.5	1687.5	Floor	XAIS	
S84		1345	101	23	2323	94	22.5	2115	Floor	XAIS	
S85		1400	119	23	2737	112	22.5	2520	Floor	XAIS	
S86		1415	140	23	3220	130	22.5	2925	Floor	XAIS	
S87		1430	134	23	3312	137	22.5	3082.5	Floor	XAIS	
S88		1445	167	23	3772	161	22.5	3622.5	Floor	XAIS	
S89		1500	14	23	322	12	22.5	270	Floor	XAIS	
S100		1515	190	23	4370	177	22.5	3982.5	Floor	XAIS	
S101		1530	140	23	3220	140	22.5	3150	Floor	XAIS	
S102		1545	50	23	1150	50	22.5	1125	Floor	XAIS	

Total SF (Page)	50255	Total SF (Page)	46327.5
Total SF (Project)	923,562.5	Total SF (Project)	310,291.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: North Ranch
Project Number: 22-SCS-NRL-01

Sheet ___ of ___
Date: 7/26/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell F1 Sump Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
S103	3430	1310	223	23	5129	215	22.5	4837.5	Floor	XAIS	
S104	3350	1315	240	23	5520	272	22.5	5220	Floor	XAIS	
S105	3273	1340	257	23	5911	249	22.5	5602.5	Floor	XAIS	
S106	3196	1345	262	23	6026	256	22.5	5760	Floor	XAIS	
S107		1420	293	23	6739	283	22.5	6367.5	Floor	XAIS	
S108		1425	10	23	230	9	22.5	202.5	Floor	XAIS	
S109		1440	225	23	5175	218	22.5	4905	Floor	XAIS	
S110		1449	90	23	2070	97	22.5	1957.5	Floor	XAIS	
S111		1520	333	23	7659	326	22.5	7335	Floor	XAIS	
S112		1550	345	23	7935	339	22.5	7627.5	Floor	XAIS	
S113		1610	170	23	3910	165	22.5	3712.5	Floor	XAIS	
S114		1650	190	23	4370	188	22.5	4230	Floor	XAIS	
S115		1645	316	23	7268	316	22.5	7110	Floor	XAIS	
S116		1700	44	23	1012	44	22.5	990	Floor	XAIS	
			Total SF (Page)		68784		Total SF (Page)		65857.5		
			Total SF (Project)		391,346.5		Total SF (Project)		376,039		

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Client: SCS
Project: North Ranch
Project Number: 22-SCS-NRL-Ø1

CQA SOLUTIONS

Sheet ____ of ____
Date: 4/27/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Secondary Material Type: HDPE Thickness: 60mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
5117	3446	1300	387	23	8901	358	22.5	8055	Floor	XAIS	
5118	3447	1315	395	23	9085	391	22.5	8797.5	Floor	XAIS	
5119	3449	1330	410	23	9430	402	22.5	9045	Floor	XAIS	
5120	3454	1345	424	23	9752	417	22.5	9382.5	Floor	XAIS	
5121	3458	1400	434	23	9982	429	22.5	9652.5	Floor	XAIS	
5122	3461	1415	440	23	10120	437	22.5	9832.5	Floor	XAIS	
5123	3473	1435	440	23	10120	440	22.5	9900	Floor	XAIS	
				Total SF (Page)	67,390		Total SF (Page)	64,665			
				Total SF (Project)	459,736.5		Total SF (Project)	440,754			

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Client: SCS Engineers
Project:
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet ____ of ____
Date: 4/27/30

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 01 Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
S114	3945	1506	450	23	10,350	445	22.5	10012.5	Floor	XAIS	
S115	3946	1309	135	23	3,105	130	22.5	2925	Floor	XAIS	
S116	3899	1309	113	23	2,599	109	22.5	2452.5	Floor	XAIS	
S117	3947	1314	113	23	2,599	112	22.5	2520	Floor	XAIS	
S118	3944	1318	112	23	2,576	111	22.5	2497.5	Floor	XAIS	
S119	3914	1330	104	23	2,392	97	22.5	2182.5	Floor	XAIS	
S120	3958	1345	80	23	1840	60	22.5	1350	Floor	XAIS	
S121		1350	40	12	480	40	12	480	Floor	XAIS	Triangle
S122		1357	26	23	598	24	22.5	540	Floor	XAIS	
S123		1406	24	23	552	24	22.5	540	Floor	XAIS	Triangle
S124		1419	347	23	7981	34.6	22.5	7785	Floor	XAIS	
S125		1430	117	23	2691	114	22.5	2565	Floor	XAIS	
S126		1439	201	23	4623	166	22.5	3735	Floor	XAIS	
S127		1446	78	23	1794	78	22.5	1755	Floor	XAIS	Triangle
S128		1457	101	23	2323	88	22.5	1980	Floor	XAIS	
S129		1506	75	20	1500	75	20	1506	Floor	XAIS	Triangle
S140		1530	28	10	280	28	10	256	Floor	XAIS	Triangle
			Total SF (Page)		48,283		Total SF (Page)		45,100		
			Total SF (Project)				Total SF (Project)				

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PG 9 of 9

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

Sheet 1 of 13
Date: 4/18/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Machine	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
72	WL	SL	1320	F	S	S	850	6	—	—	107	-	121	-	140	-	P	XATS	
											118	-	129	-	146	-			
											98	-	108	-	138	-			
											112	-	126	-	130	-			
											121	-	120	-	142	-			
72	WL	CK	1325	F	S	S	850	6			119	-	127	-	135	-	P	XATS	
											121	-	109	-	140	-			
											108	-	118	-	138	-			
											106	-	117	-	137	-			
											124	-	115	-	146	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22CS-NRL-01

CQA

Sheet 2 of 13
Date: 4/19/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Machine	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside: PPI	Peel: Coupon Inside: %	Peel: Coupon Outside: PPI	Peel: Coupon Outside: %	Shear: Coupon: PPI	Shear: Coupon: Elong. %	Pass/Fail	Observer	Comments
73	W2	SL	1305	F	S	S	850	6			108	-	126	-	144	-	P	XAJS	
											107	-	120	-	140	-			
											116	-	108	-	134	-			
											94	-	117	-	146	-			
											127	-	121	-	142	-			
73	W8L	CK	1308	F	S	S	850	6			117	-	117	-	144	-	P	XAJS	
											115	-	126	-	147	-			
											112	-	119	-	130	-			
											121	-	124	-	139	-			
											125	-	118	-	145	-			
75	W8L	CK	1425	F	T	T	850	6			107	-	121	-	140	-	P	XAJS	
											108	-	106	-	145	-			
											112	-	120	-	138	-			
											110	-	125	-	142	-			
											123	-	119	-	147	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRC-01

Sheet 3 of 13
Date: 4/28/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Machine	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside: PPI	Peel: Coupon Inside: %	Peel: Coupon Outside: PPI	Peel: Coupon Outside: %	Shear: Coupon: PPI	Shear: Coupon: Elong. %	Pass/Fail	Observer	Comments
74	WL	SC	1310	F	5	5	350	6			109	-	121	-	145	-	P	XXXS	
											117	-	105	-	150	-			
											123	-	106	-	149	-			
											99	-	99	-	137	-			
											107	-	111	-	130	-			
74	WL	SC	1314	F	7	7	350	5			109	-	120	-	136	-	P	XXXS	
											117	-	118	-	190	-			
											124	-	102	-	138	-			
											98	-	107	-	141	-			
											106	-	116	-	144	-			
74	WL	SC	1312	F	5	7	350	5			109	-	115	-	140	-	P	XXXS	
											117	-	128	-	143	-			
											106	-	122	-	130	-			
											113	-	114	-	139	-			
											110	-	119	-	146	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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Pg 3 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet (4) of 13
Date: 6/21/22
Rev. Date: ______

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
87	VL	SL	1316	F	S	S	850	6			107	-	114	-	145	-	P	XAES	
											120	-	109	-	170	-			
											124	-	106	-	176	-			
											101	-	116	-	152	-			
											110	-	119	-	173	-			
87	V2L	CK	1307	F	S	S	850	6			117	-	115	-	150	-	P	XAES	
											119	-	121	-	145	-			
											114	-	128	-	137	-			
											112	-	122	-	136	-			
											111	-	123	-	125	-			
87	V2L	SL	1312	F	S	T	850	5			113	-	111	-	174	-	P	XAES	
											109	-	121	-	138	-			
											119	-	116	-	145	-			
											118	-	123	-	141	-			
											102	-	122	-	146	-			
97	V3L	CK	1310	F	S	T	850	5			109	-	112	-	173	-	P	XAES	
											113	-	116	-	151	-			
											115	-	115	-	147	-			
											107	-	111	-	129	-			
											108	-	124	-	140	-			

Specs: Fusion Peel: ______ Peel Incursion: ______ % Extrusion Peel: ______ Peel Incursion: ______ %
Fusion Shear: ______ Elongation: ______ % Extrusion Shear: ______ Elongation: ______ %

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Cli: SLS Engineers
Project: North Ranch Unit #11
Project Number: 22-SLS-NRU-01

CQA SOLUTIONS

Sheet 5 of 13
Date: 4/21/
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
87	W2	SL	1311	F	T	T	850	5			109	-	114	-	138	-	P	XAJS	
											105	-	116	-	143	-			
											116	-	118	-	144	-			
											126	-	121	-	135	-			
											119	-	115	-	137	-			
82	W2	CK	1319	F	T	T	850	5			102	-	121	-	141	-	P	XAJS	
											103	-	126	-	131	-			
											112	-	114	-	144	-			
											109	-	110	-	145	-			
											124	-	119	-	140	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: DCS Engineers
Project: North Ranch Lynch II
Project Number: 22-SCS-NAL-01

CQA SOLUTIONS

Sheet 6 of 13
Date: 4/22/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
61	6744	MM	0725	E	T	T			550	550	109	-			141	-	P	xAIS	
											115	-			147	-			
											127	-			136	-			
											106	-			149	-			
											118	-			141	-			
61	6744	CK	0718	E	T	T			550	550	105	-			144	-	P	xAIS	
											116	-			141	-			
											107	-			130	-			
											116	-			137	-			
											122				139	-			
84	6744	MM	1310	E	T	T			550	550	102	-			135	-	P	xAIS	
											108	-			145	-			
											117	-			131	-			
											110	-			133	-			
											122	-			146	-			
84	6744	CK	1307	E	T	T			550	550	109	-			137	-	P	xAIS	
											111	-			142	-			
											122	-			148	-			
											109	-			137	-			
											112	—			136	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Railroad Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

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Date: 4/27/22
Rev. Date: _____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
50	W2	SL	0955	F	S	S	850	6			103	-	118	-	143	-	P	XAIS	
											113	-	110	-	144	-			
											114	-	126	-	140	-			
											102	-	119	-	135	-			
											98	-	111	-	137	-			
60	W2	CK	0850	F	S	S	850	6			113	-	116	-	133	-	P	XAIS	
											109	-	105	-	147	-			
											115	-	124	-	145	-			
											117	-	123	-	135	-			
											107	-	116	-	132	-			
86	W2	SL	1305	F	S	S	850	6			113	-	117	-	131	-	P	XAIS	
											118	-	102	-	133	-			
											106	-	114	-	141	-			
											124	-	119	-	146	-			
											107	-	112	-	147	-			
86	W2	CK	1307	F	S	S	850	6			119	-	120	-	138	-	P	XAIS	
											105	-	109	-	147	-			
											116	-	117	-	139	-			
											108	-	125	-	142	-			
											103	-	119	-	144	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: S Engineers
Project: North Ranch Landfill
Project Number: LL-SES-NRL-01

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Date: 4/23/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
86	W82	CH	1308	F			850	6			102	-	112	-	141	-	P	XAIS	
											107	-	110	-	133	-			
											106	-	119	-	146	-			
											116	-	123	-	132	-			
											115	-	127	-	130	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Clie SCS Engineers
Project: North Ranch Landfill
Project Number: 12-[illegible]-[illegible]

CQA

Sheet 9 of 13
Date: 4/13,22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon inside PPI	Peel: Coupon inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
57	W2	SL	0350	F	S	S	850	6			118	-	109	-	140	-	P	XAIS	
											107	-	117	-	142	-			
											110	-	112	-	130	-			
											119	-	108	-	135	-			
											110	-	115	-	137	-			
79	W2	SL	1305	F	S	S	850	6			109	-	114	-	140	-	P	XAIS	
											117	-	118	-	145	-			
											120	-	102	-	139	-			
											121	-	115	-	140	-			
											120	-	114	-	137	-			
79	W2	CA	1310	F	S	S	850	6			108	-	112	-	140	-	P	XAIS	
											114	-	121	-	139	-			
											119	-	117	-	146	-			
											115	-	116	-	141	-			
											119	-	120	-	148	-			
79	W2	CA	1312	F	T	T	850	5			109	-	121	-	137	-	P	XAIS	
											108	-	118	-	136	-			
											119	-	117	-	146	-			
											117	-	105	-	138	-			
											115	-	109	-	149	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Clie SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-WRL-01

CQA

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Date: 4/26/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
82	w2	SC	1307	F	S	S	850	6			110	-	116	-	140	-	P	XAIS	
											117	-	106	-	148	-			
											98	-	111	-	140	-			
											99	-	102	-	137	-			
											109	-	116	-	138	-			
82	w2	SC	1310	F	T	T	850	5			102	-	112	-	135	-	P	XAIS	
											109	-	119	-	142	-			
											119	-	111	-	152	-			
											108	-	113	-	131	-			
											105	-	116	-	136	-			
82	w82	CK	1312	F	S	S	850	6			116	-	105	-	143	-	P	XAIS	
											117	-	115	-	153	-			
											110	-	116	-	131	-			
											119	-	121	-	138	-			
											108	-	120	-	137	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfills
Project Number: 22-SCS-NRL-01

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Date: 4/27/22
Rev. Date: _____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
75	WL	SL	1310	F	S	S	850	6			118	-	121	-	131	-	P	XAIS	
											124	-	120	-	130	-			
											109	-	117	-	141	-			
											117	-	114	-	147	-			
											103	-	125	-	136	-			
75	WL	SL	1312	F	T	T	850	5			110	-	118	-	141	-	P	XAIS	
											113	-	119	-	138	-			
											109	-	121	-	141	-			
											117	-	120	-	132	-			
											102	-	113	-	136	-			
75	WSL	CK	1314	F	S	S	850	6			102	-	110	-	130	-	P	XAIS	
											105	-	113	-	128	-			
											119	-	126	-	148	-			
											111	-	124	-	141	-			
											124	-	118	-	137	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: North Ranch
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 12 of 13
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Rev. Date: ______

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Wedge Speed	Extrusion: Barrel Temp	Preheat	Peel: Coupon Inside PPI	%	Coupon Outside PPI	%	Shear: Coupon PPI	Elong %	Pass/Fail	Observer	Comments
75	V3L	CK	1307	F	S	S	890	C			127	-	117	-	147	-	P	YATES	
											119	-	115	-	139	-			
											121	-	121	-	143	-			
											107	-	123	-	144	-			
											111	-	109	-	140	-			
75	WL	SL	1305	F	S	S	880	6			109	-	123	-	128	-	P	YATES	
											111	-	126	-	137	-			
											107	-	108	-	130	-			
											117	-	115	-	132	-			
											111	-	118	-	134	-			
75	WL	SL	1307	F	S	T	880	5			125	-	119	-	129	-	P	YATES	
											120	-	126	-	139	-			
											124	-	118	-	136	-			
											123	-	119	-	130	-			
											118	-	117	-	140	-			
75	V2	SL	1310	F	T	T	890	5			109								

Specs: Fusion Peel: ______ Peel Incursion: ______ % Extrusion Peel: ______ Peel Incursion: ______ %
Fusion Shear: ______ Elongation: ______ % Extrusion Shear: ______ Elongation: ______ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: North Ranch
Project Number: 22-SCS NRC-01

CQA SOLUTIONS

Sheet 13 of 13
Date: 9/18
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
80	G-44	MM	1450	E	T	T			550	550	110	-			135	-	P	YATS	
											105	-			142	-			
											107	-			141	-			
											108	-			147	-			
											111	-			144	-			
80	G744	SC	0700	E	T	T			550	550	101	-			129	-	P	YATS	
											107	-			135	-			
											95	-			132	-			
											100	-			138	-			
											102	-			140	-			

Specs: Fusion Peel: ______ Fusion Shear: ______ Peel Incursion: ______ % Elongation: ______ % Extrusion Peel: ______ Extrusion Shear: ______ Peel Incursion: ______ % Elongation: ______ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-001

CQA SOLUTIONS

Sheet (1) of
Date 4/18/22
Rev. Date:

SEAMING RECORD

Layer: Cell F1 Secondary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S2	S3	CK	W82	1351	1405	158	0	158	158	—	XAIS	
S4	S5	CK	W82	1409	1425	160	0	160	318	CSDS3	XAIS	
S6	S7	CK	W82	1428	1442	160	0	160	478	—	XAIS	
S8	S9	CK	W82	1446	1501	160	0	160	638	—	XAIS	
S10	S11	CK	W82	1504	1520	163	0	163	801	CSDS4	XAIS	

Total LF (Page)	801	Total DS (Page)	2	Total DS Needed (Page)	1.6	Over/Under (Page)	+0.4
Total LF (Project)	801	Total DS (Project)	2	Total DS Needed (Project)	1.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (1) of (8)

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of ____
Date 4/19/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell F1 Secondary

Welder Initials: CK
Welder Number: ____
Machine ID: W92

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft.	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S13	S14	CK	W92	1332	1347	155	0	65	165	-	YAIS	
S15	S16	CK	W92	1359	1411	195	0	195	360	-	YAIS	
S18	S17	CK	W92	1424	1446	0	213	213	573	-	YAIS	
S20	S19	CK	W92	1508	1510	0	22	22	595	-	YAIS	
S20	S16	CK	W92	1500	1506	25	0	25	620	CSDS6	YAIS	
S12	S21	CK	W92	1518	1532	0	164	164	784	-	YAIS	
S24	S23	CK	W92	1540	1558	0	162	162	946	CSDS7	YAIS	
S26	S25	CK	W92	1605	1621	0	161	161	1107	-	YAIS	
S28	S27	CK	W92	1633	1648	0	138	138	1245	-	YAIS	
S30	S29	CK	W92	1700	1717	0	92	92	1337	CSDS10	YAIS	
S32	S31	CK	W92	1715	1727	0	92	92	1429	-	YAIS	

Total LF (Page)	1429	Total DS (Page)	3	Total DS Needed (Page)	2.9	Over/Under (Page)	+0.1
Total LF (Project)	2,230	Total DS (Project)	5	Total DS Needed (Project)	4.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 OF 8

Client: SCS
Project: NORTH RANCH
Project Number: 22SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of ____
Date 4/21/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell 6 Secondary

Welder Initials: CK
Welder Number: ____

Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
593	590	CK	W82	1322	1337	152	0	152	152	–	XAIS	
591	592	CK	W82	1343	1358	153	0	153	305	–	XAIS	
593	594	CK	W82	1403	1418	151	0	151	456	CSDS16	XAIS	
595	596	CK	W82	1424	1440	153	0	153	609	–	XAIS	
597	598	CK	W82	1446	1501	153	0	153	762	–	XAIS	
599	560	CK	W82	1508	1523	154	0	154	916	CSDS17	XAIS	
561	562	CK	W82	1534	1550	153	0	153	1069	–	XAIS	
564	563	CK	W82	1618	1633	0	151	151	1220	–	XAIS	
567	566	CK	W82	1644	1701	0	148	148	1368	CSDS19	XAIS	
569	568	CK	W82	1710	1720	0	75	75	1443	–	XAIS	
570	569	CK	W82	1722	1732	0	75	75	1518	–	XAIS	
570	568	CK	W82	1732	1743	0	80	80	1598	CSDS21	XAIS	

Total LF (Page)	1498	Total DS (Page)	4	Total DS Needed (Page)	3.2	Over/Under (Page)	+0.8
Total LF (Project)	3328	Total DS (Project)	9	Total DS Needed (Project)	7.7	Over/Under (Project)	+1.3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 8

Client: SCS
Project: NORTH RANCH
Project Number: 22SCS-NRL-01

Sheet 4 of ____
Date 4/13/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell E1 Secondary

Welder Initials: CK
Welder Number: ____

Machine ID: WT2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S71	S72	CK	WT2	0820	0836	0	153	153	153	–	XAIS	
S73	S74	CK	WT2	0842	0857	0	153	153	306	–	XAIS	
S75	S76	CK	WT2	0908	0923	0	153	153	459	CSDS22	XAIS	
S77	S78	CK	WT2	0950	1005	0	153	153	612	–	XAIS	
S79	S80	CK	WT2	1014	1030	0	151	151	763	–	XAIS	
S81	S82	CK	WT2	1045	1101	0	151	151	914	CSDS23	XAIS	
S84	S85	CK	WT2	1320	1336	0	151	151	1065	–	XAIS	

Total LF (Page)	1065	Total DS (Page)	2	Total DS Needed (Page)	2.1	Over/Under (Page)	-0.1
Total LF (Project)	4893	Total DS (Project)	11	Total DS Needed (Project)	9.8	Over/Under (Project)	+1.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: North Ranch
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet ____ of ____
Date 4/15/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell C1 Secondary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
592	593	CK	W82	1354	1358	0	67	67	67		XAIS	
594	595	CK	W82	1407	1420	0	104	104	171		XAIS	
596	597	CK	W82	1427	1441	0	30	30	201	CSDS28	XAIS	
596	599	CK	W82	1452	1453	0	10	10	211		XAIS	
598	5100	CK	W82	1500	1516	0	164	164	375		XAIS	

Total LF (Page)	375	Total DS (Page)	1	Total DS Needed (Page)	0.8	Over/Under (Page)	+0.2
Total LF (Project)	4268	Total DS (Project)	12	Total DS Needed (Project)	10.5	Over/Under (Project)	+1.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet ___ of ___
Date 4/26/22
Rev. Date: ___

SEAMING RECORD

Layer: Cell Secondary

Welder Initials: CK
Welder Number: ___

Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S101	S103	CK	W82	1320	1338	0	140	140	140		XAIS	
S102	S103	CK	W82	1341	1347	0	67	67	207		XAIS	
S104	S105	CK	W82	1358	1425	0	240	240	447	CSD530	XAIS	
S106	S107	CK	W82	1429	1449	0	262	262	709		XAIS	
S108	S107	CK	W82	1459	1500	0	10	10	719		XAIS	
S109	S110	CK	W82	1504	1519	0	225	225	944	CSD533	XAIS	
S110	S111	CK	W82	1519	1527	0	90	90	1034		XAIS	
S112	S113	CK	W82	1547	1559	0	160	160	1194		XAIS	
S112	S114	CK	W82	1602	1612	0	86	86	1280	CSD537	XAIS	
S114	S116	CK	W82	1615	1619	0	44	44	1324		XAIS	

Total LF (Page)	1324	Total DS (Page)	3	Total DS Needed (Page)	2.6	Over/Under (Page)	+0.4
Total LF (Project)	6592	Total DS (Project)	15	Total DS Needed (Project)	13.2	Over/Under (Project)	+1.8

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet ___ of ___
Date 7/27/22
Rev. Date: ___

SEAMING RECORD

Layer: Cell 615

Welder Initials: CK
Welder Number: ___

Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S115	S117	CK	W82	1314	1347	0	285	285	285	CSD537	XAIS	
S116	S117	CK	W82	1347	1352	0	45	45	330		XAIS	
S118	S119	CK	W82	1358	1440	0	395	395	725	CSD539	XAIS	
S120	S121	CK	W82	1447	1529	0	424	424	1149	CSD541	XAIS	
S122	S123	CK	W82	1535	1630	0	440	440	1589	CSD543	XAIS	

Total LF (Page)	1589	Total DS (Page)	4	Total DS Needed (Page)	3.2	Over/Under (Page)	10.8
Total LF (Project)	8181	Total DS (Project)	19	Total DS Needed (Project)	16.4	Over/Under (Project)	42.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SLS Engineers
Project: North Ranch Landfill
Project Number: 22-SLS-RRL-01

CQA SOLUTIONS

Sheet ___ of ___
Date 4/19/22
Rev. Date: ___

SEAMING RECORD

Layer: cell 61 Secondary

Welder Initials: CK
Welder Number: ___
Machine ID: WB2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S123	S124	CK	WB2	1302	1345	0	450	450	450	CSDS47	XAIS	
S124	S125	CK	WB2	1718	1402	0	130	130	580	CSDS48	XAIS	
S125	S126	CK	WB2	1408	1417	0	104	104	684		XAIS	
S127	S128	CK	WB2	1419	1425	0	110	110	794		XAIS	
S128	S172	CK	WB2	1428	1430	0	22	22	816		XAIS	
S124	S134	CK	WB2	1500	1544	0	345	345	1161		XAIS	
S134	S136	CK	WB2	1548	1612	6	209	209	1370		XAIS	

Total LF (Page)	1370	Total DS (Page)	1	Total DS Needed (Page)	2.7	Over/Under (Page)	-0.7
Total LF (Project)	9551	Total DS (Project)	21	Total DS Needed (Project)	19.1	Over/Under (Project)	+1.9

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PAGE (8) OF (8)

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-04

CQA SOLUTIONS

Sheet 1 of
Date 4/18/22
Rev. Date:

SEAMING RECORD

Layer: Cell 1 Secondary

Welder Initials: SL
Welder Number:
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S1	S2	SL	WZ	1342	1357	152	0	152	152	—	XAIS	
S3	S4	SL	WZ	1404	1419	158	0	158	310	—	XAIS	
S5	S6	SL	WZ	1420	1436	160	0	160	470	CSDS1	XAIS	
S7	S8	SL	WZ	1441	1456	160	0	160	630	—	XAIS	
S9	S10	SL	WZ	1503	1519	163	0	163	793	—	XAIS	
S11	S12	SL	WZ	1614	1630	166	0	166	959	CSDS2	XAIS	

Total LF (Page)	959	Total DS (Page)	2	Total DS Needed (Page)	1.9	Over/Under (Page)	+0.1
Total LF (Project)	959	Total DS (Project)	2	Total DS Needed (Project)	1.9	Over/Under (Project)	+0.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

TG 1 of 13

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

Sheet 2 of ____
Date 4/15/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell FL Secondary

Welder Initials: SL
Welder Number: ____
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Ln. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S12	S13	SL	WZ	1329	1342	163	0	163	163	—	XAIS	
S14	S15	SL	WZ	1344	1400	165	0	165	328	CSDS5	XAIS	
S16	S17	SL	WZ	1425	1440	215	0	215	543	—	XAIS	
S17	S18	SL	WZ	1442	1459	0	164	164	707	—	XAIS	
S21	S19	SL	WZ	1501	1518	0	164	164	871	—	XAIS	
S23	S22	SL	WZ	1524	1541	0	163	163	1,034	CSDS7	XAIS	
S25	S24	SL	WZ	1548	1604	0	161	161	1195	—	XAIS	
S27	S26	SL	WZ	1612	1629	0	155	155	1350	—	XAIS	
S29	S28	SL	WZ	1638	1654	0	125	125	1475	CSDS9	XAIS	
S31	S30	SL	WZ	1703	1715	0	90	90	1565	—	XAIS	

Total LF (Page)	1565	Total DS (Page)	3	Total DS Needed (Page)	3.1	Over/Under (Page)	-0.1
Total LF (Project)	2524	Total DS (Project)	5	Total DS Needed (Project)	5.0	Over/Under (Project)	0

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 2
Date 4/12/22
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SL
Welder Number:
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
534	533	SL	WL	1330	1344	149	0	149	149		XAIS	
535	534	SL	WL	1347	1400	150	0	150	299		XAIS	
536	535	SL	WL	1404	1419	149	0	149	448	CJDS11	XAIS	
537	536	SL	WL	1422	1437	132	0	132	580		XAIS	
538	537	SL	WL	1444	1452	125	0	125	705		XAIS	
539	538	SL	WL	1457	1509	112	0	112	817	CSDS12	XAIS	
540	539	SL	WL	1514	1527	103	0	103	920		XAIS	
541	540	SL	WL	1529	154	95	0	95	1,015		XAIS	
542	541	SL	WL	1557	1604	81	0	81	1,096		XAIS	
543	542	SL	WL	1606	1612	69	0	69	1,165		XAIS	
544	543	SL	WL	1614	1619	55	0	55	1,220		XAIS	
545	544	SL	WL	1621	1626	41	0	41	1,261	GDS19	XAIS	
546	546	SL	WL	1631	1640	81	0	81	1,342		XAIS	
547	545	SL	WL	1644	1651	0	57	57	1,399		XAIS	
548	547	SL	WL	1655	1659	0	37	37	1,436		XAIS	
545	548	SL	WL	1700	1703	0	29	29	1,465		XAIS	
544	547	SL	WL	1704	1707	0	22	22	1,487		XAIS	
543	546	SL	WL	1707	1710	0	20	20	1,507		XAIS	
542	532	SL	WL	1710	1713	0	18	18	1,525		XAIS	
541	532	SL	WL	1713	1715	0	8	8	1,533		XAIS	
541	531	SL	WL	1715	1718	0	19	19	1,552		XAIS	
540	549	SL	WL	1718	1721	0	18	18	1,570		XAIS	
539	549	SL	WL	1721	1724	0	8	8	1,588		XAIS	
539	529	SL	WL	1724	1726	0	15	15	1,603		XAIS	

Total LF (Page)	1,603	Total DS (Page)	3	Total DS Needed (Page)	3.2	Over/Under (Page)	-0.2
Total LF (Project)	4,127	Total DS (Project)	8	Total DS Needed (Project)	8.3	Over/Under (Project)	-0.3

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Pg (3) of (13)

Client: SCS
Project: NORTH RANCH LF
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 2
Date 4/20/22
Rev. Date:

SEAMING RECORD

Layer: Cell E1 Secondary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
528	529	SL	W2	1726	1729	0	12	12	12		XAIS	
528	528	SL	W2	1729	1732	0	13	13	25		XAIS	
527	528	SL	W2	1732	1734	0	12	12	37		XAIS	
527	527	SL	W2	1734	1736	0	12	12	49		XAIS	
526	527	SL	W2	1736	1739	0	14	14	63		XAIS	
526	526	SL	W2	1739	1742	0	11	11	74		XAIS	
525	526	SL	W2	1742	1749	0	5	5	79		XAIS	
529	529	SL	W2	1750	1753	0	25	25	104		XAIS	
530	529	SL	W2	1755	1800	0	22	22	126	CSDS14	XAIS	

Total LF (Page)	126	Total DS (Page)	1	Total DS Needed (Page)	0.3	Over/Under (Page)	+0.7
Total LF (Project)	4,253	Total DS (Project)	9	Total DS Needed (Project)	8.5	Over/Under (Project)	+0.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (4) of (13)

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-P1

CQA SOLUTIONS

Sheet 5 of
Date 4/21/22
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S60	S61	SL	W2	1328	1342	154	0	154	154	–	XAIS	
S52	S53	SL	W2	1356	1411	153	0	153	307	–	XAIS	
S54	S45	SL	W2	1416	1432	154	0	154	461	CSDS16	XAIS	
S56	S57	SL	W2	1440	1455	153	0	153	614	–	XAIS	
S58	S59	SL	W2	1506	1521	153	0	153	767	–	XAIS	
S60	S61	SL	W2	1527	1542	152	0	152	919	CSDS18	XAIS	
S64	S62	SL	W2	1559	1615	0	152	152	1071	–	XAIS	
S63	S64	SL	W2	1621	1636	0	152	152	1223	–	XAIS	
S66	S65	SL	W2	1643	1658	0	150	150	1373	CSDS20	XAIS	
S68	S67	SL	W2	1706	1721	0	153	153	1526	–	XAIS	
S71	S70	SL	W2	1727	1742	0	153	153	1679	–	XAIS	

Total LF (Page)	1679	Total DS (Page)	3	Total DS Needed (Page)	3.4	Over/Under (Page)	-0.4
Total LF (Project)	5,432	Total DS (Project)	12	Total DS Needed (Project)	11.8	Over/Under (Project)	+0.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: North Ranch
Project Number: 22-SCS-NR-01

CQA SOLUTIONS

Sheet ___ of ___
Date 4/27/22
Rev. Date: ___

SEAMING RECORD

Layer: Cell E1 Secondary

Welder Initials: SL
Welder Number: ___
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
572	573	SL	W2	0826	0841	0	153	153	153	—	XAIS	
574	575	SL	W2	0855	0911	0	153	153	306	—	XAIS	
576	577	SL	W2	0914	0929	0	153	153	459	CSDS23	XAIS	
578	579	SL	W2	0956	1012	0	151	151	610	—	XAIS	
580	581	SL	W2	1046	1100	0	151	151	761	CSDS24	XAIS	
582	583	SL	W2	1104	1118	0	151	151	912	—	XAIS	
583	584	SL	W2	1310	1325	0	151	151	1063	—	XAIS	

Total LF (Page)	1063	Total DS (Page)	2	Total DS Needed (Page)	2.1	Over/Under (Page)	-0.1
Total LF (Project)	6995	Total DS (Project)	14	Total DS Needed (Project)	14	Over/Under (Project)	0

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet 1 of 2
Date 4/25/22
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SL
Welder Number:

Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
586	585	SL	W2	0807	0823	0	149	149	149		XAIS	
587	588	SL	W2	0826	0845	0	192	192	341		XAIS	
588	587	SL	W2	0851	0908	0	177	177	518	CSD527	XAIS	
589	588	SL	W2	0911	0928	0	157	157	675		XAIS	
590	589	SL	W2	0935	0952	0	138	138	813		XAIS	
591	590	SL	W2	0956	1008	0	114	114	927	CSD526	XAIS	
587	592	SL	W2	1350	1355	0	52	52	979		XAIS	

Total LF (Page)	927	Total DS (Page)	2	Total DS Needed (Page)	1.9	Over/Under (Page)	+0.1
Total LF (Project)	7922	Total DS (Project)	16	Total DS Needed (Project)	16.8	Over/Under (Project)	+0.2

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PG (7) OF (13)

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet ____ of ____
Date 4/29/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell E1 Secondary

Welder Initials: SL
Welder Number: ____

Machine ID: W16

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
586	592	SL	W16	1348	1350	0	42	42	42		XAIS	
593	594	SL	W16	1355	1411	0	83	83	125		XAIS	
595	596	SL	W16	1416	1155	0	119	119	244		XAIS	
597	598	SL	W16	1445	1457	0	144	144	388		XAIS	
597	599	SL	W16	1458	1500	0	22	22	410		XAIS	
599	598	SL	W16	1500	1502	0	14	14	424		XAIS	
5100	5101	SL	W16	1510	1520	0	140	140	564		XAIS	
5102	5101	SL	W16	1523	1525	0	27	27	591		XAIS	
5100	5102	SL	W16	1526	1529	0	30	30	621		XAIS	
592	585	SL	W16	1540	1543	0	20	20	641		XAIS	
592	584	SL	W16	1543	1544	0	6	6	647		XAIS	
593	584	SL	W16	1544	1546	0	17	17	664		XAIS	
593	583	SL	W16	1546	1547	0	6	6	670		XAIS	
594	583	SL	W16	1547	1549	0	13	13	683		XAIS	
594	582	SL	W16	1549	1551	0	13	13	696		XAIS	
595	582	SL	W16	1551	1553	0	8	8	704		XAIS	
595	581	SL	W16	1553	1555	0	17	17	721		XAIS	
596	581	SL	W16	1555	1556	0	5	5	726		XAIS	
596	580	SL	W16	1556	1558	0	18	18	744	CSD 529	XAIS	
597	579	SL	W16	1558	1601	0	13	13	757		XAIS	
598	578	SL	W16	1601	1604	0	22	22	779		XAIS	
5100	577	SL	W16	1604	1607	0	23	23	802		XAIS	
5100	576	SL	W16	1607	1608	0	7	7	809		XAIS	
5101	576	SL	W16	1608	1610	0	16	16	825		XAIS	

Total LF (Page)	825	Total DS (Page)	1	Total DS Needed (Page)	1.7	Over/Under (Page)	-0.7
Total LF (Project)	825	Total DS (Project)	1	Total DS Needed (Project)	1.7	Over/Under (Project)	-0.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (12) OF (13)

Client:
Project:
Project Number:

CQA

Sheet 2 of 2
Date 4/25/22
Rev. Date:

SEAMING RECORD

Layer: Cell E1

Welder Initials: SL
Welder Number:
Machine ID: W16

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
510	575	SL	w16	1610	1614	0	9	9	9		XAFS	

Total LF (Page)	9	Total DS (Page)	0	Total DS Needed (Page)	0	Over/Under (Page)	0
Total LF (Project)	864	Total DS (Project)	1	Total DS Needed (Project)	1.7	Over/Under (Project)	-0.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: _____
Project: _____
Project Number: _____

Sheet 1 of 2
Date 4/26/22
Rev. Date: _____

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SL
Welder Number: _____

Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S103	S104	SL	W2	1328	1359	0	223	223	223		XAIS	
S105	S106	SL	W2	1405	1427	0	250	250	473	CSDS31	XAIS	
S10C	S108	SL	W2	1358	1400	0	22	22	495		XAIS	
S107	S10B	SL	W2	1427	1428	0	7	7	502		XAIS	
S107	S109	SL	W2	1439	1451	0	210	210	712	CSDS32	XAIS	
S107	S10C	SL	W2	1451	1457	0	83	83	795		XAIS	
S109	S110	SL	W2	1450	1452	0	22	22	817		XAIS	
S111	S112	SL	W2	1518	1557	0	333	333	1150	CSDS34	XAIS	
S113	S115	SL	W2	1608	1617	0	170	170	1320		XAIS	
S113	S114	SL	W2	1600	1602	0	22	22	1342		XAIS	
S114	S115	SL	W2	1618	1628	0	146	146	1488	CSDS36	XAIS	
S116	S115	SL	W2	1632	1639	0	22	22	1510		XAIS	
S103	S75	SL	W2	1641	1642	0	12	12	1522		XAIS	
S103	S74	SL	W2	1642	1643	0	12	12	1534		XAIS	
S104	S74	SL	W2	1643	1644	0	8	8	1542		XAIS	
S104	S73	SL	W2	1644	1645	0	13	13	1555		XAIS	
S105	S73	SL	W2	1645	1646	0	3	3	1558		XAIS	
S105	S72	SL	W2	1646	1648	0	22	22	1580		XAIS	
S106	S71	SL	W2	1648	1651	0	22	22	1602		XAIS	
S107	S70	SL	W2	1651	1654	0	22	22	1624		XAIS	
S107	S68	SL	W2	1654	1655	0	5	5	1629		XAIS	
S104	S67	SL	W2	1655	1701	0	22	22	1651		XAIS	
S111	S66	SL	W2	1701	1704	0	24	24	1675		XAIS	
S111	S65	SL	W2	1704	1705	0	8	8	1683		XAIS	

Total LF (Page)	1683	Total DS (Page)	4	Total DS Needed (Page)	3.4	Over/Under (Page)	+0.6		
Total LF (Project)	9605	Total DS (Project)	20	Total DS Needed (Project)	19.2	Over/Under (Project)	+0.8		

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of ____
Date 4/28/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell 1 Secondary

Welder Initials: SL
Welder Number: ____
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S126	S127	SL	W2	1403	1478	0	113	113	113		XAES	
S128	S129	SL	W2	1420	1429	0	90	90	253		XAES	
S129	S130	SL	W2	1431	1437	0	80	80	283	CSD549	XAES	
S129	S133	SL	W2	1438	1440	0	24	24	307		XAES	
S129	S132	SL	W2	1448	1451	0	22	22	329		XAES	
S134	S125	SL	W2	1504	1506	0	22	22	351		XAES	
S125	S135	SL	W2	1522	1526	0	35	35	386		XAES	
S134	S135	SL	W2	1526	1535	0	82	72	468	CSD550	XAES	
S126	S135	SL	W2	1554	1556	0	22	22	490		XAES	
S135	S138	SL	W2	1608	1611	0	47	47	537		XAES	
S136	S138	SL	W2	1611	1620	0	54	54	591		XAES	
S136	S137	SL	W2	1620	1626	0	78	78	669		XAES	
S134	S3	SL	W2	1641	1644	0	13	13	682		XAES	
S134	S2	SL	W2	1644	1647	0	21	21	703		XAES	
S134	S1	SL	W2	1647	1650	0	21	21	724		XAES	
S3	S136	SL	W2	1651	1652	0	7	7	731		XAES	
S4	S136	SL	W2	1652	1654	0	22	22	753		XAES	
S5	S136	SL	W2	1654	1657	0	22	22	775		XAES	
S6	S136	SL	W2	1657	1700	0	22	22	797		XAES	
S7	S137	SL	W2	1700	1702	0	22	22	819		XAES	
S8	S137	SL	W2	1702	1704	0	22	22	841		XAES	
S9	S137	SL	W2	1704	1706	0	22	22	863		XAES	
S10	S137	SL	W2	1706	1708	0	20	20	883	CSD552	XAES	
S138	S137	SL	W2	1711	1713	0	22	22	905		XAES	

Total LF (Page)	905	Total DS (Page)	3	Total DS Needed (Page)	1.8	Over/Under (Page)	+1.2
Total LF (Project)	11979	Total DS (Project)	27	Total DS Needed (Project)	24.0	Over/Under (Project)	+3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NM-01

CQA SOLUTIONS

Sheet 2 of ____
Date 4/28/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SC
Welder Number: ____

Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S138	S139	SC	W2	1717	1720	0	30	30	80		XAIS	
S1	S139	SC	W2	1720	1721	0	7	7	87		XAIS	
S12	S139	SC	W2	1721	1723	0	22	22	109		XAIS	
S14	S139	SC	W2	1726	1728	0	22	22	131		XAIS	
S20	S138	SC	W2	1737	1739	0	22	22	153		XAIS	
S15	S138	SC	W2	1739	1740	0	5	5	158		XAIS	
S15	S139	SC	W2	1740	1741	0	12	12	170		XAIS	
S135	S16	SC	W2	1543	1545	0	17	17	187		XAIS	
S135	S20	SC	W2	1545	1547	0	22	22	209		XAIS	
S13	S139	SC	W2	1723	1726	0	22	22	231		XAIS	
S135	S140	SC	W2	1742	1745	0	28	28	259		XAIS	
S127	S140	SC	W2	1750	1751	0	7	7	266		XAIS	
S140	S17	SC	W2	1757	1758	0	8	8	274		XAIS	
S140	S16	SC	W2	1758	1759	0	5	5	279		XAIS	
S127	S18	SC	W2	1755	1757	0	20	20	299		XAIS	
S132	S18	SC	W2	1802	1804	0	20	20	319		XAIS	
S19	S132	SC	W2	1812	1814	0	22	22	341		XAIS	
S128	S18	SC	W2	1805	1807	0	22	22	363		XAIS	
S20	S133	SC	W2	1814	1817	0	20	20	383		XAIS	
S22	S130	SC	W2	1817	1819	0	22	22	405		XAIS	
S23	S130	SC	W2	1819	1821	0	22	22	427		XAIS	
S24	S130	SC	W2	1821	1822	0	10	10	437		XAIS	
S24	S131	SC	W2	1822	1825	0	12	12	449		XAIS	
S25	S131	SC	W2	1825	1827	0	22	22	471		XAIS	

Total LF (Page)	471	Total DS (Page)	0	Total DS Needed (Page)	.9	Over/Under (Page)	-0.9
Total LF (Project)	12450	Total DS (Project)	27	Total DS Needed (Project)	24.9	Over/Under (Project)	42.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of ____
Date 4/28/22
Rev. Date: ____

SEAMING RECORD

Layer: Cell 61 Secondary

Welder Initials: SL
Welder Number: ____
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
536	5131	SL	W2	1827	1828	0	5	5	5		XAIS	
5130	5131	SL	W2	1832	1832	0	40	40	45		XAIS	
535	5131	SL	W2	1836	1837	0	8	8	53		XAIS	
535	5130	SL	W2	1837	1837	0	7	7	60		XAIS	
534	5130	SL	W2	1838	1840	0	17	17	77		XAIS	
534	5129	SL	W2	1840	1841	0	5	5	82		XAIS	
533	5129	SL	W2	1841	1843	0	20	20	102		XAIS	
550	5128	SL	W2	1843	1846	0	21	21	123		XAIS	
551	5127	SL	W2	1846	1849	6	21	21	144		XAIS	
552	5126	SL	W2	1849	1853	0	15	15	159		XAIS	
553	5125	SL	W2	1853	1857	0	20	20	179		XAIS	
554	5124	SL	W2	1859	1900	0	20	20	199		XAIS	

Total LF (Page)	199	Total DS (Page)	0	Total DS Needed (Page)	0.4	Over/Under (Page)	-0.4
Total LF (Project)	12649	Total DS (Project)	27	Total DS Needed (Project)	25.3	Over/Under (Project)	+1.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (13) of (13)

Client:
Project: NORTH KNOLL
Project Number: 22-25-NKL-01

CQA

Sheet: of
Date: 4/11/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seams		Stations		Tested Length	Pressure		Time		Pass/Fail		QC Tech	Observer	To be capped?	Notes
	Top	Bottom	Begin	End		Begin	End	Begin	End	APT	VT				
APT	S1	S2	0	EOS	Full	30	30	1425	1430	P	–	W	XAIS	–	
APT	S2	S3	0	EOS	Full	30	30	1428	1433	P	–	W	XAIS	–	
APT	S3	S4	0	EOS	Full	30	30	1430	1435	P	–	W	XAIS	–	
APT	S4	S5	0	EOS	Full	30	30	1432	1437	P	–	W	XAIS	–	
APT	S5	S6	0	EOS	Full	30	30	1440	1445	P	–	W	XAIS	–	
APT	S6	S7	0	EOS	Full	30	30	1445	1450	P	–	W	XAIS	–	
APT	S7	S8	0	EOS	Full	30	30	1500	1505	P	–	W	XAIS	–	
APT	S8	S9	0	EOS	Full	30	30	1503	1509	P	–	W	XAIS	–	
APT	S9	S10	0	EOS	Full	30	30	1522	1527	P	–	W	XAIS	–	
APT	S10	S11	0	EOS	Full	30	30	1525	1530	P	–	W	XAIS	–	
APT	S11	S12	0	EOS	Full	30	30	1538	1543	P	–	W	XAIS	–	

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 OF 13

Client:
Project: [illegible]
Project Number: [illegible]

CQA Solutions

Sheet: 2 of
Date: 4/19/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Cell E1 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	512	513	0	EOS	Full	30	30	1355	1400	P	–	W	XATS	N	
APT	513	514	0	EOS	Full	30	30	1357	1402	P	–	W	XATS	N	
APT	514	515	0	EOS	Full	30	30	1402	1407	P	–	W	XATS	N	
APT	515	516	0	EOS	Full	30	30	1413	1418	P	–	W	XATS	N	
APT	520	515	0	EOS	Full	30	30	1512	1517	P	–	W	XATS	N	
APT	520	516	0	EOS	Full	30	30	1510	1515	P	–	W	XATS	N	
APT	516	517	0	EOS	Full	30	30	1445	1450	P	–	W	XATS	N	
APT	517	518	0	170	170	30	29	1455	1500	P	–	W	XATS	N	
APT	517	518	170	EOS	Full	30	30	1457	1502	P	–	W	XATS	N	
APT	518	519	0	EOS	Full	30	30	1500	1505	P	–	W	XATS	N	
APT	521	519	0	EOS	Full	30	30	1530	1535	P	–	W	XATS	N	
APT	522	521	0	EOS	Full	30	30	1533	1538	P	–	W	XATS	N	
APT	523	522	0	EOS	Full	30	30	1540	1545	P	–	W	XATS	N	
APT	524	523	0	EOS	Full	30	30	1543	1548	P	–	W	XATS	N	
APT	525	524	0	EOS	Full	30	30	1547	1552	P	–	W	XATS	N	
APT	526	525	0	EOS	Full	30	29	1600	1605	P	–	W	XATS	N	
APT	527	526	0	EOS	Full	30	30	1605	1610	P	–	W	XATS	N	
APT	528	527	0	EOS	Full	30	30	1609	1614	P	–	W	XATS	N	
APT	529	528	0	EOS	Full	30	30	1630	1635	P	–	W	XATS	N	
APT	530	529	0	EOS	Full	30	30	1633	1638	P	–	W	XATS	N	
APT	531	530	0	EOS	Full	30	30	1636	1641	P	–	W	XATS	N	
APT	532	531	0	EOS	Full	30	29	1644	1649	P	–	W	XATS	N	

Specs: Pre-testing stabilization time: ______ Maximum Starting Pressure: ______ Maximum Allowable Loss: ______
Minimum Starting Pressure: ______ Test Duration: ______

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 of 13

Client: _____
Project: _____
Project Number: _____

CQA

Sheet 1 of 2
Date: 5/23-7/12
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seams		Station		Tested Length	Pressure		Time		Pass/Fail		QC Tech	Observer	To be capped?	Notes
	Top	Bottom	Begin	End		Begin	End	Begin	End	APT	VT				
APT	533	534	0	EOS	Full	30	30	1557	1602	P		ws	XAIS		
APT	534	535	0	EOS	Full	30	30	1559	1604	P		ws	XAIS		
APT	535	536	0	EOS	Full	30	30	1603	1608	P		ws	XAIS		
APT	536	537	0	EOS	Full	30	29	1604	1609	P		ws	XAIS		
APT	537	538	0	EOS	Full	30	30	1607	1612	P		ws	XAIS		
APT	538	539	0	EOS	Full	30	30	1612	1617	P		ws	XAIS		
APT	539	540	0	EOS	Full	30	30	1617	1620	P		ws	XAIS		
APT	540	541	0	EOS	Full	30	30	1617	1622	P		ws	XAIS		
APT	541	542	0	EOS	Full	30	30	1623	1628	P		ws	XAIS		
APT	542	543	0	EOS	Full	30	30	1625	1630	P		ws	XAIS		
APT	543	544	0	EOS	Full	30	29	1628	1633	P		ws	XAIS		
APT	544	545	0	EOS	Full	30	30	1633	1638	P		ws	XAIS		
APT	546	532	0	EOS	Full	30	30	1636	1641	P		ws	XAIS		
APT	547	546	0	EOS	Full	30	30	1639	1644	P		ws	XAIS		
APT	543	547	0	EOS	Full	30	30	1645	1650	P		ws	XAIS		
APT	548	545	0	EOS	Full	30	30	1647	1652	P		ws	XAIS		
APT	549	530	0	EOS	Full	30	30	1649	1654	P		ws	XAIS		
APT	549	529	0	EOS	Full	30	30	1653	1658	P		ws	XAIS		
APT	544	547	0	EOS	Full	30	30	1657	1702	P		ws	XAIS		
APT	547	546	0	EOS	Full	30	30	1659	1704	P		ws	XAIS		
APT	542	532	0	EOS	Full	30	30	1704	1709	P		ws	XAIS		
APT	541	532	0	EOS	Full	30	30	1706	1711	P		ws	XAIS		
APT	541	531	0	EOS	Full	30	30	1709	1714	P		ws	XAIS		
APT	540	549	0	EOS	Full	30	30	1715	1720	P		ws	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (13)

Well: _____
Well: _____
Well Case: _____

CQA

Sheet 2 of 2
Date 4/20/22
Rev Date

NON-DESTRUCTIVE TEST LOG

Layer: Cell 6 Secondary

Test Type	Seams Top	Seams Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	539	540	0	EOS	Full	30	30	1717	1722	P		WS	XAIS		
APT	539	529	0	EOS	Full	30	30	1720	1725	P		WS	XAIS		
APT	538	529	0	EOS	Full	30	30	1725	1730	P		WS	XAIS		
APT	538	528	0	EOS	Full	30	30	1727	1732	P		WS	XAIS		
APT	537	528	0	EOS	Full	30	30	1729	1734	P		WS	XAIS		
APT	537	529	0	EOS	Full	30	30	1733	1738	P		WS	XAIS		
APT	536	529	0	EOS	Full	30	30	1735	1740	P		WS	XAIS		
APT	536	526	0	EOS	Full	30	30	1738	1743	P		WS	XAIS		
APT	535	526	0	EOS	Full	30	20	1742	1749	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (4) OF (13)

Client: _____
Project: _____
Project: Number: _____

CQA

Sheet ____ of ____
Date: 4/21/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	539	550	C	EOS	Full	30	30	1532	1537	P		WS	XAIS		
APT	540	541	C	EOS	Full	30	30	1535	1540	P		WS	XAIS		
APT	541	542	C	EOS	Full	30	30	1537	1542	P		WS	XAIS		
APT	542	543	C	EOS	Full	30	30	1548	1553	P		WS	XAIS		
APT	543	544	C	EOS	Full	30	30	1550	1555	P		WS	XAIS		
APT	544	545	C	EOS	Full	30	29	1552	1557	P		WS	XAIS		
APT	545	546	C	EOS	Full	30	30	1555	1600	P		WS	XAIS		
APT	546	547	C	EOS	Full	30	30	1557	1602	P		WS	XAIS		
APT	547	548	C	EOS	Full	30	30	1559	1604	P		WS	XAIS		
APT	548	549	C	EOS	Full	30	30	1603	1608	P		WS	XAIS		
APT	549	550	C	EOS	Full	30	30	1604	1609	P		WS	XAIS		
APT	550	551	C	EOS	Full	30	29	1607	1612	P		WS	XAIS		
APT	551	552	C	EOS	Full	30	30	1610	1615	P		WS	XAIS		
APT	552	553	C	EOS	Full	30	30	1612	1617	P		WS	XAIS		
APT	553	554	C	EOS	Full	30	30	1615	1620	P		WS	XAIS		
APT	554	555	C	EOS	Full	30	30	1618	1623	P		WS	XAIS		
APT	555	556	C	EOS	Full	30	30	1621	1626	P		WS	XAIS		
APT	556	557	C	EOS	Full	30	30	1624	1629	P		WS	XAIS		
APT	557	558	C	EOS	Full	30	30	1640	1645	P		WS	XAIS		
APT	558	559	C	EOS	Full	30	30	1642	1647	P		WS	XAIS		
APT	558	570	C	EOS	Full	30	30	1645	1650	P		WS	XAIS		
APT	559	570	C	EOS	Full	30	29	1651	1656	P		WS	XAIS		
APT	570	571	C	EOS	Full	30	30	1654	1658	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: _____
Project: _____
Project. Number: _____

Sheet ____ of ____
Date: 4/23/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG
Layer: Cell 1 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	572	571	0	EOS	Full	30	30	1604	1609	P		WS	XAIS		
APT	573	572	0	EOS	Full	30	30	1606	1611	P		WS	XAIS		
APT	574	573	0	EOS	Full	30	30	1609	1614	P		WS	XAIS		
APT	575	574	0	EOS	Full	30	30	1612	1617	P		WS	XAIS		
APT	576	575	0	EOS	Full	30	30	1614	1619	P		WS	XAIS		
APT	577	576	0	EOS	Full	30	30	1616	1621	P		WS	XAIS		
APT	578	577	0	EOS	Full	30	29	1620	1625	P		WS	XAIS		
APT	579	578	0	EOS	Full	30	30	1622	1627	P		WS	XAIS		
APT	580	579	0	EOS	Full	30	30	1624	1629	P		WS	XAIS		
APT	581	580	0	EOS	Full	30	30	1626	1631	P		WS	XAIS		
APT	582	581	0	EOS	Full	30	30	1629	1634	P		WS	XAIS		
APT	583	582	0	EOS	Full	30	30	1631	1636	P		WS	XAIS		
APT	584	583	0	EOS	Full	30	30	1633	1638	P		WS	XAIS		
APT	585	584	0	EOS	Full	30	30	1635	1640	P		WS	XAIS		
APT	586	592	0	EOS	Full	30	30	1640	1645	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client:
Project:
Project: Number:

CQA

Sheet 1 of 2
Date: 4/25/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	586	585	0	EOS	Full	30	29	1310	1315	P		WS	XAIS		
APT	587	586	0	EOS	Full	30	30	1312	1317	P		WS	XAIS		
APT	588	587	0	EOS	Full	30	30	1315	1320	P		WS	XAIS		
APT	589	588	0	EOS	Full	30	30	1320	1325	P		WS	XAIS		
APT	590	589	0	EOS	Full	30	30	1322	1327	P		WS	XAIS		
APT	591	590	0	EOS	Full	30	30	1335	1340	P		WS	XAIS		
APT	592	589	0	EOS	Full	30	30	1338	1343	P		WS	XAIS		
APT	592	593	0	EOS	Full	30	30	1341	1346	P		WS	XAIS		
APT	593	594	0	EOS	Full	30	29	1343	1348	P		WS	XAIS		
APT	594	595	0	EOS	Full	30	30	1557	1602	P		WS	XAIS		
APT	595	596	0	EOS	Full	30	30	1559	1604	P		WS	XAIS		
APT	596	597	0	EOS	Full	30	30	1602	1607	P		WS	XAIS		
APT	596	599	0	EOS	Full	30	30	1610	1615	P		WS	XAIS		
APT	597	599	0	EOS	Full	30	30	1613	1618	P		WS	XAIS		
APT	597	598	0	EOS	Full	30	30	1615	1620	P		WS	XAIS		
APT	599	598	0	EOS	Full	30	30	1618	1623	P		WS	XAIS		
APT	598	5100	0	EOS	Full	30	30	1630	1635	P		WS	XAIS		
APT	5100	5101	0	EOS	Full	30	30	1634	1639	P		WS	XAIS		
APT	5100	5102	0	EOS	Full	30	30	1637	1642	P		WS	XAIS		
APT	592	585	0	EOS	Full	30	29	1640	1645	P		WS	XAIS		
APT	592	584	0	EOS	Full	30	28	1643	1648	P		WS	XAIS		
APT	593	584	0	EOS	Full	30	30	1645	1650	P		WS	XAIS		
APT	593	583	0	EOS	Full	30	30	1647	1652	P		WS	XAIS		
APT	594	583	0	EOS	Full	30	30	1650	1655	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: _____
Project: _____
Project: Number: _____

CQA SOLUTIONS

Sheet 2 of 2
Date: 9/15/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: Cell 1 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	594	582	0	EOS	Full	30	30	1653	1658	P		WS	XAIS		
APT	595	582	0	EOS	Full	30	30	1655	1700	P		WS	XAIS		
APT	594	581	0	EOS	Full	30	30	1659	1704	P		WS	XAIS		
APT	596	581	0	EOS	Full	30	30	1702	1707	P		WS	XAIS		
APT	596	580	0	EOS	Full	30	30	1705	1710	P		WS	XAIS		
APT	597	579	0	EOS	Full	30	30	1707	1712	P		WS	XAIS		
APT	598	578	0	EOS	Full	30	30	1709	1714	P		WS	XAIS		
APT	5100	577	0	EOS	Full	30	30	1711	1717	P		WS	XAIS		
APT	5100	576	0	EOS	Full	30	30	1715	1720	P		WS	XAIS		
APT	5101	576	0	EOS	Full	30	29	1720	1725	P		WS	XAIS		
APT	5101	5102	0	EOS	Full	30	30	1639	1640	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Pg (8) of (13)

Client:_____
Project:_____
Project: Number:_____

Sheet 2 of 2
Date: 4/25/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S105	S73	0	EOS	Full	30	30	1730	1735	P		WS	XAIS		
APT	S104	S72	0	EOS	Full	30	30	1732	1737	P		WS	XAIS		
APT	S106	S71	0	EOS	Full	30	30	1735	1740	P		WS	XAIS		
APT	S107	S70	0	EOS	Full	30	30	1738	1743	P		WS	XAIS		
APT	S108	S68	0	EOS	Full	30	29	1740	1745	P		WS	XAIS		
APT	S109	S67	0	EOS	Full	30	30	1743	1748	P		WS	XAIS		
APT	S111	S66	0	EOS	Full	30	30	1746	1751	P		WS	XAIS		
APT	S111	S65	0	EOS	Full	30	30	1749	1754	P		WS	XAIS		
APT	S112	S65	0	EOS	Full	30	30	1751	1756	P		WS	XAIS		
APT	S112	S64	0	EOS	Full	30	30	1743	1758	P		WS	XAIS		
APT	S113	S64	0	EOS	Full	30	30	1756	1801	P		WS	XAIS		
APT	S113	S63	0	EOS	Full	30	30	1757	1802	P		WS	XAIS		
APT	S115	S63	0	EOS	Full	30	30	1759	1804	P		WS	XAIS		

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client:
Project:
Project: Number:

CQA

Sheet ____ of ____
Date: 4/27/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S115	S117	0	EOS	Full	30	29	1549	1554	P		WS	XAIS		
APT	S116	S117	0	EOS	Full	30	30	1553	1558	P		WS	XAIS		
APT	S117	S118	0	EOS	Full	30	30	1555	1600	P		WS	XAIS		
APT	S118	S119	0	EOS	Full	30	30	1559	1604	P		WS	XAIS		
APT	S119	S120	0	EOS	Full	30	30	1601	1606	P		WS	XAIS		
APT	S120	S121	0	EOS	Full	30	30	1604	1609	P		WS	XAIS		
APT	S121	S122	0	EOS	Full	30	30	1607	1612	P		WS	XAIS		
APT	S122	S123	0	EOS	Full	30	30	1610	1615	P		WS	XAIS		
APT	S55	S123	0	EOS	Full	30	30	1613	1618	P		WS	XAIS		
APT	S56	S123	0	EOS	Full	30	30	1616	1621	P		WS	XAIS		
APT	S56	S122	0	EOS	Full	30	30	1618	1623	P		WS	XAIS		
APT	S57	S122	0	EOS	Full	30	30	1621	1626	P		WS	XAIS		
APT	S57	S121	0	EOS	Full	30	30	1624	1629	P		WS	XAIS		
APT	S58	S121	0	EOS	Full	30	30	1626	1631	P		WS	XAIS		
APT	S58	S120	0	EOS	Full	30	30	1629	1634	P		WS	XAIS		
APT	S59	S120	0	EOS	Full	30	29	1632	1637	P		WS	XAIS		
APT	S59	S119	0	EOS	Full	30	30	1635	1640	P		WS	XAIS		
APT	S60	S119	0	EOS	Full	30	30	1637	1642	P		WS	XAIS		
APT	S60	S118	0	EOS	Full	30	30	1639	1644	P		WS	XAIS		
APT	S61	S118	0	EOS	Full	30	30	1641	1646	P		WS	XAIS		
APT	S61	S117	0	EOS	Full	30	30	1646	1651	P		WS	XAIS		
APT	S62	S117	0	EOS	Full	30	30	1649	1654	P		WS	XAIS		
APT	S62	S115	0	EOS	Full	30	30	1653	1658	P		WS	XAIS		

Specs: Pre-testing stabilization time: ____ Maximum Starting Pressure: ____ Maximum Allowable Loss: ____
Minimum Starting Pressure: ____ Test Duration: ____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (10) of (13)

Client: SCS
Project: North Ranch
Project: Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of ___
Date: 4/30/22
Rev. Date: ___

NON-DESTRUCTIVE TEST LOG

Layer: Cell E1

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	5123	5124	0	EOS	Full	30	30	1527	1532	P	—	WS	YAIS	N	
APT	5124	5125	0	EOS	Full	30	30	1530	1535	P		WS	YAIS		
APT	5124	5134	0	EOS	Full	30	29	1533	1538	P		WS	YAIS		
APT	5125	5134	0	EOS	Full	30	30	1536	1541	P		WS	YAIS		
APT	5125	5126	0	EOS	Full	30	30	1539	1544	P		WS	YAIS		
APT	5134	5126	0	EOS	Full	30	30	1541	1546	P		WS	YAIS		
APT	5134	5135	0	EOS	Full	30	30	1544	1549	P		WS	YAIS		
APT	5134	5136	0	EOS	Full	30	30	1547	1552	P		WS	YAIS		
APT	5126	5135	0	EOS	Full	30	30	1550	1555	P		WS	YAIS		
APT	5135	5136	0	EOS	Full	30	30	1552	1557	P		WS	YAIS		
APT	5126	5127	0	EOS	Full	30	30	1555	1600	P		WS	YAIS		
APT	5135	5127	0	EOS	Full	30	30	1600	1605	P		WS	YAIS		
APT	5135	5138	0	EOS	Full	30	30	1602	1607	P		WS	YAIS		
APT	5136	5137	0	EOS	Full	30	30	1605	1610	P		WS	YAIS		
APT	5127	518	0	EOS	Full	30	30	1607	1613	P		WS	YAIS		
APT	5127	5140	0	EOS	Full	30	30	1610	1615	P		WS	YAIS		
APT	5127	517	0	EOS	Full	30	30	1613	1619	P		WS	YAIS		
APT	5140	517	0	EOS	Full	30	30	1616	1621	P		WS	YAIS		
APT	5140	516	0	EOS	Full	30	30	1619	1624	P		WS	YAIS		
APT	5140	520	0	EOS	Full	30	30	1622	1627	P		WS	YAIS		
APT	520	5132	0	EOS	Full	30	30	1625	1630	P		WS	YAIS		
APT	515	5138	0	EOS	Full	30	29	1628	1633	P		WS	YAIS		
APT	5138	5137	0	EOS	Full	30	28	1630	1639	P		WS	YAIS		
APT	5138	5139	0	EOS	Full	30	30	1634	1639	P		WS	YAIS		

Specs: Pre-testing stabilization time: ___ Minimum Starting Pressure: ___ Maximum Starting Pressure: ___ Test Duration: ___ Maximum Allowable Loss: ___

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 11 of 13

Client: SCS
Project: NORTH RANCH
Project: Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of
Date: 4/26/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Cell 61 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S127	S128	0	EOS	Full	30	29	1636	1641	P		WS	XAES	N	
	S128	S18	0	EOS		30	30	1638	1643	P					
	S128	S129	0	EOS		30	30	1641	1646	P					
	S129	S132	0	EOS		30	30	1643	1648	P					
	S129	S132	0	EOS		30	30	1646	1651	P					
	S129	S133	0	EOS		30	30	1649	1654	P					
	S129	S133	0	EOS		30	30	1651	1656	P					
	S130	S131	0	EOS		30	30	1653	1658	P					
	S1	S136	0	EOS		30	30	1655	1700	P					
	S2	S136	0	EOS		30	30	1657	1702	P					
	S3	S136	0	EOS		30	30	1700	1705	P					
	S4	S136	0	EOS		30	30	1702	1707	P					
	S5	S136	0	EOS		30	30	1705	1710	P					
	S6	S136	0	EOS		30	30	1707	1712	P					
	S7	S137	0	EOS		30	30	1709	1714	P					
	S8	S137	0	EOS		30	30	1711	1716	P					
	S9	S139	0	EOS		30	30	1713	1718	P					
	S10	S137	0	EOS		30	30	1715	1720	P					
	S11	S139	0	EOS		30	30	1719	1724	P					
	S12	S139	0	EOS		30	30	1722	1727	P					
	S13	S139	0	EOS		30	30	1724	1729	P					
	S14	S139	0	EOS		30	30	1727	1732	P					
	S15	S139	0	EOS		30	30	1730	1735	P					
	S18	S132	0	EOS		30	30	1732	1737	P					

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project: Number: 22-SCS NRL - 01

CQA SOLUTIONS

Sheet 3 of ____
Date: 9/30/22
Rev. Date: ____

NON-DESTRUCTIVE TEST LOG

Layer: Cell 1 Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S19	S132	0	EOS	Full	30	30	1735	1740	P	—	WS	XAS	N	
	S21	S133	0	EOS		30	30	1737	1742	P					
	S22	S130	0	EOS		30	30	1739	1744	P					
	S23	S130	0	EOS		30	30	1742	1747	P					
	S24	S130	0	EOS		30	30	1745	1750	P					
	S24	S131	0	EOS		30	30	1747	1752	P					
	S25	S131	0	EOS		30	30	1750	1755	P					
	S35	S131	0	EOS		30	24	1752	1757	P					
	S35	S130	0	EOS		30	30	1754	1759	P					
	S34	S130	0	EOS		30	30	1756	1801	P					
	S34	S129	0	EOS		30	30	1759	1804	P					
	S33	S129	0	EOS		30	23	1801	1806	P					
	S30	S128	0	EOS		30	30	1803	1808	P					
	S31	S127	0	EOS		30	30	1805	1810	P					
	S32	S126	0	EOS		30	30	1808	1813	P					
	S33	S125	0	EOS		30	30	1810	1815	P					
	S34	S124	0	EOS		30	30	1813	1818	P					

Specs: Pre-testing stabilization time: ____ Maximum Starting Pressure: ____ Maximum Allowable Loss: ____
Minimum Starting Pressure: ____ Test Duration: ____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of
Date: various
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Various

Sample Information					Welder Information			Testing Information		Comments, Tracking Notes, Etc.
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	
ESDS1	54/55	52'	3/24	3/24	CK	W82	3/23	P	P	
ESDS2	57/58	56'	3/24	3/24	SL	W2	3/23	P	P	
WSDS1	52/53	55'	3/24	3/24	SL	W2	3/24	P	P	
WSDS2	51/52	26'	3/24	3/24	CK	W82	3/24	P	P	
CSDS1	55/56	106'	4/19	4/19	SL	W2	4/18	P	P	
CSDS2	511/512	32'	4/19	4/19	SL	W2	4/18	P	P	
CSDS3	54/55	41'	4/19	4/19	CK	W82	4/18	P	P	
CSDS4	510/511	74'	4/19	4/19	CK	W82	4/18	P	P	
CSDS5	514/515	120'	4/20	4/20	SL	W2	4/19	P	P	
CSDS6	516/520	12'	4/20	4/20	CK	W82	4/19	P	P	
CSDS7	522/523	128'	4/20	4/20	SL	W2	4/19	P	P	
CSDS8	523/524	89'	4/20	4/20	CK	W82	4/19	P	P	
CSDS9	528/529	81'	4/20	4/20	SL	W2	4/19	P	P	
CSDS10	529/530	63'	4/20	4/20	CK	W82	4/19	P	P	
CSDS11	536/535	98'	4/21	4/21	SL	W2	4/20	P	P	
CSDS12	534/538	56'	4/21	4/21	SL	W2	4/20	P	P	
CSDS13	545/548	18'	4/21	4/21	SL	W2	4/20	P	P	
CSDS14	530/549	3'	4/21	4/21	SL	W2	4/20	P	P	
CSDS15	553/554	120'	4/22	4/22	CK	W82	4/21	P	P	
CSDS16	554/555	103'	4/22	4/22	SL	W2	4/21	P	P	
CSDS17	559/560	63'	4/22	4/22	CK	W82	4/21	P	P	
CSDS18	560/561	36'	4/22	4/22	SL	W2	4/21	P	P	
CSDS19	566/567	19'	4/22	4/22	CK	W82	4/21	P	P	
CSDS20	566/565	44'	4/22	4/22	SL	W2	4/21	P	P	
CSDS21	570/568	30'	4/22	4/22	CK	W82	4/21	P	P	
CSDS22	575/576	28'	4/25	4/25	CK	W82	4/23	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (1) of (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 1 of
Date: various
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Cell 1 Secondary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
CSDS23	S76/S77	55'	4/25	4/25	SL	W2	4/23	P	P	
CSDS24	S80/S81	8'	4/25	4/25	SL	W2	4/23	P	P	
CSDS25	S81/S82	170'	4/25	4/25	CK	W	4/23	P	P	
CSDS26	S90/S91	19	4/26	4/26	SL	W2	4/25	P	P	
CSDS27	S87/S88	68'	4/26	4/26	SL	W2	4/25	P	P	
CSDS28	S96/S97	83'	4/26	4/26	CK	W2	4/25	P	P	
CSDS29	S89/S90	8'	4/26	4/26	SL	W2	4/25	P	F	
CSDS30	S104/S105	54'	4/27	4/27	CK	W2	4/26	P	P	
CSDS31	S106/S106	82'	4/27	4/27	SL	W2	4/26	P	P	
CSDS32	S107/S109	61'	4/27	4/27	SL	W2	4/26	P	P	
CSDS33	S109/S111	111'	4/27	4/27	CK	W2	4/26	P	P	
CSDS34	S111/S112	164'	4/27	4/27	SL	W2	4/26	P	P	
CSDS35	S112/S114	37'	4/27	4/27	CK	W2	4/26	P	P	
CSDS36	S114/S115	70'	4/27	4/27	SL	W2	4/26	P	P	
CSDS37	S115/S117	266'	4/28	4/28	CK	W2	4/27	P	P	
CSDS38	S117/S118	280'	4/28	4/28	SL	W2	4/27	P	P	
CSDS39	S118/S119	212'	4/28	4/28	CK	W2	4/27	P	F	
CSDS39A	S118/S119	222'	4/30	4/30	CK	W2	4/27	P	P	
CSDS39B	S118/S119	202'	4/30	4/30	CK	W2	4/27	P	P	
CSDS24A	S79/S97	71'	4/29	4/29	SL	W2	4/25	P	P	
CSDS24B	S81/S95	3	4/29	4/29	SL	W2	4/25	P	P	
CSDS40	S119/S120	179'	4/28	4/28	SL	W2	4/27	P	P	
CSDS41	S120/S121	137'	4/28	4/28	CK	W2	4/27	P	P	
CSDS42	S121/S122	91'	4/28	4/28	SL	W2	4/27	P	P	
CSDS43	S122/S123	99'	4/28	4/28	CK	W2	4/27	P	P	
CSDS44	S121/S57	11	4/28	4/28	SL	W2	4/27	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (2) of (3)

Client: _____
Project: _____
Project Number: _____

Sheet 3 of _____
Date: _____
Rev. Date: _____

DESTRUCTIVE SAMPLE LOG

Layer: Various

Sample Information					Welder Information			Testing Information		Comments, Tracking Notes, Etc.
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	
CSDS45	S6/S16		4/29	4/29	CA	G744	4/22	P	P	
CSDS46	SR15/S53		4/29	4/29	MM	G44	4/22	P	P	
CSDS47	S123/S124	38'	4/29	4/29	CA	W82	4/28	P	P	
CSDS48	S124/S125	92'	4/29	4/29	CA	W82	4/28	P	P	
CSDS49	S129/S130	65'	4/29	4/29	SL	W2	4/28	P	P	
CSDS50	S134/S135	41'	4/29	4/29	SL	W2	4/28	P	P	
CSDS51	S38/S39	27'	4/29	4/29	CA	W82	4/28	P	P	
CSDS52	S137/S140	11'	4/29	4/29	SL	W2	4/28	P	P	
CSDS53	SR11/S36		4/30	4/30	MM	G44	4/22	P	P	
CSDS54	SR143/S132		4/30	4/30	MM	G44	4/29	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (3)

Client: SCS
Project: NORTH RANCH
Project Number: 22SCS-NR-01

CQA SOLUTIONS

Sheet 1 of 11
Date various
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell E1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR1	S5	S6	–	–	–	CSDS1	106	–	P	2	5	14	4/22	0933	CK	G744	WS	4/22	P	XAIS
SR2	S11	S12	–	–	–	CSDS2	32	–	P	2	5	14	4/22	0912	CK	G744	WS	4/22	P	XAIS
SR3	S4	S5	–	–	–	CSDS3	41	–	P	2	5	14	4/22	0858	CK	G744	WS	4/22	P	XAIS
SR4	S10	S11	–	–	–	CSDS4	74	–	P	2	5	14	4/22	0944	CK	G744	WS	4/22	P	XAIS
SR5	S14	S15	–	–	–	CSDS5	120	–	P	2	5	14	4/22	0924	CK	G744	WS	4/22	P	XAIS
SR6	S16	S17	–	–	–	CSDS6	12	–	P	2	6	16	4/22	0938	CK	G744	WS	4/22	P	XAIS
SR7	S22	S23	–	–	–	CSDS7	128	–	P	2	5	14	4/22	1011	CK	G744	WS	4/22	P	XAIS
SR8	S23	S24	–	–	–	CSDS8	89	–	P	2	6	18	4/22	1020	CK	G744	WS	4/22	P	XAIS
SR9	S28	S29	–	–	–	CSDS9	81	–	P	2	5	14	4/22	1326	CK	G744	WS	4/22	P	XAIS
SR10	S29	S30	–	–	–	CSDS10	63	–	P	2	5	14	4/22	1330	CK	G744	WS	4/22	P	XAIS
SR11	S35	S36	–	–	–	CSDS11	38	–	P	2	5	14	4/22	1000	MM	G744	WS	4/22	P	XAIS
SR12	S38	S39	–	–	–	CSDS12	56	–	P	2	5	14	4/22	1010	MM	G744	WS	4/22	P	XAIS
SR13	S44	S45	–	–	–	CSDS13	18	–	P	2	5	14	4/22	1048	MM	G744	WS	4/22	P	XAIS
SR14	S49	S49	–	–	–	CSDS14	8	–	P	2	6	16	4/22	1138	CK	G744	WS	4/22	P	XAIS
SR15	S53	S54	–	–	–	CSDS15	120	–	P	2	6	16	4/22	0950	MM	G744	WS	4/22	P	XAIS
SR16	S54	S55	–	–	–	CSDS16	103	–	P	2	5	14	4/22	0935	MM	G744	WS	4/22	P	XAIS
SR17	S59	S60	–	–	–	CSDS17	63	–	P	2	5	14	4/22	0905	MM	G744	WS	4/22	P	XAIS
SR18	S60	S61	–	–	–	CSDS18	36	–	P	2	6	16	4/22	850	MM	G744	WS	4/22	P	XAIS
SR19	S66	S67	–	–	–	CSDS19	19	–	P	2	5	14	4/22	0830	MM	G744	WS	4/22	P	XAIS
SR20	S65	S66	–	–	–	CSDS20	44	–	P	2	6	16	4/22	0825	MM	G744	WS	4/22	P	XAIS
											Total (Page)	292								
											Total (Project)	292								

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

1 of 11

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-02-01

CQA SOLUTIONS

Sheet 2 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell E1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
GR21	570	565	—	—	—	CSD521	30	—	P	2	5	14	4/22	0830	CK	G-744	WS	4/22	P	XAIS
SR22	515	516	510	—	—	Int	—	—	P	2	3	10	4/22	0939	CK	G-744	WS	4/22	P	XAIS
SR23	529	530	549	—	—	Int	—	—	P	3	3	12	4/22	1147	CK	G-744	WS	4/22	P	XAIS
SR24	520	531	519	—	—	Int	—	—	P	2	2	8	4/22	1352	CK	G-744	WS	4/22	P	XAIS
SR25	526	535	536	—	—	Int	—	—	P	2	2	8	4/19	*	MM	G44	WS	4/20	P	XAIS
SR26	526	—	—	—	—	Hole	150'	7'5	P	1	1	4	4/22	1023	CK	G-744	WS	4/22	P	XAIS
SR27	526	527	536	—	—	Int	—	—	P	2	2	8	4/22	1025	CK	G-744	WS	4/22	P	XAIS
SR28	527	536	537	—	—	Int	—	—	P	2	4	12	4/22	1045	CK	G-744	WS	4/22	P	XAIS
SR29	527	528	537	—	—	Int	—	—	P	3	3	12	4/22	1050	CK	G-744	WS	4/22	P	XAIS
SR30	528	537	538	—	—	Int	—	—	P	3	3	12	4/22	1100	CK	G-744	WS	4/22	P	XAIS
SR31	528	529	538	—	—	Int	—	—	P	3	4	14	4/22	1110	CK	G-744	WS	4/22	P	XAIS
SR32	529	538	539	—	—	Int	—	—	P	2	2	8	4/22	1120	CK	G-744	WS	4/22	P	XAIS
SR33	529	549	539	—	—	Int	—	—	P	3	3	12	4/22	1132	CK	G-744	WS	4/22	P	XAIS
SR34	549	539	540	—	—	Int	—	—	P	2	3	10	4/22	1338	CK	G-744	WS	4/22	P	XAIS
SR35	549	531	541	540	—	Int	—	—	P	4	8	24	4/19	*	MM	G44	WS	4/22	P	XAIS
SR36	531	532	541	—	—	Int	—	—	P	2	3	10	4/22	1348	MM	G44	WS	4/22	P	XAIS
SR37	532	541	542	—	—	Int	—	—	P	2	2	8	4/22	1300	MM	G44	WS	4/22	P	XAIS
SR38	532	546	542	—	—	CAP	—	—	P	2	25	54	4/22	1330	MM	G44	WS	4/22	P	XAIS
SR39	546	542	543	—	—	Int	—	—	P	3	11	28	4/22	1340	MM	G44	WS	4/22	P	XAIS
SR40	546	547	543	—	—	Int	—	—	P	3	7	20	4/22	1112	MM	G44	WS	4/22	P	XAIS

Total (Page)	288
Total (Project)	580

Notes: * NO TIME PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

(2) of (11)

Client: SLS Engineers
Project: North Ranch Landf. II
Project Number: 22-SLS-NRL-01

CQA SOLUTIONS

Sheet 3 of 11
Date Varies
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR41	S17	S18	—	—	—	CAP	170'	—	P	2	3	10	4/22	955	CK	G744	WS	4/22	P	XAIS
SR42	S17	—	—	—	—	CAP	165	6'S	P	1	1	4	4/22	958	CK	G744	WS	4/22	P	XAIS
SR43	S65	S69	S76	—	—	Int	—	—	P	2	3	10	4/22	0805	SLMM	G-44	WS	4/22	P	XAIS
SR44	—	S65	S66	—	—	Int	10'	—	P	3	7	20	4/22	0842	SLMM	G-44	WS	4/22	P	XAIS
SR45	S60	S61	—	—	—	BO	128	—	P	3	6	18	4/22	0910	MM	G-44	WS	4/22	P	XAIS
SR46	S59	—	—	—	—	Hole	115	12'W	P	2	3	10	4/22	0913	MM	G44	WS	4/22	P	XAIS
SR47	S52	—	—	—	—	Hole	75	12'W	P	2	3	10	4/22	*	SL	G744	WS	4/22	P	XAIS
SR48	S44	S45	S47	S48	—	Int	—	—	P	3	5	16	4/22	1100	MM	G44	WS	4/22	P	XAIS
SR49	S36	S38	—	—	—	CSDS22	28	—	P	2	5	14	4/28	0836	SL	G744	WS	4/29	P	XAIS
SR50	S36	S37	—	—	—	CSDS23	55	—	P	2	5	14	4/29	0839	SL	G744	WS	4/29	P	XAIS
SR51	S28	S81	—	—	—	CSDS24	80	—	P	2	5	14	4/28	0855	SL	G744	WS	4/29	P	XAIS
SR52	S81	S82	—	—	—	CSDS25	130	—	P	2	5	14	4/28	0918	SL	G744	WS	4/29	P	XAIS
SR53	S90	S91	—	—	—	CSDS26	19	—	P	2	5	14	4/28	*	SL	G744	WS	4/29	P	XAIS
SR54	S27	S28	—	—	—	CSDS27	68	—	P	2	5	14	4/28	08	SL	G744	WS	4/29	P	XAIS
SR55	S96	S97	—	—	—	CSDS28	83	—	P	2	5	14	4/28	*	SL	G744	WS	4/29	P	XAIS
SR56	S80	S96	—	—	—	CSDS29	8	—	P	2	5	14	4/28	0935	SL	G744	WS	4/29	P	XAIS
SR57	S104	S105	—	—	—	CSDS30	54	—	P	2	6	16	4/28	1001	SL	G744	WS	4/29	P	XAIS
SR58	S105	S106	—	—	—	CSDS31	82	—	P	2	6	16	4/28	0952	SL	G744	WS	4/29	P	XAIS
SR59	S107	~~S108~~	S109	—	—	CSDS32	61	—	P	3	5	16	4/28	0815	SL	G744	WS	4/29	P	XAIS
SR60	S108	S111	—	—	—	CSDS33	111	—	P	2	6	16	4/29	1036	SL	G44	WS	4/29	P	XAIS

Total (Page)	274
Total (Project)	354

Notes: * NO TIME PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

(3) of (11)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-WRL-01

CQA SOLUTIONS

Sheet 4 of 11
Date VARIES
Rev. Date: _____

GEOMEMBRANE REPAIR LOG

Layer: Cell E1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SRC1	S111	S112	–	–	–	CSDS34	164	–	P	2	5	14	4/28	1030	SL	G744	WS	4/30	P	XAIS
SRC2	S112	S114	–	–	–	CSDS35	37	–	P	2	5	14	4/28	1052	SL	G744	WS	4/30	P	XAIS
SRC3	S114	S115	–	–	–	CSDS36	70	–	P	2	5	14	4/28	1100	SL	G744	WS	4/30	P	XAIS
SRC4	S115	S117	–	–	–	CSDS37	1266	–	P	2	6	16	4/28	0948	CK	G744	WS	4/30	P	XAIS
SRC5	S117	S118	–	–	–	CSDS38	780	–	P	2	5	14	4/29	0935	CK	G744	WS	4/30	P	XAIS
SRC6	S118	S119	–	–	–	CSDS39	212	–	P	2	6	16	4/30	*	MM	G44	WS	4/30	P	XAIS
SRC7	S119	S120	–	–	–	CSDS40	1789	–	P	2	5	14	4/30	*	MM	G44	WS	4/30	P	XAIS
SRC8	S120	S121	–	–	–	CSDS41	137	–	P	2	6	16	4/29	847	CK	G744	S	4/30	P	XAIS
SRC9	S121	S122	–	–	–	CSDS42	91	–	P	2	6	16	4/29	0850	CK	G744	WS	4/30	P	XAIS
SRC10	S122	S123	–	–	–	CSDS43	39	–	P	2	6	16	4/29	0910	CK	G744	WS	4/30	P	XAIS
SRC11	S121	S57	–	–	–	CSDS44	11	–	P	2	6	16	4/29	1000	MM	G44	WS	4/30	P	XAIS
SRC12	S74	S97	–	–	–	CSDS29A	7	–	P	2	5	14	4/29	1053	CK	G744	WS	4/30	P	XAIS
SRC13	S81	S95	–	–	–	CSDS29B	3	–	P	2	5	14	4/29	0946	CK	G744	WS	4/30	P	XAIS
SRC14	SR6	S1C	–	–	–	CSDS45	–	–	P	2	5	14	4/29	*	MM	G44	WS	4/30	P	XAIS
SRC15	SR15	S53	–	–	–	CSDS46	–	–	P	2	5	14	4/30	0933	MM	G44	WS	4/30	P	XAIS
SRC16	S123	S124	–	–	–	CSDS47	38	–	P	2	5	14	4/30	*	MM	G44	WS	4/30	P	XAIS
SRC17	S124	S125	–	–	–	CSDS48	92	–	P	2	5	14	4/30	*	MM	G44	WS	4/30	P	XAIS
SRC18	S129	S120	–	–	–	CSDS49	105	–	P	2	5	14	4/29	1532	MM	G44	WS	4/30	P	XAIS
SRC19	S141	S135	–	–	–	CSDS50	41	–	P	2	5	14	4/29	1141	MM	G44	WS	4/30	P	XAIS
SRC20	S138	S139	–	–	–	CSDS51	27	–	P	2	5	14	4/29	1050	MM	G44	WS	4/30	P	XAIS

Total (Page)	242
Total (Project)	1146

Notes: * NO TIME PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 5 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Secondary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR81	S137	S10	—	—	-	CSDSSZ	11	—	P	2	5	14	4/29	0942	MM	G44	WS	4/28	P	XAIS
SR82	S119	S119	—	—	-	CSDS39A	222	—	P	2	12	28	4/30	*	MM	G44	WS	4/30	P	XAIS
SR83	S118	S119	—	—	-	CSDS39B	201	—	P	2	12	28	4/30	*	MM	G44	WS	4/30	P	XAIS
SR84	S88	S89	—	—	-	CAP	105	—	P	2	6	16	4/28	1054	SL	G744	WS	4/28	P	XAIS
SR85	S87	S88	—	—	-	CAP	135	—	P	2	2	8	4/28	1054	SL	G744	WS	4/28	P	XAIS
SR86	S87	—	—	—	-	CAP	130	5' E	P	2	2	8	4/28	1052	SL	G744	WS	4/28	P	XAIS
SR87	S87	S86	—	—	-	CAP	120	—	P	2	2	8	4/28	1030	SL	G744	WS	4/28	P	XAIS
SR88	S86	—	—	—	-	CAP	125	11' E	P	2	2	8	4/28	1028	SL	G744	WS	4/28	P	XAIS
SR89	S86	S85	—	—	-	CAP	31	—	P	2	5	14	4/28	1021	SL	G744	WS	4/28	P	XAIS
SR90	S85	S86	S92	—	-	Int	—	—	P	4	4	16	4/28	1016	SL	G744	WS	4/28	P	XAIS
SR91	S84	S85	S92	—	-	Int	—	—	P	2	2	8	4/28	1012	SL	G744	WS	4/28	P	XAIS
SR92	S83	S84	S92	—	-	Int	—	—	P	2	2	8	4/28	1008	SL	G744	WS	4/28	P	XAIS
SR93	S83	S84	S93	—	-	Int	—	—	P	2	2	8	4/28	1003	SL	G744	WS	4/28	P	XAIS
SR94	S83	S93	S94	—	-	Int	—	—	P	2	2	8	4/28	1000	SL	G744	WS	4/28	P	XAIS
SR95	S82	S83	S94	—	-	Int	—	—	P	2	2	8	4/28	0957	SL	G744	WS	4/28	P	XAIS
SR96	S82	S94	S95	—	-	Int	—	—	P	2	2	8	4/28	0943	SL	G744	WS	4/28	P	XAIS
SR97	S81	S82	S95	—	-	Int	—	—	P	2	2	8	4/28	0941	SL	G744	WS	4/29	P	XAIS
SR98	S81	S95	S96	—	-	Int	—	—	P	2	2	8	4/28	0938	SL	G744	WS	4/29	P	XAIS
SR99	S80	S81	S96	—	-	Int	—	—	P	2	2	8	4/28	0937	SL	G744	WS	4/29	P	XAIS
SR100	S79	S80	—	—	-	CAP	93	—	P	2	2	8	4/28	0931	SL	G744	WS	4/29	P	XAIS

Total (Page)	228
Total (Project)	1374

Notes: * TIME NOT PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Date VARIES
Rev. Date:

GEOMEMBRANE REPAIR LOG

Layer: Cell F1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR101	S74	S90	S96	S97	–	Int	–	–	P	3	7	20	4/28	0930	SL	G744	WS	4/29	P	XAIS
SR102	S77	S79	S97	S98	–	Int	–	–	P	2	2	8	4/28	0911	SL	G744	WS	4/29	P	XAIS
SR103	S96	S97	S99	–	–	Int	–	–	P	2	2	8	4/29	0917	SL	G744	WS	4/29	P	XAIS
SR104	S97	S98	S99	–	–	Int	–	–	P	2	2	8	4/28	0919	SL	G744	WS	4/28	P	XAIS
SR105	S77	S78	S98	S100	–	Int	–	–	P	2	4	12	4/28	0857	SL	G744	WS	4/29	P	XAIS
SR106	S76	S77	S100	–	–	Int	–	–	P	2	2	8	4/28	0854	SL	G744	WS	4/29	P	XAIS
SR107	S76	S100	S101	–	–	Int	–	–	P	2	2	8	4/28	0850	SL	G744	WS	4/29	P	XAIS
SR108	S100	S101	S102	–	–	Int	–	–	P	2	2	8	4/29	0936	SL	G744	WS	4/29	P	XAIS
SR109	S101	S102	S103	–	–	Int	–	–	P	2	2	8	4/28	0942	SL	G744	WS	4/29	P	XAIS
SR110	S101	S75	S76	–	–	Int	–	–	P	2	2	8	4/28	0847	SL	G744	WS	4/29	P	XAIS
SR111	S101	S103	S75	–	–	Int	–	–	P	2	3	10	4/29	0842	SL	G744	WS	4/29	P	XAIS
SR112	S103	S75	S74	–	–	Int	–	–	P	2	2	8	4/28	0840	SL	G744	WS	4/29	P	XAIS
SR113	S103	S104	S74	–	–	Int	–	–	P	2	2	8	4/28	0838	SL	G744	WS	4/29	P	XAIS
SR114	S104	S74	S73	–	–	Int	–	–	P	2	2	8	4/28	0836	SL	G744	WS	4/29	P	XAIS
SR115	S104	S105	S73	–	–	Int	–	–	P	2	3	10	4/28	0830	SL	G744	WS	4/29	P	XAIS
SR116	S105	S73	S72	–	–	Int	–	–	P	2	2	8	4/29	0825	SL	G744	WS	4/29	P	XAIS
SR117	S103	S104	–	–	–	CAP	185	–	P	3	3	12	4/28	0941	SL	G744	WS	4/29	P	XAIS
SR118	S105	S106	S72	S71	–	Int	–	–	P	3	8	22	4/28	0823	SL	G744	WS	4/29	P	XAIS
SR119	S106	S107	S71	S70	–	Int	–	–	P	3	4	14	4/28	0809	SL	G744	WS	4/29	P	XAIS
SR120	S107	S109	S110	–	–	Int	–	–	P	2	3	10	4/28	1104	SL	G744	WS	4/29	P	XAIS

Total (Page)	206
Total (Project)	1480

Notes:

Client: SCS Engineers
Project: North Ranch Landf. 11
Project Number: 22-SCS-VA1-01

CQA SOLUTIONS

Sheet 7 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR121	S109	S110	S111	—	—	Int	—	—	P	2	3	10	4/28	1101	SL	G744	WS	4/29	P	XAIS
SR122	S105	S106	S108	—	—	Int	—	—	P	2	2	8	4/29	1025	CA	G744	WS	4/29	P	XAIS
SR123	S106	S107	S108	—	—	Int	—	—	P	2	2	8	4/29	1023	CA	G744	WS	4/29	P	XAIS
SR124	S110	S111	—	—	—	BC	51	—	P	3	4	14	4/29	1017	CA	G744	WS	4/29	P	XAIS
SR125	S111	S112	—	—	—	BC	297	—	P	2	4	12	4/29	1011	CA	G744	WS	4/29	P	XAIS
SR126	S112	S113	S114	—	—	Int	—	—	P	2	3	10	4/28	1043	SL	G744	WS	4/29	P	XAIS
SR127	S113	S114	S115	—	—	Int	—	—	P	2	3	10	4/28	1046	SL	G744	WS	4/29	P	XAIS
SR128	S68	S69	S107	—	—	Int	—	—	P	2	2	8	4/29	1100	CA	G744	WS	4/29	P	XAIS
SR129	S67	S68	S107	S109	—	Int	—	—	P	3	6	18	4/29	1106	CA	G744	WS	4/29	P	XAIS
SR130	S66	S67	S109	S111	—	Int	—	—	P	5	6	13	4/29	1116	CA	G744	WS	4/29	P	XAIS
SR131	S66	S65	S111	—	—	Int	—	—	P	2	2	8	4/29	1126	CA	G744	WS	4/29	P	XAIS
SR132	S65	S111	S112	—	—	Int	—	—	P	2	3	10	4/29	1127	CA	G744	WS	4/29	P	XAIS
SR133	S65	S112	—	—	—	CAP	9	—	P	2	2	8	4/29	1130	CA	G744	WS	4/29	P	XAIS
SR134	S112	—	—	—	—	CAP	3	16' E	P	2	3	10	4/29	1134	CA	G744	WS	4/29	P	XAIS
SR135	S64	S65	S112	—	—	Int	—	—	P	2	2	8	4/29	1138	CA	G744	WS	4/29	P	XAIS
SR136	S64	S112	S113	—	—	Int	—	—	P	2	2	8	4/29	1139	CA	G744	WS	4/29	P	XAIS
SR137	S63	S64	S113	—	—	Int	—	—	P	2	2	8	4/29	1143	CA	G744	WS	4/29	P	XAIS
SR138	S114	S115	S116	—	—	Int	—	—	P	2	2	8	4/29	0958	CA	G744	WS	4/29	P	XAIS
SR139	S115	S116	S117	—	—	Int	—	—	P	2	2	8	4/29	0956	CA	G744	WS	4/29	P	XAIS
SR140	S79	S80	S81	S82	S83	CAP	—	—	P	2	20	44	4/30	0905	MM	G744	WS	4/30	P	XAIS

Total (Page)	276
Total (Project)	1816

Notes: _____

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Client: SLS Engineers
Project: Ne-Th Ranch Landfill
Project Number: 72-SLS-NRL-01

CQA SOLUTIONS

Sheet 8 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR141	SR1	S36	-	-	-	CSDG3	-	-	P	2	6	18	4/30	*	MM	G44	WS	4/30	P	XAIS
SR142	R143	S37	-	-	-	CSDG4	-	-	P	3	5	18	4/30	*	MM	G44	WS	4/30	P	XAIS
SR143	S129	S132	S14	S21	-	Int	-	-	P	4	8	24	4/29	1415	MM	G44	WS	4/30	P	XAIS
SR144	S119	S115	S62	-	-	Int	-	-	P	2	2	8	4/29	1148	CA	G744	WS	4/30	P	XAIS
SR145	S115	S63	S62	-	-	Int	-	-	P	2	6	12	4/29	1150	CA	G744	WS	4/30	P	XAIS
SR146	S115	S117	S62	-	-	Int	-	-	P	3	3	12	4/29	1040	MM	G44	WS	4/30	P	XAIS
SR147	S117	S62	S61	-	-	Int	-	-	P	2	2	8	4/29	1036	MM	G44	WS	4/30	P	XAIS
SR148	S117	S118	S61	-	-	Int	-	-	P	2	2	8	4/29	1032	MM	G44	WS	4/30	P	XAIS
SR149	S118	S61	S60	-	-	Int	-	-	P	2	2	8	4/29	1027	MM	G44	WS	4/30	P	XAIS
SR150	S118	S119	S60	-	-	Int	-	-	P	2	2	8	4/29	1025	MM	G44	WS	4/30	P	XAIS
SR151	S119	S60	S59	-	-	Int	-	-	P	2	2	8	4/29	1023	MM	G44	WS	4/30	P	XAIS
SR152	S119	S120	S59	-	-	Int	-	-	P	2	2	8	4/29	1020	MM	G44	WS	4/30	P	XAIS
SR153	S120	S59	S58	-	-	Int	-	-	P	2	2	8	4/29	1018	MM	G44	WS	4/30	P	XAIS
SR154	~~S120~~	121	S58	-	-	Int	-	-	P	2	2	8	4/29	1015	MM	G44	WS	4/30	P	XAIS
SR155	S120	S58	S57	-	-	Int	-	-	P	2	2	8	4/29	1013	MM	G44	WS	4/30	P	XAIS
SR156	S121	S122	S57	-	-	Int	-	-	P	2	4	8	4/29	0955	MM	G44	WS	4/30	P	XAIS
SR157	S122	S57	S56	-	-	Int	-	-	P	2	2	8	4/29	0950	MM	G44	WS	4/30	P	XAIS
SR158	S122	S123	S56	-	-	Int	-	-	P	3	4	14	4/29	0945	MM	G44	WS	4/30	P	XAIS
SR159	S123	S56	S55	-	-	Int	-	-	P	2	2	8	4/29	0940	MM	G44	WS	4/30	P	XAIS
SR160	S123	S124	S55	S54	-	Int	-	-	P	4	6	20	~~4/29~~	0807	MM	G44	WS	4/30	P	XAIS

Total (Page)	214
Total (Project)	2030

S120

Notes: * TIME NOT PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

8 of 11

Client: SLS Engineers
Project: North Ranch Landf. 11
Project Number: 21-SLS-NRL-01

CQA SOLUTIONS

Sheet 9 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
SR161	S124	S125	S54	S53	—	Int	—	—	P	2	4	12	4/28	0755	MM	G44	WS	4/30	P	KAIS
SR162	S125	S126	S53	S52	—	Int	—	—	P	3	3	12	4/30	0750	MM	G44	WS	4/30	P	XAIS
SR163	S116	S117	S52	S51	—	Int	—	—	P	2	10	24	4/30	0743	MM	G44	WS	4/30	P	XAIS
SR164	S117	S128	S51	S50	—	Int	—	—	P	2	6	16	4/29	1635	MM	G44	WS	4/30	P	XAIS
SR165	S128	S129	S50	S53	—	Int	—	—	P	3	5	16	4/29	1630	MM	G44	WS	4/30	P	XAIS
SR166	S129	S33	S54	—	—	Int	—	—	P	2	2	8	4/29	1621	MM	G44	WS	4/30	P	XAIS
SR167	S129	S130	S34	—	—	Int	—	—	P	2	2	8	4/29	1616	MM	G44	WS	4/30	P	XAIS
SR168	S130	S34	S35	—	—	Int	—	—	P	2	2	8	4/29	1610	MM	G44	WS	4/30	P	XAIS
SR169	S130	S131	S35	—	—	Int	—	—	P	2	3	10	4/29	1608	MM	G44	WS	4/30	P	XAIS
SR170	S131	S35	S36	S46	—	Int	—	—	P	4	6	20	4/29	1603	MM	G44	WS	4/30	P	XAIS
SR171	S131	S36	S46	—	—	Int	—	—	P	2	2	8	4/29	1555	MM	G44	WS	4/30	P	XAIS
SR172	S131	S25	S24	—	—	Int	—	—	P	2	2	8	4/29	1541	MM	G44	WS	4/30	P	XAIS
SR173	S24	S131	S130	—	—	Int	—	—	P	3	3	12	4/29	1535	MM	G44	WS	4/30	D	XAIS
SR174	S130	S24	S23	—	—	Int	—	—	P	2	2	8	4/29	1520	MM	G44	WS	4/30	P	XAIS
SR175	S130	S23	S22	—	—	Int	—	—	P	2	2	8	4/29	1518	MM	G44	WS	4/30	P	XAIS
SR176	S130	S132	S22	S21	—	Int	—	—	P	3	5	16	4/29	1505	MM	G44	WS	4/30	P	XAIS
SR177	S132	S19	S18	—	—	Int	—	—	P	3	3	12	4/29	1425	MM	G44	WS	4/30	P	XAIS
SR178	S132	S118	S18	—	—	Int	—	—	P	3	3	12	4/29	1418	MM	G44	WS	4/30	P	XAIS
SR179	S129	S132	S128	—	—	Int	—	—	P	3	4	14	4/29	1415	MM	G44	WS	4/30	P	XAIS
SR180	S18	S118	S117	—	—	Int	—	—	P	3	5	16	4/29	1415	MM	G44	WS	4/30	P	XAIS

Total (Page)	248
Total (Project)	2278

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 10 of 11
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 6 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR181	518	517	5146	5127	—	Int	—	—	P	3	10	26	4/29	1400	MM	G44	WS	4/30	P	XAIS
SR182	520	519	5139	—	—	Int	—	—	P	2	2	8	4/29	1500	MM	G44	WS	4/30	P	XAIS
SR183	5126	5125	5135	—	—	Int	—	—	P	2	2	8	4/29	*	MM	G44	WS	4/30	P	XAIS
SR184	5136	127	135	140	—	Int	—	—	P	2	10	24	4/29	*	MM	G44	WS	4/30	P	XAIS
SR185	5140	518	517	—	—	Int	—	—	P	2	4	12	4/29	1340	MM	G44	WS	4/30	P	XAIS
SR186	5140	510	5135	—	—	Int	—	—	P	2	3	10	4/29	1332	MM	G44	WS	4/30	P	XAIS
SR187	5135	5135	5131	—	—	Int	—	—	P	2	2	8	4/29	1328	MM	G44	WS	4/30	P	XAIS
SR188	5129	5134	5125	—	—	Int	—	—	P	2	5	14	4/29	1325	MM	G44	WS	4/30	P	XAIS
SR189	5135	516	520	—	—	Int	—	—	P	2	2	8	4/29	1315	MM	G44	WS	4/30	P	XAIS
SR190	5135	—	—	—	—	Hole	21'	5'W of SR	P	2	2	8	4/29	1135	MM	G44	WS	4/30	P	XAIS
SR191	5135	—	—	—	—	Hole	22'	5'W of SR	P	2	2	8	4/29	1132	MM	G44	WS	4/30	P	XAIS
SR192	5135	526	5136	—	—	Int	—	—	P	2	4	12	4/29	1127	MM	G44	WS	4/30	P	XAIS
SR193	5135	5124	5136	—	—	Int	—	—	P	2	4	12	4/29	1035	MM	G44	WS	4/30	P	XAIS
SR194	518	5136	5138	—	—	Int	—	—	P	2	3	10	4/29	1040	MM	G44	WS	4/30	P	XAIS
SR195	5138	520	515	—	—	Int	—	—	P	2	4	12	4/29	1118	MM	G44	WS	4/30	P	XAIS
SR196	5134	5138	515	—	—	Int	—	—	P	2	2	8	4/29	1113	MM	G44	WS	4/30	P	XAIS
SR197	5139	513	514	—	—	Int	—	—	P	3	8	22	4/29	1110	MM	G44	WS	4/30	P	XAIS
SR198	5135	514	513	—	—	Int	—	—	P	2	3	10	4/29	1100	MM	G44	WS	4/30	P	XAIS
SR199	5129	513	512	—	—	Int	—	—	P	2	3	10	4/29	1045	MM	G44	WS	4/30	P	XAIS
SR200	5139	512	511	—	—	Int	—	—	P	2	2	8	4/29	1027	MM	G44	WS	4/30	P	XAIS

Total (Page)	238
Total (Project)	2516

Notes: * TIME NOT PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: _____
Project: _____
Project Number: _____

CQA SOLUTIONS

Date _____
Rev. Date: _____

GEOMEMBRANE REPAIR LOG

Layer: Cell #1 Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
SR201	S139	S138	S11			Int			P	3	7	20	4/29	1625	MM	G44	WS	4/30	P	XAIS
SR202	S138	S136				CAP	20		P	2	2	8	4/29	1636	MM	G44	WS	4/30	P	XAIS
SR203	S138	S137	S11	S-10		Int			P	2	6	16	4/29	1622	MM	G44	WS	4/30	P	XAIS
SR204	S138	S137	S136			Int			P	2	3	10	4/29	1615	MM	G44	WS	4/30	P	XAIS
SR205	S137	S10	S9			Int			P	2	3	10	4/29	0938	MM	G44	WS	4/30	P	XAIS
SR206	S137	S9	S-			CAP	12		P	2	2	8	4/29	0920	MM	G44	WS	4/30	P	XAIS
SR207	S9	S-	S-			Hole	160	11'W	P	1	1	4	4/29	0918	MM	G44	WS	4/30	P	XAIS
SR208	S137		S7	S8		Int			P	2	2	8	4/29	0852	MM	G44	WS	4/30	P	XAIS
SR209	S136	S137		17	S6	Int			P	2	6	16	4/29	0845	MM	G44	WS	4/30	P	XAIS
SR210	~~S136~~	S137	S9	S8		Int			P	2	2	8	4/29	0842	MM	G44	WS	4/30	P	XAIS
SR211	S7					Hole			P	1	2	6	4/29	0907	MM	G44	WS	4/30	P	XAIS
SR212	S136	S6	S5			Int			P	2	3	10	4/29	0835	MM	G44	WS	4/30	P	XAIS
SR213	S136	S5	S4			Int			P	2	2	8	4/29	0826	MM	G44	WS	4/30	P	XAIS
SR214	S136	S4	S3			Int			P	2	2	8	4/29	0825	MM	G44	WS	4/30	P	XAIS
SR215	S136	S134	S3			Int			P	3	4	14	4/29	0815	MM	G44	WS	4/30	P	XAIS
SR216	S134	S3	S2			Int			P	2	2	8	4/29	0809	MM	G44	WS	4/30	P	XAIS
SR217	S134	S2	S1			Int			P	2	2	8	4/29	0800	MM	G44	WS	4/30	P	XAIS
SR218	S134	S1M				Int			P	3	4	14	4/29	0755	MM	G44	WS	4/30	P	XAIS

Total (Page)	
Total (Project)	

Notes: _____

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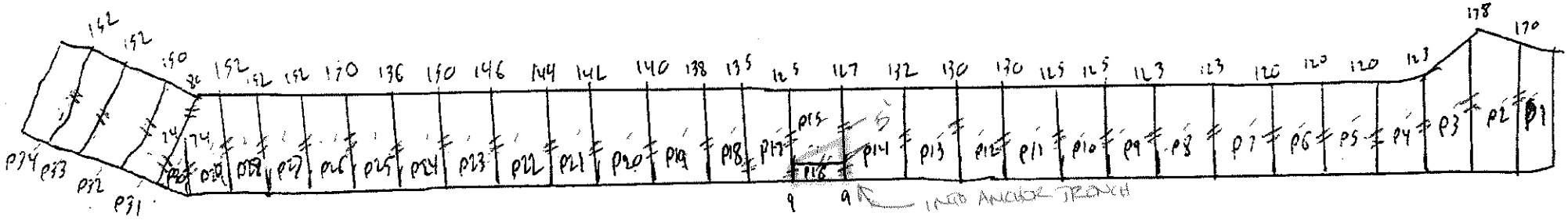
APPENDIX H-4-C:
CQA Field Records – Cell E-1
Geosynthetics - Primary

Cell E1 Primary

22-SCS-NRL-01

5/4/22

NORTH BERM



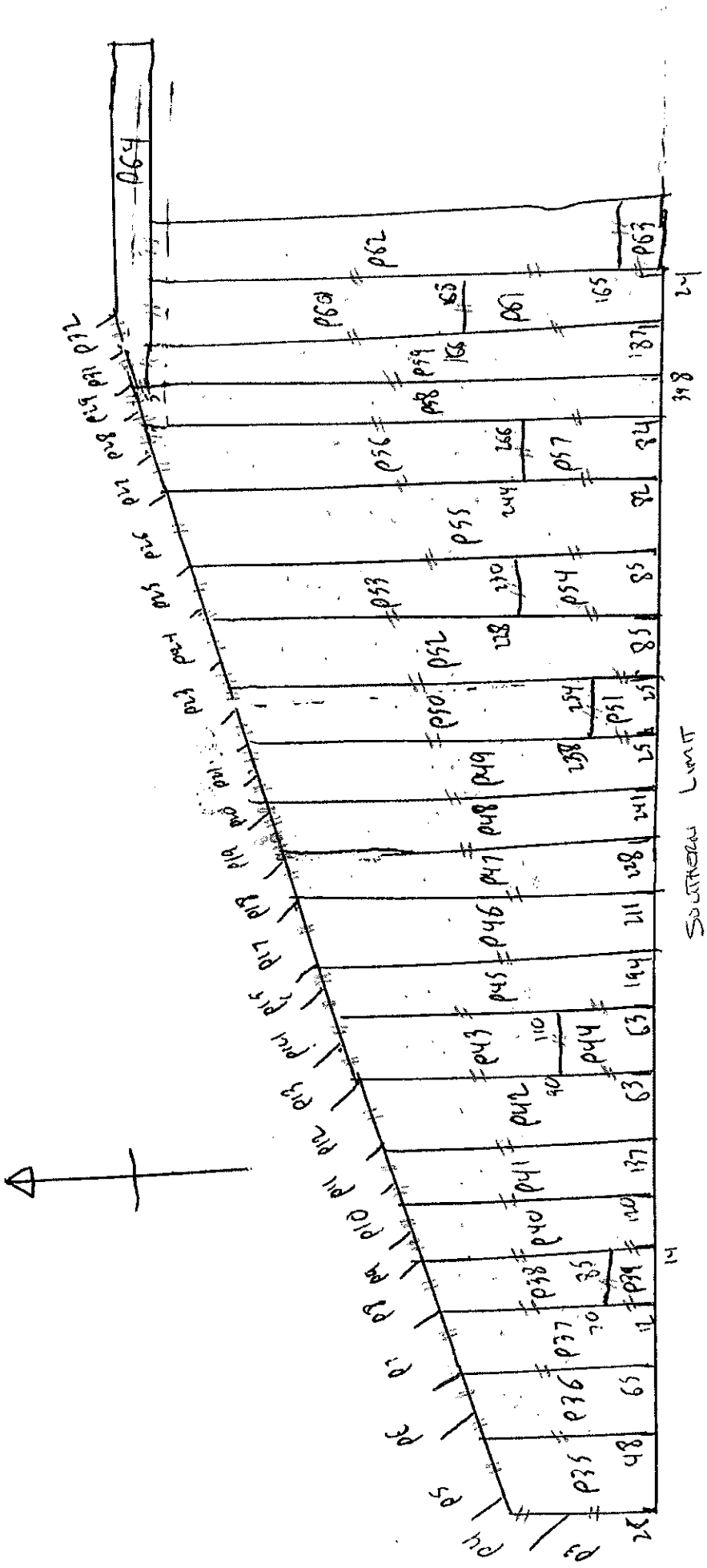
(1) LEAVE P16 IN PLACE - DO NOT REMOVE

(2) PLACE PANEL ON TOP OF P16 (P16R)

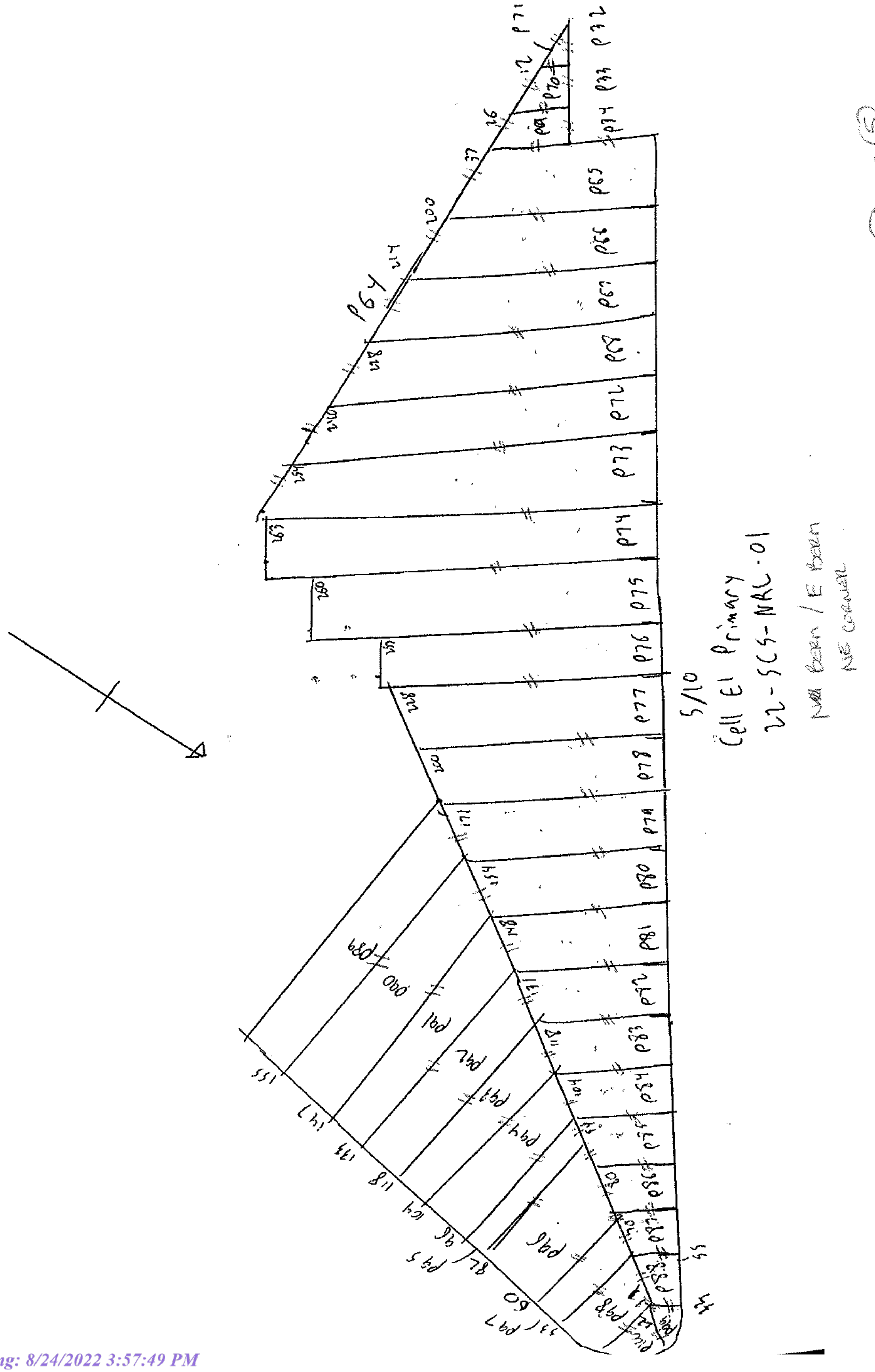
(3) COVER P15/P16 KROSS SEAM

(4) ON ONE SIDE OF P16R, ~~OR~~ MAKE APPROX 5 FEET PAST ORIGINAL CROSS-SEAM

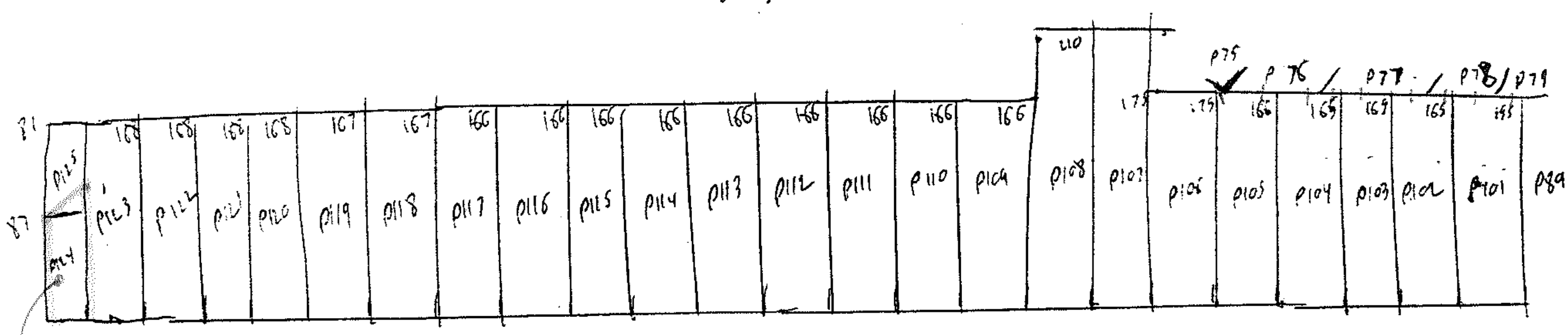
PG (1) OF (5)



Pg 2 of


PG 3 OF 5
P64
5/10
Cell E1 Primary
22-SCS-NAL-01
NE Berm / E Berm
NE corner

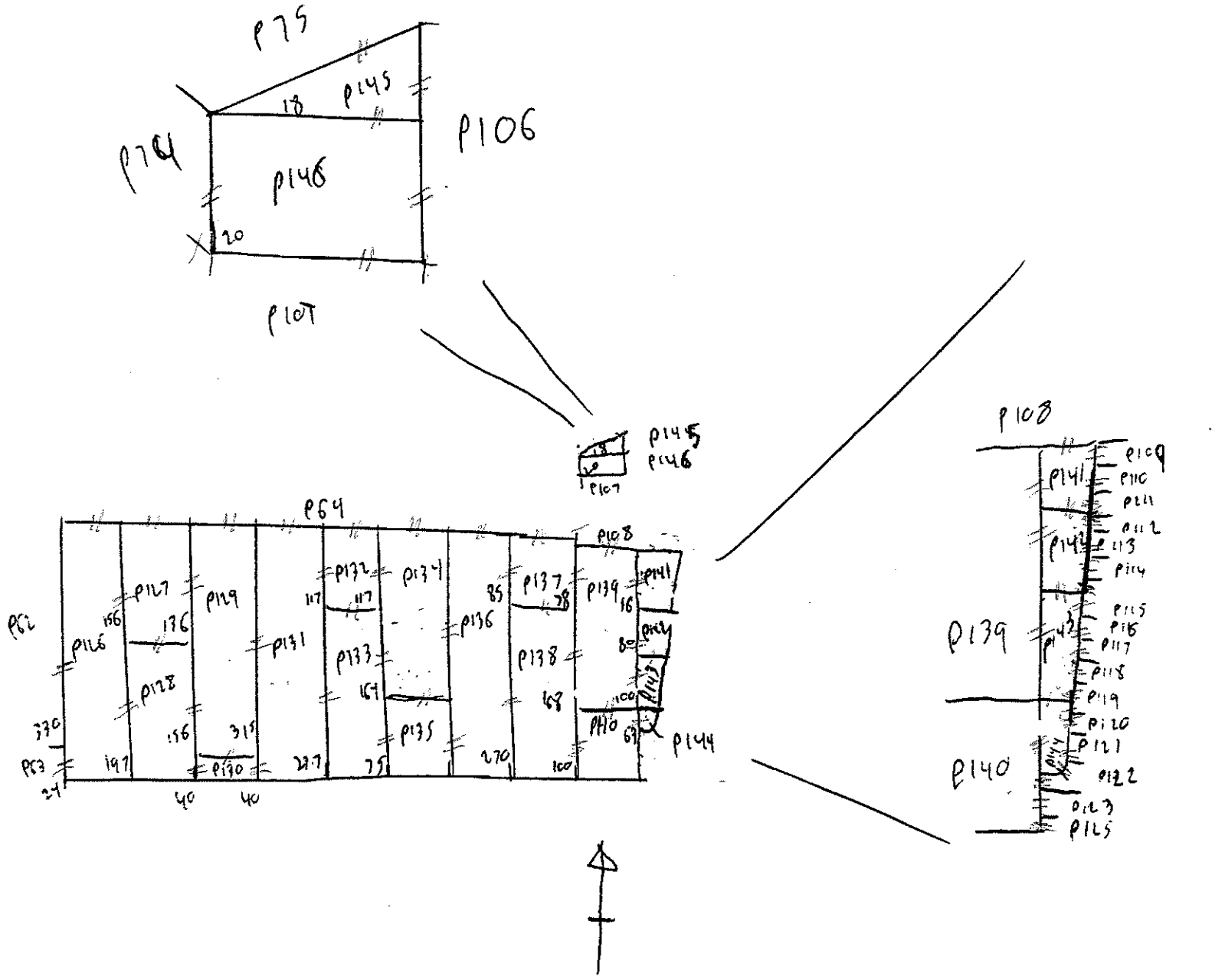
5/11/22
Cell E1 Primary
22-SCS-NRL-01



E. BERM

NOTE:
DUE TO HORIZONTAL SEAM ON SLOPE, P-124 WAS CAPPED WITH A REPLACEMENT PANEL (P124-R1)
P124 WAS LEFT IN PLACE.
P124-R1 WAS EXTRUSION WELDED OVER TOP OF P124 & HAS THE PROPER 45° ANGLE NECESSARY FOR A SLOPE PANEL

Pg ④ of ⑤
REV. 1



5/16/22
Cell G1 Primary
22-SCS-NRL-01

Client: SCS Engineers
Project: Nozzle Ranch
Project Number: 22SC5NRL01

CQA SOLUTIONS

Sheet 1 of 10
Date: 5/4/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P1	3938	800	170	23	3910	170	22.5	3,825	N. Berm	XAIS	
P2	3938	807	178	23	4094	174	22.5	3,915	N. Berm	XAIS	
P3	3938	809	178	23	4094	157	22.5	3,532.5	N. Berm	XAIS	
P4	3904	820	123	23	2829	122	22.5	2745	N. Berm	XAIS	
P5	3904	825	120	23	2760	120	22.5	2700	N. Berm	XAIS	
P6	3904	830	120	23	2760	120	22.5	2700	N. Berm	XAIS	
P7	3904	845	123	23	2829	122	22.5	2745	N. Berm	XAIS	
P8	3972	900	123	23	2829	123	22.5	2767.5	N. Berm	XAIS	
P9	3972	905	125	23	2875	124	22.5	2790	N. Berm	XAIS	
P10	3972	910	125	23	2875	125	22.5	2812.5	N. Berm	XAIS	
P11	3972	915	130	23	2990	127	22.5	2857.5	N. Berm	XAIS	
P12	3906	925	130	23	2990	130	22.5	2925	N. Berm	XAIS	
P13	3906	930	132	23	3036	131	22.5	2947.5	N. Berm	XAIS	
P14	3906	935	136	23	3128	134	22.5	3015	N. Berm	XAIS	
P15	3906	940	127	23	2921	126	22.5	2835	N. Berm	XAIS	
P16	3938	950	9	23	207	9	22.5	202.5	N. Berm	XAIS	
P17	3945	955	135	23	3105	135	22.5	3037.5	N. Berm	XAIS	
P18	3945	1000	136	23	3128	136	22.5	3060	N. Berm	XAIS	
P19	3945	1005	140	23	3220	138	22.5	3105	N. Berm	XAIS	
P20	3919	1030	142	23	3226	141	22.5	3172.5	N. Berm	XAIS	
P21	3919	1035	144	23	3312	143	22.5	3217.5	N. Berm	XAIS	
P22	3919	1040	142	23	3358	145	22.5	3262.5	N. Berm	XAIS	
P23	3989	1050	150	23	3450	147	22.5	3330	N. Berm	XAIS	
P24	3989	1055	150	23	3450	143	22.5	3217.5	N. Berm	XAIS	
			Total SF (Page)		73,376	Total SF (Page)		70717.5			
			Total SF (Project)		73,376	Total SF (Project)		70717.5			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 of 10

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 10
Date: 5/4/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell G1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P25	3489	1100	150	23	3450	143	22.5	3217.5	N. Berm	XAIS	
P26	3489	1300	152	23	3496	151	22.5	3397.5	N. Berm	XAIS	
P27	3421	1305	152	23	3496	152	22.5	3420	N. Berm	XAIS	
P28	3421	1310	152	23	3496	152	22.5	3420	N. Berm	XAIS	
P29	3485	1315	154	23	3542	153	22.5	3442.5	N. Berm	XAIS	
P30	3985	1320	74	10	370	74	10	370	N. Berm	XAIS	Triangle
P31	3485	1330	154	23	3542	152	22.5	3420	N. Berm	XAIS	
P32	3985	1335	152	23	3496	151	22.5	3397.5	N. Berm	XAIS	
P33	3916	1350	152	23	3496	152	22.5	3420	N. Berm	XAIS	
P34	3916	1355	152	23	3496	152	22.5	3420	N. Berm	XAIS	
				Total SF (Page)	31886		Total SF (Page)	30825			
				Total SF (Project)	105,256		Total SF (Project)	101,542.5			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 of 10

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 42-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 10
Date: 5/9/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 9 Primary Material Type: HDPE Thickness: 60mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P35	3954	0800	48	23	1104	38	22.5	855	Floor	XAIS	
P36	3954	0805	65	23	1495	57	22.5	1282.5	Floor	XAIS	
P37	4010	0815	82	23	1886	73	22.5	1642.5	Floor	XAIS	
P38	4010	0820	85	23	1955	77	22.5	1732.5	Floor	XAIS	
P39	3988	0830	14	23	322	13	22.5	292.5	Floor	XAIS	
P40	3897	0835	120	23	2760	110	22.5	2475	Floor	XAIS	
P41	3897	0840	137	23	3151	128	22.5	2880	Floor	XAIS	
P42	3897	0845	154	23	3542	145	22.5	3262.5	Floor	XAIS	
P43	3897	0850	110	23	2530	100	22.5	2250	Floor	XAIS	
P44	3941	0900	63	23	1449	63	22.5	1417.5	Floor	XAIS	
P45	3941	0905	194	23	4462	184	22.5	4140	Floor	XAIS	
P46	3941	0910	211	23	4853	202	22.5	4545	Floor	XAIS	
P47	3975	0920	228	23	5244	219	22.5	4927.5	Floor	XAIS	
P48	3975	0925	241	23	5543	236	22.5	5310	Floor	XAIS	
P49	3940	0935	263	23	6049	252	22.5	5670	Floor	XAIS	
P50	3940	0940	254	23	5842	246	22.5	5535	Floor	XAIS	
P51	3988	1000	25	23	575	25	22.5	562.5	Floor	XAIS	
P52	3933	1010	300	23	6900	290	22.5	6525	Floor	XAIS	
P53	3933	1015	230	23	5290	229	22.5	5107.5	Floor	XAIS	
P54	3900	1025	85	23	1955	85	22.5	1912.5	Floor	XAIS	
P55	3906	1300	321	23	7521	321	22.5	7222.5	Floor	XAIS	
P56	3905	1310	266	23	6118	255	22.5	5737.5	Floor	XAIS	
P57	3898	1315	82	23	1886	82	22.5	1845	Floor	XAIS	
P58	3898	1320	398	23	9154	353	22.5	7942.5	Floor	XAIS	
			Total SF (Page)		91626	Total SF (Page)		85072.5			
			Total SF (Project)		165,002	Total SF (Project)		155,790			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) of (10)

Client: SCS Engineers
Project: North Ranch Landfills
Project Number: 22-SCS-NRL-01

Sheet 4 of 10
Date: 5/5/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
P59	3922	1330	358	23	8234	355	22.5	7987.5	Floor	XAIS	
P60	3922	1335	168	23	3864	167	22.5	3757.5	Floor	XAIS	
P61	3925	1340	189	23	4347	188	22.5	4230	Floor	XAIS	
P62	3925	1355	330	23	7590	330	22.5	7425	Floor	XAIS	
P63	3977	1410	24	23	552	24	22.5	540	Floor	XAIS	
P64	3905	1420	250	23	5750	250	22.5	5625	Floor	XAIS	
				Total SF (Page)	30364		Total SF (Page)	26867			
				Total SF (Project)	193366		Total SF (Project)	182657			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-09

CQA

Sheet 5 of 10
Date: 6/10

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 61 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P65	3912	0755	200	23	4600	195	22.5	4387.5	N Berm	XAIS	
P66	3912	0800	214	23	4922	207	22.5	4657.5	N Berm	XAIS	
P67	3902	0810	228	23	5244	221	22.5	4972.5	N Berm	XAIS	
P68	3902	0815	240	23	5520	234	22.5	5265	N Berm	XAIS	
P69	3902	0820	37	23	851	32	22.5	720	Floor	XAIS	
P70	3985	0830	26	23	598	19	22.5	427.5	Floor	XAIS	
P71	3902	0837	12	10	60	12	10	60	Floor	XAIS	Triangle
P72	3907	0850	254	23	5842	247	22.5	5557.5	N Berm	XAIS	
P73	3907	0855	263	23	6049	258	22.5	5805	N. Berm	XAIS	
P74	3908	0905	265	23	6049	262	22.5	5895	N Berm	XAIS	
P75	3908	0910	260	23	5980	259	22.5	5827.5	N Berm	XAIS	
P76	4001	0920	257	23	5911	242	22.5	5445	N Berm	XAIS	
P77	4001	0925	228	23	5244	214	22.5	4815	N Berm	XAIS	
P78	3914	0935	200	23	4600	186	22.5	4185	N Berm	XAIS	
P79	3914	0940	171	23	3933	163	22.5	3667.5	N Berm	XAIS	
P80	3914	0945	154	23	3542	151	22.5	3397.5	N Berm	XAIS	
P81	3986	1300	148	23	3404	140	22.5	3150	N Berm	XAIS	
P82	3986	1305	131	23	3013	125	22.5	2812.5	N Berm	XAIS	
P83	3986	1310	118	23	2714	111	22.5	2497.5	N Berm	XAIS	
P84	3986	1315	104	23	2392	99	22.5	2227.5	N Berm	XAIS	
P85	3916	1325	94	23	2162	87	22.5	1957.5	N Berm	XAIS	
P86	3916	1330	80	23	1840	75	22.5	1687.5	N Berm	XAIS	
P87	3912	1340	70	23	1610	63	22.5	1417.5	N Berm	XAIS	
P88	3938	1350	55	23	1265	44	22.5	990	N Berm	XAIS	
			Total SF (Page)		87345	Total SF (Page)		81825			
			Total SF (Project)		282,711	Total SF (Project)		264,482			

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 6 of 10
Date: 5/10

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P89	4004	1400	155	23	3565	155	22.5	3487.5	E Berm	XAIS	
P90	4004	1405	155	23	3565	151	22.5	3397.5	E Berm	XAIS	
P91	4004	1410	147	23	3381	140	22.5	3150	E Berm	XAIS	
P92	3996	1420	133	23	3059	126	22.5	2835	E Berm	XAIS	
P93	3996	1425	118	23	2714	111	22.5	2497.5	E Berm	XAIS	
P94	3996	1430	104	23	2392	100	22.5	2250	E Berm	XAIS	
P95	3996	1435	96	23	2208	89	22.5	2002.5	E Berm	XAIS	
P96	3996	1440	82	23	1896	70	22.5	1575	E Berm	XAIS	
P97	3981	1450	60	23	1380	57	22.5	1282.5	E Berm	XAIS	
P98	4004	1500	53	23	1219	42	22.5	945	E Berm	XAIS	
P99	3919	1510	33	10	165	33	10	165	NE Corner	XAIS	Triangle
P100	3919	1515	31	10	155	31	10	155	NE Corner	XAIS	Triangle

Total SF (Page)	25689	Total SF (Page)	23742.5
Total SF (Project)	308400	Total SF (Project)	288244.5

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PG 6 OF 10

Client: TCS Engineers
Project: North Ranch Landfill
Project Number: 22-TCS-NRL-01

Sheet 7 of 10
Date: 1/11/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 6 Primary Material Type: HDPE Thickness: 60mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P101		0750	165	23	3795	160	22.5	3600	E. Berm	XAIS	
P102		0754	165	23	3795	164	22.5	3690	E. Berm	XAIS	
P103		0800	165	23	3795	164	22.5	3690	E. Berm	XAIS	
P104		0810	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P105		0815	175	23	4025	170	22.5	3825	E. Berm	XAIS	
P106		0820	175	23	4025	175	22.5	3937.5	E. Berm	XAIS	
P107	3457	0830	210	23	4830	210	22.5	4725	E. Berm	XAIS	
P108	3457	0835	210	23	4830	210	22.5	4725	E. Berm	XAIS	
P109	3975	0745	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P110	3975	0850	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P111	3975	0855	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P112	3978	0910	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P113	3978	0915	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P114	3478	0920	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P115	3924	0930	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P116	3924	0940	166	23	3818	166	22.5	3735	E. Berm	XAIS	
P117	3924	0950	167	23	3841	167	22.5	3757.5	E. Berm	XAIS	
P118	3930	1300	167	23	3841	167	22.5	3757.5	E. Berm	XAIS	
P119	3930	1305	168	23	3864	168	22.5	3780	E. Berm	XAIS	
P120	3930	1310	168	23	3864	168	22.5	3780	E. Berm	XAIS	
P121	3987	1320	168	23	3864	168	22.5	3780	E. Berm	XAIS	
P122	3987	1325	168	23	3864	168	22.5	3780	E. Berm	XAIS	
P123	3987	1330	169	23	3887	169	22.5	3802.5	E. Berm	XAIS	
P124	3911	1340	87	10	870	87	10	870	E. Berm	XAIS	
			Total SF (Page)		91351	Total SF (Page)		89115			
			Total SF (Project)		399752	Total SF (Project)		377359.5			

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 8 of 10
Date: 5/11

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
P125	3911	1350	82	10	820	82	10	820	E Berm	XAIS	

	Gross	Installed
Total SF (Page)	820	820
Total SF (Project)	400572	378179.5

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PG 8 of 10

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 9 of 10
Date: 5/16/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell 1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P126	3963	0800	354	23	8142	354	22.5	7965	Floor	XAIS	
P127		0810	156	23	3588	156	22.5	3510	Floor	XAIS	
P128	3953	0820	197	23	4531	197	22.5	4432.5	Floor	XAIS	
P129	3953	0821	315	23	7245	314	22.5	7065	Floor	XAIS	
P130	4005	0835	40	23	920	40	22.5	900	Floor	XAIS	
P131	4009	0840	355	23	8165	355	22.5	7987.5	Floor	XAIS	
P132		0850	117	23	2691	117	22.5	2632.5	Floor	XAIS	
P133	3969	0900	239	23	5497	238	22.5	5355	Floor	XAIS	
P134		0908	117	23	2691	117	22.5	2632.5	Floor	XAIS	
P135		0920	75	23	1725	75	22.5	1687.5	Floor	XAIS	
P136		1000	356	23	8188	356	22.5	8010	Floor	XAIS	
P137	3970	1015	85	23	1955	82	22.5	1845	Floor	XAIS	
P138		1020	270	23	6210	269	22.5	6052.5	Floor	XAIS	
P139		1025	236	23	5428	236	22.5	5310	Floor	XAIS	
P140		1035	100	23	2300	100	22.5	2250	Floor	XAIS	
P141		1300	60	12	720	58	12	696	Floor	XAIS	
P142		1315	56	12	672	56	12	672	Floor	XAIS	
P143		1320	100	12	1200	100	12	1200	Floor	XAIS	
P144		1330	63	10	630	63	10	630	Floor	XAIS	
P145	5917	1340	18	10	180	18	10	180	Floor	XAIS	Triangle
P146	5917	1350	10	10	100	19	10	95	Floor	XAIS	
			Total SF (Page)		71778	Total SF (Page)		71108			
			Total SF (Project)		473350	Total SF (Project)		444257.5			

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Pg (9) of (10)

Client: SLS Engineers
Project: North Ranch Landfill
Project Number: 2L-SLS-NRL-01

CQA SOLUTIONS

Sheet 10 of 10
Date: 5/17

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Cell E1 Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P16R1		1000	16	23	368	13	22.5	292.5	N Berm	MJS	
P124R1		1300	92	12	1104	92	12	1104	E Berm	XAJS	
				Total SF (Page)	1472		Total SF (Page)	1396.5			
				Total SF (Project)	474822		Total SF (Project)	450.684			

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: AL-SCS-NRL-01

CQA

Sheet 1 of ____
Date: 5/4
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong %	Pass/Fail	Observer	Comments
	WL	SL	0730	F	S	S	850	5			109	-	112	-	131	-	P	XAIS	
											116	-	110	-	130	-			
											98	-	102	-	128	-			
											117	-	109	-	140	-			
											105	-	109	-	130	-			
	WSL	CH	0740	F	S	S	850	6			114	-	107	-	134	-	P	XAIS	
											98	-	110	-	144	-			
											124	-	99	-	138	-			
											114	-	110	-	135	-			
											107	-	118	-	139	-			
	WL	SL	1710	F	S	S	850	5			105	-	123	-	132	-	P	XAIS	
											117	-	125	-	137	-			
											104	-	102	-	127	-			
											108	-	114	-	135	-			
											102	-	108	-	129	-			
	WSL	CH	1712	F	S	S	850	6			102	-	114	-	131	-	P	XAIS	
											108	-	113	-	135	-			
											97	-	109	-	143	-			
											108	-	114	-	143	-			
											113	-	110	-	140	-			

Specs: Fusion Peel: _____ Fusion Shear: _____ Peel Incursion: _____ % Elongation: _____ % Extrusion Peel: _____ Extrusion Shear: _____ Peel Incursion: _____ % Elongation: _____ %

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 2 of ____
Date: 5/4
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Machê	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside: PPI	Peel: Coupon Inside: %	Peel: Coupon Outside: PPI	Peel: Coupon Outside: %	Shear: Coupon: PPI	Shear: Coupon: Elong. %	Pass/Fail	Observer	Comments
	Mz	SL	1715	F	S	T	850	5			108	-	106	-	144	-	P	XAS	
											107	-	120	-	140	-			
											116	-	108	-	134	-			
											99	-	117	-	146	-			
											120	-	102	-	142	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (2) of (18)

Client: SLS - Engineers
Project: North Ranch Landfill
Project Number: 22-SLS-NRL-01

Sheet 3 of ____
Date: 5/5/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
	WL	SL	0742	F	S	S	850	5			102	-	112	-	139	-	P	XMS	
											98	-	107	-	130	-			
											103	-	102	-	138	-			
											104	-	123	-	142	-			
											110	-	114	-	140	-			
	WL	SL	0745	F	T	T	850	5			99	-	112	-	131	-	P	XATS	
											117	-	103	-	147	-			
											112	-	98	-	138	-			
											106	-	102	-	145	-			
											105	-	107	-	133	-			
	WBL	CH	0750	F	S	S	850	6			105	-	119	-	137	-	P	XATS	
											109	-	106	-	130	-			
											117	-	119	-	139	-			
											112	-	108	-	145	-			
											105	-	102	-	140	-			
	WL	SL	0748	F	S	T	850	5			108	-	107	-	141	-	P	XATS	
											107	-	110	-	131	-			
											113	-	119	-	145	-			
											114	-	118	-	136	-			
											109	-	102	-	139	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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PG (3) OF (13)

Client: SCS Engineers
Project: North Ranch Landfills
Project Number: 12-SCS-NRL-01

CQA SOLUTIONS

Sheet 4 of
Date: 5/5
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	WL	SL	1313	F	S	S	850	5			97	-	107	-	133	-	P	XAIS	
											115	-	126	-	130	-			
											112	-	109	-	142	-			
											114	-	124	-	128	-			
											125	-	118	-	137	-			
	W82	CM	1315	F	S	S	850	6			107	-	121	-	140	-	P	XAIS	
											108	-	106	-	145	-			
											112	-	102	-	138	-			
											110	-	125	-	142	-			
											123	-	98	-	147	-			
	WL	SL	1315	F	T	T	850	5			106	-	114	-	139	-	P	XAIS	
											105	-	104	-	124	-			
											102	-	110	-	128	-			
											108	-	123	-	138	-			
											115	-	113	-	142	-			
	W82	CH	1316	F	S	T	850	5			96	-	117	-	137	-	P	XAIS	
											102	-	101	-	130	-			
											101	-	108	-	145	-			
											122	-	121	-	146	-			
											119	-	115	-	132	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 6 of ____
Date: 5/9/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon inside PPI	Peel: Coupon inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	G744	SL	0740	E	T	T			550	550	101	~	[illegible]		131	~	P	XAIS	
											98	~	[illegible]		135	~			
											115	~	[illegible]		128	~			
											101	~	[illegible]		140	~			
											115	~	[illegible]		142	~			
	G44	MM	0748	E	T	T			550	550	116	~	[illegible]		141	~	P	XAIS	
											105	~	[illegible]		135	~			
											104	~	[illegible]		131	~			
											109	~	[illegible]		140	~			
											110	~	[illegible]		133	~			
	G44	MM	1302	E	T	T			550	550	92	~	[illegible]		130	~	P	XAIS	
											99	~	[illegible]		128	~			
											110	~	[illegible]		143	~			
											117	~	[illegible]		140	~			
											113	~	[illegible]		131	~			
	G744	SL	1308	E	T	T			550	550	107	~			145	~	P	XAIS	
											111	~			138	~			
											116	~			139	~			
											107	~			135	~			
											101	~			140	~			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-516-NRL.01

CQA GEOSYNTHETICS

Sheet 10 of ____
Date: 5/10/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
	W82	CH	0729	F	S	S	850	6			108	-	119	-	134	-	P	YAIS	
											102	-	105	-	144	-			
											122	-	123	-	136	-			
											113	-	107	-	148	-			
											118	-	104	-	129	-			
	W2	SL	0716	F	S	S	850	5			112	-	102	-	145	-	P	YAIS	
											109	-	110	-	130	-			
											105	-	113	-	137	-			
											119	-	119	-	127	-			
											123	-	120	-	142	-			
	W82	CH	1305	F	S	S	850	6			101	-	108	-	137	-	P	YAIS	
											111	-	110	-	130	-			
											116	-	126	-	143	-			
											120	-	118	-	139	-			
											98	-	105	-	141	-			
	W82	CH	1306	F	S	T	850	5			98	-	105	-	132	-	P	YAIS	
											102	-	116	-	138	-			
											99	-	109	-	130	-			
											107	-	112	-	141	-			
											110	-	114	-	140	-			

Specs: Fusion Peel: ____ Peel Incursion: ____ %
Fusion Shear: ____ Elongation: ____ %
Extrusion Peel: ____ Peel Incursion: ____ %
Extrusion Shear: ____ Elongation: ____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 6 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 02-SCS-NR.01

CQA SOLUTIONS

Sheet 1 of -
Date: 5/10/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	WL	SL	1307	F	S	S	850	5			110	-	102	-	131	-	P	XAIS	
											115	-	108	-	141	-			
											109	-	117	-	137	-			
											99	-	112	-	130	-			
											98	-	105	-	134	-			
	WL	SL	1308	F	T	T	850	5			105	-	109	-	154	-	P	XAIS	
											101	-	99	-	134	-			
											104	-	111	-	130	-			
											121	-	118	-	141	-			
											117	-	123	-	136	-			
	WBL	CA	1310	F	T	T	850	5			109	-	101	-	151	-	P	XAIS	
											105	-	106	-	138	-			
											111	-	120	-	142	-			
											121	-	118	-	139	-			
											124	-	103	-	145	-			
	WBL	CA		F	S	T	850	5			102	-	111	-	141	-	P	XAIS	
											109	-	113	-	138	-			
											105	-	102	-	130	-			
											117	-	124	-	146	-			
											108	-	117	-	133	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 16 of ____
Date: 5/11/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
	W2	SL	0743	F	S	S	850	5			108	-	112	-	134	-	P	YAIS	
											119	-	109	-	143	-			
											103	-	101	-	139	-			
											106	-	102	-	131	-			
											107	-	117	-	137	-			
	W82	CM	0740	F	S	S	850	6			112	-	111	-	134	-	P	XAIS	
											105	-	110	-	143	-			
											109	-	121	-	141	-			
											120	-	108	-	140	-			
											106	-	97	-	132	-			
	W82	CM	1309	F	S	S	850	6			101	-	108	-	136	-	P	XAIS	
											105	-	117	-	134	-			
											117	-	109	-	131	-			
											102	-	120	-	136	-			
											121	-	116	-	142	-			
	W2	SL	1702	F	S	S	850	5			105	-	106	-	137	-	P	XAIS	
											109	-	105	-	140	-			
											119	-	104	-	143	-			
											114	-	121	-	132	-			
											117	-	115	-	131	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: M-SCS-NRL-01

CQA SOLUTIONS

Sheet 9 of
Date: 5/11/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
	W2	SC	1305	E	T	T	890	5			109	-	102	-	131	-	P	XAJS	
											115	-	103	-	136	-			
											109	-	117	-	141	-			
											108	-	124	-	132	-			
											113	-	105	-	136	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Bench Landfill
Project Number: 22-SCS-NBL.01

CQA SOLUTIONS

Sheet 10 of ___
Date: 5/12/22
Rev. Date: ___

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	G744	SL	0713	E	T	T			550	550	101	-			138	-	P	XAVS	
											98	-			138	-			
											97	-			132	-			
											106	-			127	-			
											109	-			141	-			
	G44	MM	1314	G	T	T			550	550	112	-			148	-	P	XAVS	
											106	-			138	-			
											113	-			136	-			
											123	-			128	-			
											120	-			137	-			
	G744	SL	1312	E	T	T			550	550	98	-			137	-	P	XAVS	
											101	-			134	-			
											105	-			141	-			
											116	-			141	-			
											107	-			151	-			
	G44	MM	1309	G	T	T			550	550	116	-			141	-	P	XAVS	
											106	-			140	-			
											105	-			136	-			
											117	-			137	-			
											124	-			127	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 10 of 15

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 02-SCS-NRL-01

CQA SOLUTIONS

Sheet 11 of ____
Date: 5/14/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	G47	MM	0715	G	T	T			550	550	118	-			156	-	P	YES	
											107	-			135	-			
											99	-			138	-			
											104	-			147	-			
											122	-			132	-			

Specs: Fusion Peel: ____ Peel Incursion: ____ % Extrusion Peel: ____ Peel Incursion: ____ %
Fusion Shear: ____ Elongation: ____ % Extrusion Shear: ____ Elongation: ____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: N-SCS-VRL-01

Sheet 12 of ____
Date: 5/16/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
	W2	SL	0745	F	S	S	850	5			111	-	109	-	131	-	P	YATS	
											109	-	117	-	138	-			
											115	-	116	-	142	-			
											117	-	100	-	133	-			
											102	-	109	-	130	-			
	W2	SL	0748	G	T	T	850	5			120	-	115	-	151	-	P	YATS	
											118	-	110	-	142	-			
											109	-	107	-	144	-			
											111	-	113	-	140	-			
											109	-	116	-	135	-			
	V82	CH	0750	F	S	S	850	6			110	-	103	-	131	-	P	YATS	
											104	-	106	-	139	-			
											101	-	118	-	143	-			
											107	-	110	-	138	-			
											109	-	98	-	133	-			
	V82	CH	0752	F	S	T	850	5			105	-	107	-	138	-	P	YATS	
											98	-	102	-	130	-			
											109	-	100	-	134	-			
											118	-	105	-	144	-			
											107	-	114	-	140	-			

Specs: Fusion Peel: ____ Peel Incursion: ____ % Extrusion Peel: ____ Peel Incursion: ____ %
Fusion Shear: ____ Elongation: ____ % Extrusion Shear: ____ Elongation: ____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 12 OF 18

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22A1CS-NRL-01

CQA SOLUTIONS

Sheet 13 of ____
Date: 5/10/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
	WBL	CA	0753	F	T	T	850	5			103	-	105	-	128	-	P	XAES	
											110	-	110	-	149	-			
											117	-	116	-	137	-			
											116	-	118	-	141	-			
											111	-	109	-	135	-			
	WL	SL	1302	F	S	S	850	5			113	-	107	-	128	-	P	XAES	
											117	-	115	-	130	-			
											101	-	119	-	137	-			
											107	-	108	-	141	-			
											105	-	110	-	139	-			
	WBL	CA	1304	F	S	S	850	6			110	-	103	-	129	-	P	XAES	
											101	-	98	-	131	-			
											110	-	107	-	138	-			
											118	-	103	-	142	-			
											120	-	117	-	149	-			
	WL	SL	1305	F	T	T	850	5			121	-	113	-	143	-	P	XAES	
											119	-	118	-	137	-			
											103	-	112	-	139	-			
											108	-	101	-	131	-			
											110	-	113	-	134	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 13 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 14 of
Date: 5/16/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
	G44	MM	0710	F	T	T			550	550	112	-			141	-	P	XAIS	
											119	-			136	-			
											101	-			130	-			
											108	-			133	-			
											111	-			132	-			
	G44	MM	0705	F	T	T			550	550	102	-			136	-	P	XAIS	
											107	-			141	-			
											99	-			131	-			
											118	-			138	-			
											112	-			127	-			
	G744	SL	1304	F	T	T			550	550	101	-			140	-	P	XAIS	
											107	-			141	-			
											105	-			130	-			
											119	-			137	-			
											120	-			138	-			
	G744	SL	0709	F	T	T			550	550	102	-			143	-	P	XAIS	
											119	-			141	-			
											121	-			130	-			
											102	-			132	-			
											107	-			137	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 15 of _____
Date: 5/17
Rev. Date: _____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
	644	MM	1302	G	T	T			550	550	112	-			140	-	P	XAIS	
											113	-			146	-			
											101	-			140	-			
											103	-			146	-			
											117	-			142	-			
	682	CA	1306	F	S	T	850	5			102	-	109	-	130	-	P	XAIS	
											107	-	111	-	136	-			
											108	-	119	-	148	-			
											106	-	102	-	129	-			
											117	-	110	-	127	-			
	V82	CA	1308	F	T	T	850	5			121	-	119	-	138	-	P	XAIS	
											117	-	109	-	132	-			
											118	-	117	-	140	-			
											107	-	110	-	135	-			
											110	-	111	-	128	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 13 OF 18

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCCT-NRL-01

Sheet 16 of ____
Date: 5/19/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
90	640	MM	1300	6	T	T			550	550	115	-			141	-	P	KATS	
											110	-			135	-			
											119	-			130	-			
											115	-			138	-			
											112	-			143	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-REL.01

CQA SOLUTIONS

Sheet ____ of ____
Date: 5/10/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
71	6741	SL	0700	F	T	T			550	550	107	-			131	-	P	XAIS	
											110	-			135	-			
											109	-			129	-			
											108	-			140	-			
											117	-			136	-			
95	V82	CH	1000	F	S	S	850	6			102	-	115	-	141	-	P	XAIS	
											113	-	104	-	140	-			
											112	-	113	-	148	-			
											109	-	120	-	135	-			
											118	-	119	-	139	-			
95	W2	SL	1102	F	T	T	950	5			110	-	103	-	132	-	P	XAIS	
											117	-	121	-	137	-			
											115	-	110	-	129	-			
											116	-	103	-	133	-			
											102	-	111	-	136	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 12 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 16-SCS-NRL.01

CQA

Sheet ____ of ____
Date: 9/21/22
Rev. Date: ______

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
75	G44	MM	0705	6	T	T			550	550	103	-			135	-	P	YAES	
											109	-			137	-			
											105	-			141	-			
											115	-			144	-			
											110	-			132	-			
75	G44	SL	0707	6	T	T			550	550	115	-			129	-	P	YAES	
											113	-			134	-			
											109	-			133	-			
											116	-			138	-			
											102	-			141	-			

Specs: Fusion Peel: ______ Peel Incursion: ______ % Extrusion Peel: ______ Peel Incursion: ______ %
Fusion Shear: ______ Elongation: ______ % Extrusion Shear: ______ Elongation: ______ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (18) of (18)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 8
Date 9/4/22
Rev. Date:

SEAMING RECORD

Layer: Cell 1 EL P1

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P1	P2	CK	W82	815	828	0	170	170	170		XAIS	
P3	P4	CK	W82	0830	0842	0	123	123	293		YAIS	
P5	P6	CK	W82	0848	0859	0	120	120	413	CPDS1	XAIS	
P7	P8	CK	W82	0903	0917	0	123	123	536		XAIS	
P9	P10	CK	W82	0920	0931	0	125	125	661		XAIS	
P11	P12	CK	W82	0935	0944	0	130	130	791	CPDS3	XAIS	
P13	P14	CK	W82	0948	0958	0	132	132	923		XAIS	
P15	P17	CK	W82	1018	1031	0	125	125	1048		XAIS	
P18	P19	CK	W82	1035	1047	0	138	138	1185	CPDS5	XAIS	
P20	P21	CK	W82	1052	1108	0	142	142	1328		XAIS	
P22	P23	CK	W82	1117	1130	0	146	146	1474		XAIS	
P24	P25	CK	W82	1136	1149	0	136	136	1610	CPDS7	XAIS	
P26	P27	CK	W82	1322	1340	0	152	152	1762		XAIS	
P28	P28	CK	W82	1345	1402	0	152	152	1914		XAIS	
P31	P29	CK	W82	1409	1431	80	0	80	1994		XAIS	

Total LF (Page)	1994	Total DS (Page)	4	Total DS Needed (Page)	4	Over/Under (Page)	0
Total LF (Project)	1994	Total DS (Project)	4	Total DS Needed (Project)	4	Over/Under (Project)	0

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 of 8

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 2 of 6
Date 5/6/22
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Primary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P37	P38	CK	W82	0825	0830	0	70	70	70	—	XAIS	
P38	P40	CK	W82	0838	0844	0	85	85	155	—	XAIS	
P37	P39	CK	W82	0832	0833	0	12	12	167	—	XAIS	
P39	P40	CK	W82	0836	0848	0	14	14	181	—	XAIS	
P42	P43	CK	W82	0911	0917	0	91	91	272	—	XAIS	
P42	P44	CK	W82	0914	0928	0	63	63	335	—	XAIS	
P45	P46	CK	W82	0940	0957	0	194	194	529	—	XAIS	
P47	P48	CK	W82	1005	1031	0	228	228	757	CPOS13	XAIS	
P49	P50	CK	W82	1033	1048	0	238	238	995	—	XAIS	
P49	P51	CK	W82	1050	1052	0	25	25	1020	—	XAIS	
P52	P53	CK	W82	1100	1122	0	215	215	1235	CPOS16	XAIS	
P52	P54	CK	W82	1115	1133	0	85	85	1320	—	XAIS	
P54	P55	CK	W82	1138	1151	0	85	85	1405	—	XAIS	
P56	P58	CK	W82	1407	1432	0	266	266	1671	CPOS19	XAIS	
P59	P60	CK	W82	1446	1454	0	168	168	1839	—	XAIS	
P59	P61	CK	W82	1456	1520	0	187	187	2026	CPOS21	XAIS	
P61	P62	CK	W82	1528	1540	0	165	165	2191	CPOS22	XAIS	
P60	P62	CK	W82	1544	1546	0	24	24	2215	—	XAIS	
P32	P64	CK	W82	1600	1601	0	5	5	2220	—	XAIS	
P31	P64	CK	W82	1601	1603	0	24	24	2244	—	XAIS	
P33	P64	CK	W82	1604	1605	0	5	5	2249	—	XAIS	
P59	P64	CK	W82	1605	1607	0	22	22	2271	—	XAIS	
P60	P64	CK	W82	1607	1609	0	22	22	2293	—	XAIS	
P62	P64	CK	W82	1609	1611	0	22	22	2315	—	XAIS	

Total LF (Page)	2315	Total DS (Page)	5	Total DS Needed (Page)	4.6	Over/Under (Page)	10.4
Total LF (Project)	4309	Total DS (Project)	9	Total DS Needed (Project)	8.6	Over/Under (Project)	10.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) OF (3)

Client: JCS Engineers
Project: North Ranch Landfill
Project Number: 22-555-WRL-01

CQA

Sheet 3 of 8
Date 5/16
Rev. Date:

SEAMING RECORD

Layer: Cell G Primary

Welder Initials: CK
Welder Number:
Machine ID: W8L

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P65	P64	CK	W8L	0800	0817	152	0	152	152	—	YAIS	
P67	P66	CK	W8L	0820	0840	214	0	214	366	CPOS23	YAIS	
P65	P69	CK	W8L	0844	0846	37	0	37	403	—	YAIS	
P69	P70	CK	W8L	0848	0850	26	0	26	429	—	YAIS	
P70	P71	CK	W8L	0853	0854	12	0	12	441	—	YAIS	
P72	P68	CK	W8L	0855	0930	240	0	240	681	—	YAIS	
P74	P73	CK	W8L	0935	1001	263	0	263	944	CPOS25	YAIS	
P76	P75	CK	W8L	1013	1039	257	0	257	1201	—	YAIS	
P78	P77	CK	W8L	1037	1102	200	0	200	1401	CPOS27	YAIS	
P80	P79	CK	W8L	1108	1131	154	0	154	1555	—	YAIS	
P85	P82	CK	W8L	1315	1331	118	0	118	1673	—	YAIS	
P84	P83	CK	W8L	1348	1359	104	0	104	1777	—	YAIS	
P85	P84	CK	W8L	1408	1412	94	0	94	1871	CPOS31	YAIS	
P86	P85	CK	W8L	1415	1420	80	0	80	1951	CPOS32	YAIS	
P88	P87	CK	W8L	1426	1431	55	0	55	2006	—	YAIS	
P91	P90	CK	W8L	1500	1521	0	147	147	2153	—	YAIS	
P93	P92	CK	W8L	1525	1542	0	118	118	2271	—	YAIS	
P95	P94	CK	W8L	1546	1550	0	96	96	2367	CPOS29	YAIS	
P97	P96	CK	W8L	1617	1620	0	66	66	2433	—	YAIS	
P99	P88	CK	W8L	1633	1635	0	22	22	2455	—	YAIS	
P99	P100	CK	W8L	1650	1652	0	22	22	2477	—	YAIS	
P99	P98	CK	W8L	1652	1653	0	3	3	2480	—	YAIS	
P88	P98	CK	W8L	1653	1655	0	20	20	2500	—	YAIS	
P97	P87	CK	W8L	1655	1657	17	0	17	2517		YAIS	

Total LF (Page)	2517	Total DS (Page)	6	Total DS Needed (Page)	5	Over/Under (Page)	+1.0
Total LF (Project)	6826	Total DS (Project)	15	Total DS Needed (Project)	13.7	Over/Under (Project)	+1.3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) of (8)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NR1 c1

CQA

Sheet 4 of 8
Date 5/10
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Primary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P87	P96	CK	W82	1643	1650	0	7	7	7	–	YAIS	
P86	P96	CK	W82	1650	1652	0	24	24	31	–	YAIS	
P85	P96	CK	W82	1652	1659	0	24	24	55	–	YAIS	
P84	P94	CK	W82	1707	1705	0	24	24	79	–	YAIS	
P83	P93	CK	W82	1705	1707	0	24	24	103	–	YAIS	
P82	P92	CK	W82	1707	1709	0	24	24	127	–	YAIS	
P81	P91	CK	W82	1709	1711	0	24	24	151	–	YAIS	
P80	P90	CK	W82	1711	1713	0	24	24	175	–	YAIS	
P79	P89	CK	W82	1713	1715	0	22	22	197	–	YAIS	
P73	P64	CK	W82	1140	1142	0	24	24	221	–	YAIS	
P72	P64	CK	W82	1142	1144	0	24	24	245	–	YAIS	
P69	P64	CK	W82	1144	1146	0	24	24	269	–	YAIS	
P67	P64	CK	W82	1146	1148	0	24	24	293	–	YAIS	
P66	P64	CK	W82	1148	1150	0	24	24	317	–	YAIS	
P65	P64	CK	W82	1150	1152	0	24	24	341	–	YAIS	
P69	P64	CK	W82	1152	1154	0	24	24	365	–	YAIS	
P70	P64	CK	W82	1154	1156	0	24	24	389	–	YAIS	
P71	P64	CK	W82	1156	1157	0	12	12	401	–	YAIS	
P85	P95	CK	W82	1659	1703	0	24	24	425	–	YAIS	
P91	P93	CK	W82	1540	1543	0	24	24	449	–	YAIS	
515 B57	P58	CK	W82	1432	1440	0	24	24	589	–	YAIS	

Total LF (Page)	401	Total DS (Page)	0	Total DS Needed (Page)	0.8	Over/Under (Page)	-0.8
Total LF (Project)	7227	Total DS (Project)	15	Total DS Needed (Project)	14.5	Over/Under (Project)	+0.5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 4 of 8

Client: XTO Energy
Project: North Eunice Landfills
Project Number: 22-515-NRL-01

Sheet 5 of 8
Date 5/11
Rev. Date:

SEAMING RECORD

Layer: Cell #1 Primary

Welder Initials: CK
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P89	P101	CK	W82	0745	0803	0	155	155	155	CPD536	XAIS	
P102	P103	CK	W82	0810	0829	6	163	163	318	–	XAIS	
P104	P105	CK	W82	0834	0855	0	166	166	484	–	XAIS	
P106	P107	CK	W82	0859	0934	0	175	175	659	CPD538	XAIS	
P109	P108	CK	W82	0939	0957	166	0	166	825	–	XAIS	
P111	P110	CK	W82	1001	1028	166	0	166	991	–	XAIS	
P113	P112	CK	W82	1035	1057	166	0	166	1157	CPD540	XAIS	
P115	P114	CK	W82	1104	1120	166	0	166	1323	–	XAIS	
P117	P116	CK	W82	1125	1143	167	0	167	1490	–	XAIS	
P118	P117	CK	W82	1214	1237	167	0	167	1657	CPD542	XAIS	
P120	P119	CK	W82	1339	1355	168	0	168	1825	–	XAIS	
P122	P121	CK	W82	1412	1437	168	0	168	1993	–	XAIS	
P124	P125	CK	W82	1440	1442	22	0	22	2015	–	XAIS	
P124	P123	CK	W82	1445	1457	87	0	87	2102	CPD544	XAIS	
P125	P123	CK	W82	1457	1509	81	0	81	2183	–	XAIS	

Total LF (Page)	2183	Total DS (Page)	5	Total DS Needed (Page)	4.4	Over/Under (Page)	+0.6
Total LF (Project)	9410	Total DS (Project)	20	Total DS Needed (Project)	18.8	Over/Under (Project)	+1.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 5 OF 8

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-MRL-01

CQA SOLUTIONS

Sheet 6 of 8
Date 8/16/22
Rev. Date:

SEAMING RECORD

Layer: Cell 1 Primary

Welder Initials: CH
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P62	P126	CH	W82	0815	0857	0	370	370	370	CPDS47	YAIS	
P63	P128	CH	W82	0902	0904	0	24	24	394		XAIS	
P127	P129	CH	W82	0906	0925	0	156	136	490		XAIS	
P128	P129	CH	W82	0928	0941	0	156	156	646	CPDS49	XAIS	
P128	P130	CH	W82	0947	0958	0	40	40	686		XAIS	
P132	P134	CH	W82	1000	1010	0	117	117	803	CPDS52	XAIS	
P133	P134	CH	W82	1013	1028	0	164	164	967		XAIS	
P133	P135	CH	W82	1030	1040	0	75	75	1044		XAIS	
P135	P134	CH	W82	1113	1115	0	22	22	1066		XAIS	
P134	P136	CH	W82	1041	10	0	281	281	1347	CPDS53	XAIS	
P135	P136	CH	W82	1108	1120	0	75	75	1422		XAIS	
P137	P139	CH	W82	1126	1131	0	78	78	1500		XAIS	
P138	P139	CH	W82	1133	1145	0	168	168	1668		XAIS	
P138	P140	CH	W82	1148	1158	0	100	100	1768	CPDS55	XAIS	
P64	P108	CH	W82	1159	130	0	17	17	1785		XAIS	
P139	P141	CH	W82	1332	1336	0	56	56	1841		XAIS	
P139	P142	CH	W82	1338	1344	0	80	80	1921	CPDS56	XAIS	
P139	P143	CH	W82	1346	1352	0	100	100	2021		XAIS	
P140	P144	CH	W82	1354	1400	0	63	63	2084		XAIS	
P140	P122	CH	W82	1406	1407	0	5	5	2089		XAIS	
P140	P123	CH	W82	1407	1409	0	22	22	2111		XAIS	
P140	P125	CH	W82	1409	1411	0	12	12	2123		XAIS	
P74	P107	CH	W82	1256	1258	0	8	8	2131		XAIS	
P64	P107	CH	W82	1258	1259	0	5	5	2136		YAIS	

Total LF (Page)	2136	Total DS (Page)	6	Total DS Needed (Page)	4.3	Over/Under (Page)	+1.7
Total LF (Project)	11546	Total DS (Project)	26	Total DS Needed (Project)	23.1	Over/Under (Project)	+2.9

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF 8

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 2 of 8
Date 5/16/22
Rev. Date:

SEAMING RECORD

Layer: Cell 1 Primary

Welder Initials: CK
Welder Number:

Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P126	P64	CK	W82	1430	1432	0	22	22	22		XAIS	
P127	P64	CK	W82	1432	1434	0	22	22	44		XAIS	
P129	P64	CK	W82	1434	1437	0	22	22	66		XAIS	
P131	P64	CK	W82	1437	1439	0	22	22	88		XAIS	
P132	P64	CK	W82	1439	1441	0	22	22	110		XAIS	
P134	P64	CK	W82	1441	1443	0	22	22	132		XAIS	
P136	P64	CK	W82	1443	1446	0	22	22	154		XAIS	
P137	P64	CK	W82	1446	1448	0	22	22	176		XAIS	

Total LF (Page)	176	Total DS (Page)	0	Total DS Needed (Page)	0.4	Over/Under (Page)	-0.4
Total LF (Project)	11722	Total DS (Project)	26	Total DS Needed (Project)	27.4	Over/Under (Project)	+2.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 OF 8

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-915-NRL-01

CQA

Sheet 8 of 8
Date 5/17/22
Rev. Date:

SEAMING RECORD

Layer: Cell E1 Primary

Welder Initials: CA
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P124R1	P123	CA	W82	1300	1308	0	92	92	92		XAIS	
P124L1	P125	CA	W82	1310	1313	0	17	17	109		XAIS	

Total LF (Page)	109	Total DS (Page)	0	Total DS Needed (Page)	0.2	Over/Under (Page)	-0.2
Total LF (Project)	11831	Total DS (Project)	26	Total DS Needed (Project)	23.6	Over/Under (Project)	+2.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 8 of 8

Client: SCS Engineers
Project: North Ranch Tank #1
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 8
Date 9/4/22
Rev. Date:

SEAMING RECORD

Layer: Cell C-1 Primary

Welder Initials: SL
Welder Number:
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P2	P3	SL	WZ	0810	0826	0	178	178	178		XAIS	
P4	P5	SL	WZ	0835	0847	0	120	120	298		XAIS	
P6	P7	SL	WZ	0850	0902	0	120	120	418	CP052	XAIS	
P8	P9	SL	WZ	0907	0920	0	123	123	541		XAIS	
P10	P11	SL	WZ	0923	0935	0	125	125	666		XAIS	
P12	P13	SL	WZ	0939	0948	0	130	130	796	CP054	XAIS	
P14	P15	SL	WZ	0954	1004	0	127	127	923		XAIS	
P15	P16	SL	WZ	1008	1010	0	22	22	945		XAIS	
S14	S16	SL	WZ	1004	1006	0	9	9	954		XAIS	
S17	S16	SL	WZ	1000	1002	0	9	9	963		XAIS	
S17	S18	SL	WZ	1029	1041	0	135	135	1098		XAIS	
S19	S20	SL	WZ	1050	1100	0	140	140	1238	CP056	XAIS	
S21	S22	SL	WZ	1104	1117	0	144	144	1382		XAIS	
S23	S24	SL	WZ	1120	1135	0	150	150	1532		XAIS	
S25	S26	SL	WZ	1319	1335	0	150	150	1682	CP058	XAIS	
S29	S28	SL	WZ	1342	1354	152	0	152	1834		XAIS	
S30	S29	SL	WZ	1357	1402	74	0	74	1908		XAIS	
S31	S30	SL	WZ	1407	1413	74	0	74	1982		XAIS	
S32	S31	SL	WZ	1440	1452	150	0	150	2132	CP059	XAIS	
S33	S32	SL	WZ	1456	1507	152	0	152	2284	CP060	XAIS	
S34	S33	SL	WZ	1526	1543	152	0	152	2436		XAIS	

Total LF (Page)	2436	Total DS (Page)	6	Total DS Needed (Page)	4.9	Over/Under (Page)	+1.1
Total LF (Project)	2436	Total DS (Project)	6	Total DS Needed (Project)	4.9	Over/Under (Project)	+1.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (1) of (8)

Client: SCS Engineers
Project: North Ranch Landfills
Project Number: 22SCS-NRL-01

CQA

Sheet 2 of 6
Date 5/5
Rev. Date:

SEAMING RECORD

Layer: Cell C1 Primary

Welder Initials: SL
Welder Number:
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P35	P3	SL	WZ	0808	0810	0	18	18	18	—	XAIS	
P35	P36	SL	WZ	0820	0824	0	48	48	76	—	XAIS	
P36	P37	SL	WZ	0826	0830	0	65	65	141	—	XAIS	
P37	P39	SL	WZ	0834	0836	0	22	22	163	—	XAIS	
P40	P41	SL	WZ	0842	0854	0	120	120	283	—	XAIS	
P41	P42	SL	WZ	0900	0915	0	137	137	420	CPDS11	XAIS	
P44	P43	SL	WZ	0920	0922	0	22	22	442	—	XAIS	
P47	P45	SL	WZ	0928	0938	0	110	110	552	CPDS12	XAIS	
P44	P46	SL	WZ	0938	0942	0	63	63	615	—	XAIS	
P46	P47	SL	WZ	0948	1005	0	211	211	826	—	XAIS	
P48	P49	SL	WZ	1012	1039	0	241	241	1067	CPDS14	XAIS	
P50	P51	SL	WZ	1041	1042	0	22	22	1089	—	XAIS	
P50	P52	SL	WZ	1050	1112	0	254	254	1343	—	XAIS	
P51	P52	SL	WZ	1125	1127	0	25	25	1368	—	XAIS	
P53	P55	SL	WZ	1130	1152	0	230	230	1598	CPDS17	XAIS	
P53	P54	SL	WZ	1119	1121	0	22	22	1620	—	XAIS	
—	—	—	—	—	—	—	—	—	—	—	—	
P55	P56	SL	WZ	1350	1448	0	245	245	1950	—	XAIS	
P58	P59	SL	WZ	1426	1457	0	358	758	2708	CPDS20	XAIS	
P55	P57	SL	WZ	1410	1425	0	82	82	—	—	XAIS	
P61	P60	SL	WZ	1503	1505	0	22	22	2495	—	XAIS	
P61	P63	SL	WZ	1541	1543	0	22	22	2517	—	XAIS	
P57	P56	SL	WZ	1422	1422	0	22	22	2539	—	XAIS	
P35	P4	SL	WZ	1600	1602	0	23	23	2562	—		
Total LF (Page)		2562		Total DS (Page)		5	Total DS Needed (Page)		5.1	Over/Under (Page)		-0.1
Total LF (Project)		4998		Total DS (Project)		11	Total DS Needed (Project)		10	Over/Under (Project)		+1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) OF (6)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

Sheet 3 of 8
Date 5/4
Rev. Date:

SEAMING RECORD

Layer: Cell 61 Primary

Welder Initials: SL
Welder Number: —
Machine ID: WZ

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P35	P6	SL	WZ	1602	1603	0	8	8	8		YAIS	
P36	P5	SL	WZ	1603	1605	0	14	14	22		YAIS	
P36	P6	SL	WZ	1605	1607	0	15	15	37		YAIS	
P37	P7	SL	WZ	1607	1609	0	23	23	60		YAIS	
P38	P8	SL	WZ	1609	1611	0	22	22	82		YAIS	
P40	P9	SL	WZ	1611	1612	0	9	9	91		YAIS	
P40	P10	SL	WZ	1612	1614	0	12	12	103		YAIS	
P41	P10	SL	WZ	1614	1616	0	8	8	111		YAIS	
P41	P11	SL	WZ	1616	1618	0	13	13	124		YAIS	
P42	P12	SL	WZ	1618	1620	0	20	20	144		YAIS	
P43	P13	SL	WZ	1620	1622	0	18	18	162		YAIS	
P43	P14	SL	WZ	1622	1623	0	8	8	170		YAIS	
P44	P14	SL	WZ	1623	1624	0	10	10	180		YAIS	
P45	P15	SL	WZ	1624	1625	0	10	10	190		YAIS	
P46	P17	SL	WZ	1625	1627	0	20	20	210		YAIS	
P47	P18	SL	WZ	1627	1628	0	10	10	220		YAIS	
P48	P19	SL	WZ	1628	1630	0	8	8	225		YAIS	
—	—	—	—	—	—	—	—	—	—		YAIS	
P48	P20	SL	WZ	1630	1631	0	11	11	244		YAIS	
P49	P20	SL	WZ	1631	1632	0	5	5	249		YAIS	
P49	P21	SL	WZ	1632	1634	0	12	12	261	CROSS	YAIS	
P50	P22	SL	WZ	1634	1636	0	18	18	279		YAIS	
P51	P23	SL	WZ	1636	1637	0	4	4	283		YAIS	
P51	P24	SL	WZ	1637	1639	0	14	14	297		YAIS	

Total LF (Page)	297	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	5295	Total DS (Project)	12	Total DS Needed (Project)	10.8	Over/Under (Project)	+1.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (3) of (8)

Client: SCS ENGINEERS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet 4 of 8
Date 5/5/22
Rev. Date:

SEAMING RECORD

Layer: Cell E1 Primary

Welder Initials: SL
Welder Number:
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P53	P24	SL	WL	1679	1646	0	8	8	8		XAIS	
P53	P25	SL	WL	1646	1641	0	12	12	20		XAIS	
P55	P26	SL	WL	1641	1643	0	23	23	43		XAIS	
P56	P27	SL	WL	1643	1645	0	20	20	63		XAIS	
P56	P28	SL	WL	1645	1646	0	5	5	68		XAIS	
P58	P28	SL	WL	1646	1647	0	10	10	78		XAIS	
P58	P29	SL	WL	1647	1648	0	6	6	84		XAIS	
P47	P19	SL	WL	1628	1626	0	2	2	86		XAIS	

Total LF (Page)	84	Total DS (Page)	6	Total DS Needed (Page)	0.2	Over/Under (Page)	-0.2
Total LF (Project)	5379	Total DS (Project)	12	Total DS Needed (Project)	10.8	Over/Under (Project)	+1.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 4 OF 8

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 5 of 8
Date 5/10
Rev. Date: 5/22

SEAMING RECORD

Layer: Cell 6 Primary

Welder Initials: SL
Welder Number:
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P65	P66	SL	W2	0808	0826	200	0	200	200	—	XAIS	
P67	P68	SL	W2	0870	0907	228	0	228	428	CPDS24	XAIS	
P73	P72	SL	WL	0916	0938	254	0	254	682	—	XAIS	
P75	P74	SL	W2	0943	1022	260	0	260	942	CPDS26	XAIS	
P77	P76	SL	W2	1027	1045	228	0	228	1170	—	XAIS	
P79	P78	SL	W2	1057	1121	171	0	171	1341	CPDS28	XAIS	
P81	P80	SL	W2	1312	1328	148	0	148	1489	—	XAIS	
P82	P81	SL	WL	1371	1347	131	0	131	1620	—	XAIS	
P87	P86	SL	W2	1418	1432	76	0	70	1690	—	XAIS	
P90	P89	SL	W2	1452	1512	6	155	155	1845	—	XAIS	
P92	P91	SL	W2	1518	1531	0	133	133	1980	—	XAIS	
P94	P93	SL	W2	1540	1559	0	101	104	2084	CPDS30	XAIS	
P96	P95	SL	WL	1608	1620	0	82	82	2166	—	XAIS	
P98	P97	SL	W2	1624	1630	0	53	53	2219	—	XAIS	
P100	P98	SL	W2	1631	1635	0	31	31	2250	—	XAIS	
P34	P101	SL	WL	1703	1705	0	22	22	2272	—	XAIS	
P33	P70	SL	W2	1705	1707	0	22	22	2294	—	XAIS	
P32	P71	SL	W2	1707	1708	0	10	10	2304	—	XAIS	

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Total LF (Page)	2304	Total DS (Page)	4	Total DS Needed (Page)	4.6	Over/Under (Page)	-0.6
Total LF (Project)	7683	Total DS (Project)	16	Total DS Needed (Project)	15.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 5 OF 8 REV. 1

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 6 of 8
Date 5/11/22
Rev. Date:

SEAMING RECORD

Layer: 4 - Cell 01 Primary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P101	P102	SL	W2	0758	0813	0	165	165	165	CPD537	XAIS	
P103	P104	SL	W2	0818	0839	0	165	165	330		XAIS	
P105	P106	SL	W2	0844	0911	0	175	175	505		XAIS	
P108	P107	SL	W2	0916	0944	210	0	210	715		XAIS	
P110	P109	SL	W2	0950	1009	166	0	166	881	CPD539	XAIS	
P112	P111	SL	W2	1015	1041	166	0	166	1047		XAIS	
P114	P113	SL	W2	1046	1107	166	0	166	1213		XAIS	
P116	P115	SL	W2	1111	1138	166	0	166	1379	CPD541	XAIS	
P119	P118	SL	W2	1324	1350	167	0	167	1546		XAIS	
P121	P120	SL	W2	1355	1418	168	0	168	1714	CPD543	XAIS	
P123	P122	SL	W2	1425	1442	168	0	168	1882		XAIS	
P.105	P75	SL	W2	1507	1508	0	3	3	1885		XAIS	
P105	P76	SL	W2	1508	1510	0	20	20	1905		XAIS	
P104	P76	SL	W2	1510	1511	10	10	10	1915		XAIS	
P104	P77	SL	W2	1511	1512	0	6	6	1921		XAIS	
P103	P77	SL	W2	1512	1514	10	18	18	1939	CPD545	XAIS	
P102	P77	SL	W2	1514	1515	0	3	3	1942		XAIS	
P102	P78	SL	W2	1514	1516	0	10	10	1952		XAIS	
P101	P78	SL	W2	1516	1517	0	10	10	1962		XAIS	
P101	P79	SL	W2	1517	1518	0	5	5	1967		XAIS	

Total LF (Page)	1967	Total DS (Page)	5	Total DS Needed (Page)	3.9	Over/Under (Page)	+1.1
Total LF (Project)	9650	Total DS (Project)	21	Total DS Needed (Project)	19.3	Over/Under (Project)	+1.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 6 of 8

Client: SLS Engineers
Project: North Ranch Landfill
Project Number: 22-SLS-NRL-01

CQA SOLUTIONS

Sheet 7 of 8
Date 5/11
Rev. Date:

SEAMING RECORD

Layer: Cell 01 Primary

Welder Initials: SL
Welder Number:
Machine ID: wz

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P126	P127	SL	wz	0815	0834	0	156	156	156		XAIS	
P127	P128	SL	wz	0838	0840	0	22	22	178		XAIS	
P126	P128	SL	wz	0842	0903	0	197	197	375	CPDS48	XAIS	
P129	P131	SL	wz	0912	0948	0	315	315	690		XAIS	
P130	P129	SL	wz	0904	0906	0	22	22	712	CPDS50	XAIS	
P130	P131	SL	wz	0950	0956	0	40	40	752		XAIS	
P131	P132	SL	wz	1005	1021	0	117	111	863	CPDS51	XAIS	
P133	P132	SL	wz	0958	1000	0	22	22	885		XAIS	
P131	P133	SL	wz	1030	1047	0	237	237	1122		XAIS	
P136	P137	SL	wz	1059	1105	0	85	85	1207		XAIS	
P138	P137	SL	wz	1050	1052	0	22	22	1229		XAIS	
P136	P138	SL	wz	1109	1137	0	270	270	1499	CPDS54	XAIS	
P142	P141	SL	wz	1300	1301	0	12	12	1511		XAIS	
P143	P142	SL	wz	1321	1323	0	17	17	1528		XAIS	
P 140	P139	SL	wz	1139	1142	0	22	22	1550		XAIS	
P144	P128	SL	wz	1418	1420	0	118	18	1568		XAIS	
P 121	P144	SL	wz	1420	1422	0	22	22	1590		XAIS	
P120	P141	SL	wz	1422	1424	0	22	22	1612		XAIS	
P119	P144	SL	wz	1424	1425	0	8	8	1620		XAIS	
P119	P143	SL	wz	1425	1427	0	20	20	1640		XAIS	
P118	P143	SL	wz	1427	1429	0	22	22	1662		XAIS	
P117	P143	SL	wz	1429	1431	0	22	22	1684	CPDS58	XAIS	
P116	P143	SL	wz	1431	1433	0	22	22	1706		XAIS	
P115	P143	SL	wz	1433	1435	0	20	20	1726		XAIS	

Total LF (Page)	1726	Total DS (Page)	5	Total DS Needed (Page)	3.5	Over/Under (Page)	+1.5
Total LF (Project)	11376	Total DS (Project)	26	Total DS Needed (Project)	22.8	Over/Under (Project)	+3.2

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Client: SLS Engineers
Project: North Ranch Landf. II
Project Number: 22-SLS-NRL-01

CQA SOLUTIONS

Sheet 8 of 8
Date 5/16/22
Rev. Date:

SEAMING RECORD

Layer: Cell 6 Primary

Welder Initials: SL
Welder Number:
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P115	P142	SL	WL	1435	1436	0	5	5	5		XAIS	
P114	P142	SL	WL	1436	1438	0	22	22	27		XAIS	
P113	P142	SL	WL	1438	1440	0	22	22	49		XAIS	
P112	P142	SL	WL	1440	1442	0	22	22	71		XAIS	
P111	P142	SL	WL	1442	1443	0	8	8	79		XAIS	
P111	P141	SL	WL	1443	1444	0	14	14	93		XAIS	
P110	P141	SL	WL	1444	1446	0	22	22	115		XAIS	
P109	P141	SL	WL	1446	1448	0	22	22	137		XAIS	
P139	P108	SL	WL	1450	1452	0	22	22	159		XAIS	
P141	P138	SL	WL	1452	1454	0	22	22	181		XAIS	
P145	P146	SL	WL	1340	1344	0	18	18	199		XAIS	
P146	P107	SL	WL	1337	1339	0	20	20	219		XAIS	
P106	P146	SL	WL	1349	1350	0	10	10	229		XAIS	
P105	P145	SL	WL	1350	1351	0	8	8	237		XAIS	
P75	P145	SL	WL	1353	1354	0	7	7	244		XAIS	
P74	P146	SL	WL	1356	1357	0	5	5	249		XAIS	

Total LF (Page)	249	Total DS (Page)	0	Total DS Needed (Page)	0.5	Over/Under (Page)	−0.5
Total LF (Project)	11625	Total DS (Project)	26	Total DS Needed (Project)	23.3	Over/Under (Project)	+2.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SES Engineers
Project: North Ranch Landfill
Project Number: 22-SES-NRL-01

CQA

Sheet 1 of 1
Date 5/17/22
Rev. Date:

SEAMING RECORD

Layer: Cell Ed Primary

Welder Initials: MM
Welder Number:
Machine ID: G-44

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P1GR1	P15	MM	G-44	1300	1308	0	25	25	25		XAIS	
P1PR1	P17	MM	G-44	1310	1315	0	17	17	42		XAIS	
P1GR1	P14	MM	G-44	1317	1320	0	9	9	51		XAIS	
Total LF (Page)		51		Total DS (Page)		0		Total DS Needed (Page)	0.1	Over/Under (Page)		-0.1
Total LF (Project)		51		Total DS (Project)		0		Total DS Needed (Project)	0.1	Over/Under (Project)		-0.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 1 of 1

Client: SCG Engineers
Project: North Ranch Landfill
Project Number: 22-SCG-NRL-01

CQA

Sheet 1 of 2
Date: 06/21/22
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Cell 61 Primary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
CPDS1	P5/P6	26	5/5	5/5	CK	W82	5/4	P	P	
CPDS2	P6/P7	49	5/5	5/5	SL	W2	5/4	P	P	
CPDS3	P11/P12	13	5/5	5/5	CK	W82	5/4	P	P	
CPDS4	P12/P13	52	5/5	5/5	SL	W2	5/4	P	P	
CPDS5	P18/P19	57	5/5	5/5	CK	W82	5/4	P	P	
CPDS6	P19/P20	81	5/5	5/5	SL	W2	5/4	P	P	
CPDS7	P24/P25	18	5/5	5/5	CK	W82	5/4	P	P	
CPDS8	P25/P26	29	5/5	5/5	SL	W2	5/4	P	P	
CPDS9	P31/P32	~40	5/5	5/5	SL	W2	5/4	P	P	
CPDS10	P32/P33	69	5/5	5/5	SL	W2	5/4	P	P	
CPDS11	P41/P42	27	5/6	5/6	SL	W2	5/5	P	P	
CPDS12	P43/P44	36	5/6	5/6	SL	W2	5/5	P	P	
CPDS13	P47/P48	112	5/6	5/6	CK	W82	5/5	P	P	
CPDS14	P48/P49	179	5/6	5/6	SL	W2	5/5	P	P	
CPDS15	P41/P49	11	5/6	5/6	CK	W82	5/5	P	P	
CPDS16	P52/P53	107	5/6	5/6	CK	W82	5/5	P	P	
CPDS17	P53/P55	156	5/6	5/6	SL	W2	5/5	P	P	
CPDS18	P55/P56	19	5/6	5/6	SL	W2	5/5	P	P	
CPDS19	P56/P58	76	5/6	5/6	CK	W82	5/5	P	P	
CPDS20	P58/P59	147	5/6	5/6	SL	W2	5/5	P	P	
CPDS21	P59/P61	44	5/6	5/6	CK	W82	5/5	P	P	
CPDS22	P61/P62	116	5/6	5/6	CK	W82	5/5	P	P	
CPDS23	P66/P67	172	5/11	5/11	CK	W82	5/10	P	P	
CPDS24	P67/P68	131	5/11	5/11	SL	W2	5/10	P	P	
CPDS25	P73/P74	157	5/11	5/11	CK	W82	5/10	P	P	
CPDS26	P74/P75	114	5/11	5/11	SL	W2	5/10	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (1) of (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 32-SCS-NRL-01

Sheet 2 of 3
Date: VARIES
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Cell 61 Primary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
CPDS27	P77/P78	117	5/11	5/11	CA	W82	5/10	P	P	
CPDS28	P78/P79	91	5/11	5/11	SL	W2	5/10	P	P	
CPDS29	P94/P95	26	5/11	5/11	CA	W82	5/10	P	P	
CPDS30	P93/P94	49	5/11	5/11	SL	W2	5/10	P	P	
CPDS31	P84/P85	70	5/11	5/11	CA	W82	5/10	P	P	
CPDS32	P85/P86	42	5/11	5/11	CA	W82	5/10	P	P	
CPDS33	PR8/P26	—	5/11	5/11	SL	G744	5/9	P	P	
CPDS34	PR16/P53	—	5/11	5/11	MM	G44	5/9	P	P	
CPDS35	PR12/P52	—	5/11	5/11	MM	G44	5/9	P	P	
CPDS36	P89/P101	37	5/12	5/12	CA	W82	5/11	P	P	
CPDS37	P101/P102	51	5/12	5/12	SL	W2	5/11	P	P	
CPDS38	P106/P107	76	5/12	5/12	CA	W82	5/11	P	P	
CPDS39	P109/P110	129	5/12	5/12	SL	W2	5/11	P	P	
CPDS40	P112/P113	160	5/12	5/12	CA	W82	5/11	P	P	
CPDS41	P115/P116	81	5/12	5/12	SL	W2	5/11	P	P	
CPDS42	P117/P118	127	5/12	5/12	CA	W82	5/11	P	P	
CPDS43	P120/P121	114	5/12	5/12	SL	W2	5/11	P	P	
CPDS44	P123/P124	30	5/12	5/12	CA	W82	5/11	P	P	
CPDS45	C77/P103	10	5/12	5/12	SL	W2	5/11	P	F	
CPDS45A	P78/P102	3	5/13	5/13	SL	W2	5/11	P	F	
CPDS45B	P77/P101/P103		5/13	5/13	SL	W2	5/11	P	F	
CPDS46	P124/P101	—	5/13	5/13	MM	G414	5/12	P	P	
CPDS47	PC2/PR6	27	5/17	5/17	CA	W82	5/16	P	P	
CPDS48	P116/P117	91	5/17	5/17	SL	W2	5/16	P	P	
CPDS49	P128/P129	42	5/17	5/17	CA	W82	5/16	P	P	
CPDS50	P119/P131	57	5/17	5/17	SL	W2	5/16	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 2 of 3

Client: SLS Engineers
Project: North Ranch Landfill
Project Number: 22-SLS-NRLC1

Sheet 3 of 3
Date: VARIES
Rev. Date: 6/20/22

DESTRUCTIVE SAMPLE LOG

Layer: Cell 61 Primary

Sample Information					Welder Information			Testing Information		Comments, Tracking Notes, Etc.
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	
CPDSS1	P131/P132	33	5/17	5/17	SL	W2	5/16	P	P	
CPDSS2	P132/P134	97	5/17	5/17	CA	W82	5/16	P	P	
CPDSS3	P134/P136	153	5/17	5/17	CA	W82	5/16	P	P	
CPDSS4	P136/P138	118	5/17	5/17	SL	W2	5/16	P	P	
CPDSS5	P138/P140	17	5/17	5/17	CK	W82	5/16	P	P	
CPDSS6	P139/P142	27	5/17	5/17	CA	W82	5/16	P	P	
CPDSS7	PR174/P112		5/17	5/17	SL	GT44	5/16	P	P	
CPDSS8	P143/P147	11	5/17	5/17	SL	W2	5/16	P	P	
CPDSS9	PR241/P24	9	5/20	5/20	GT44	MM	5/19	P	P	
CPDS45A1	P241/P236	NCDS	5/21	5/21	SR	W2	5/11	P	P	
SDS45A1	P101/P99	SCDS	5/21	5/21	SL	W2	5/11	P	P	

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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REV 1

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 13
Date VARIES
Rev. Date: _____

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR1	P5	P6	—	—	—	CPDS1	26	—	P	2	5	14	5/9	0742	MM	G44	WS	5/9	P	XAIS
PR2	P6	P7	—	—	—	CPDS2	49	—	P	2	5	14	5/9	0750	MM	G44	WS	5/9	P	XAIS
PR3	P11	P12	—	—	—	CPDS3	13	—	P	2	5	14	5/9	0804	MM	G44	WS	5/9	P	XAIS
PR4	P12	P13	—	—	—	CPDS4	42	—	P	2	5	14	5/9	0807	MM	G44	WS	5/9	P	XAIS
PR5	P18	P19	—	—	—	CPDS5	57	—	P	2	5	14	5/9	1437	SL	G744	WS	5/9	P	XAIS
PR6	P19	P20	—	—	—	CPDS6	81	—	P	2	5	14	5/9	1501	SL	G744	WS	5/9	P	XAIS
PR7	P24	P25	—	—	—	CPDS7	18	—	P	2	6	16	5/9	1418	SL	G744	WS	5/9	P	XAIS
PR8	P25	P26	—	—	—	CPDS8	29	—	P	2	5	14	5/9	1413	SL	G744	WS	5/9	P	XAIS
PR9	P31	P32	—	—	—	CPDS9	40	—	P	2	5	14	5/9	1342	SL	G744	WS	5/9	P	XAIS
PR10	P32	P33	—	—	—	CPDS10	69	—	P	2	5	14	5/9	1345	SL	G744	WS	5/9	P	XAIS
PR11	P41	P42	—	—	—	CPDS11	27	—	P	2	6	16	5/9	0840	MM	G44	WS	5/9	P	XAIS
PR12	P43	P45	—	—	—	CPDS12	36	—	P	2	5	14	5/9	1005	MM	G44	WS	5/9	P	XAIS
PR13	P47	P48	—	—	—	CPDS13	112	—	P	2	5	14	5/9	1010	MM	G44	WS	5/9	P	XAIS
PR14	P48	P49	—	—	—	CPDS14	179	—	P	2	5	14	5/9	1014	MM	G44	WS	5/9	P	XAIS
PR15	P51	P49	—	—	—	CPDS15	11	—	P	2	5	14	5/9	1005	SL	G744	WS	5/9	P	XAIS
PR16	P52	P53	—	—	—	CPDS16	107	—	P	2	5	14	5/9	1118	MM	G44	WS	5/9	P	XAIS
PR17	P54	P55	—	—	—	CPDS17	156	—	P	2	5	1	5/9	1109	MM	G44	WS	5/9	P	XAIS
PR18	P55	P5C	—	—	—	CPDS18	19	—	P	3	5	14	5/9	0858	SL	G744	WS	5/9	P	XAIS
PR19	P56	P55	—	—	—	CPDS19	76	—	P	3	5	16	5/9	0908	SL	G744	WS	5/9	P	XAIS
PR20	P58	P59	—	—	—	CPDS20	147	—	P	2	5	14	5/9	1128	MM	G44	WS	5/9	P	XAIS

Total (Page)	288
Total (Project)	288

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 1 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell E1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
PR1	P1	PG1	—	—	—	CPOS21	44	—	P	2	5	14	5/9	1320	MM	G44	WS	5/9	P	YAIS
PR2	PG1	P2	—	—	—	CPOS22	116	—	P	2	5	14	5/9	1330	MM	G44	WS	5/9	P	YAIS
PR23	PG2	P3	—	—	—	CPOS23	172	—	P	2	5	14	5/9	*	MM	G44	WS	5/9	P	YAIS
PR24	P3	P68	—	—	—	CPOS24	171	—	P	2	6	16	5/9	*	MM	G44	WS	5/9	P	YAIS
PR25	P73	P74	—	—	—	CPOS25	157	—	P	2	6	16	5/9	*	MM	G44	WS	5/9	P	YAIS
PR26	P74	P75	—	—	—	CPOS26	119	—	P	2	5	14	5/9	*	MM	G44	WS	5/9	P	YAIS
PR27	P77	P78	—	—	—	CPOS27	117	—	P	3	5	16	5/9	*	MM	G44	WS	5/9	P	YAIS
PR28	P78	P79	—	—	—	CPOS28	91	—	P	2	5	14	5/9	*	MM	G44	WS	5/9	P	YAIS
PR29	P94	P95	—	—	—	CPOS29	26	—	P	2	6	16	5/9	*	MM	G44	WS	5/9	P	YAIS
RR30	P93	P94	—	—	—	CPOS30	49	—	P	3	5	16	5/9	*	MM	G44	WS	5/9	P	YAIS
PR31	P84	P85	—	—	—	CPOS31	70	—	P	2	6	16	5/9	*	MM	G44	WS	5/9	P	YAIS
PR32	P87	P88	—	—	—	CPOS32	42	—	P	2	5	14	5/9	*	MM	G44	WS	5/9	P	YAIS
RR33	PR8	P26	—	—	—	CPOS33	—	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	YAIS
PR34	PR10	P33	—	—	—	CPOS34	—	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	YAIS
PR35	PR12	PC2	—	—	—	CPOS35	—	—	P	2	6	16	5/12	*	MM	G44	WS	5/12	P	YAIS
PR36	P3	P4	P31	—	—	Int	—	—	P	2	2	8	5/9	0936	MM	G44	WS	5/9	P	YAIS
PR37	P4	P5	P35	—	—	Int	—	—	P	2	3	10	5/9	0932	MM	G44	WS	5/9	P	YAIS
PR38	P5	P35	P36	—	—	Int	—	—	P	2	2	8	5/9	0927	MM	G44	WS	5/9	P	YAIS
PR39	P36	P5	QC	—	—	Int	—	—	P	2	2	8	5/9	0924	MM	G44	WS	5/9	P	YAIS
PR40	P36	P37	P6	P7	—	Int	—	—	P	2	9	22	5/9	0920	MM	G44	WS	5/9	P	YAIS
											Total (Page)	280								
											Total (Project)	568								

Notes: * = TIME NOT PROVIDED BY INSTALLER

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PG (2) OF (13)

Client: SCS Engineers
Project: North Ranch Landfills
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR1	P37	P38	P7	P8	—	Int	—	—	P	2	7	18	5/9	0911	MM	G44	WS	5/9	P	XAIS
PR2	P38	P8	—	—	—	WS	11	—	P	2	2	8	5/9	0905	MM	G44	WS	5/9	P	XAIS
PR3	P38	P40	P8	P9	—	Int	—	—	P	2	6	16	5/9	0901	MM	G44	WS	5/9	P	XAIS
PR4	P37	P38	P39	—	—	Int	—	—	P	2	2	8	5/9	0946	MM	G44	WS	5/9	P	XAIS
PR45	P37	P39	P39	—	—	CAP	11	—	P	3	4	14	5/9	0948	MM	G44	WS	5/9	P	XAIS
PR46	P39	—	—	—	—	Hole	11'	2' 5	P	1	1	4	5/9	0948	MM	G44	WS	5/9	P	XAIS
PR47	P39	—	—	—	—	Hole	12'	5' 5	P	1	1	4	5/9	0950	MM	G44	WS	5/9	P	XAIS
PR48	P38	P39	P40	—	—	Int	—	—	P	2	4	8	5/9	0952	MM	G44	WS	5/9	P	XAIS
PR49	P40	P9	—	—	—	CAP	—	—	P	2	5	14	5/9	0954	MM	G44	WS	5/9	P	XAIS
DR50	P40	P9	P10	—	—	Int	—	—	P	2	2	8	5/9	0850	MM	G44	WS	5/9	P	XAIS
PR51	P40	P41	P10	—	—	Int	—	—	P	2	2	8	5/9	0847	MM	G44	WS	5/9	P	XAIS
PR52	P41	P10	P11	—	—	Int	—	—	P	2	4	8	5/9	0845	MM	G44	WS	5/9	P	XAIS
PR53	P41	P43	P11	P12	—	Int	—	—	P	2	4	12	5/9	0837	MM	G44	WS	5/9	P	XAIS
PR54	P42	P43	P12	P13	—	Int	—	—	P	2	6	16	5/9	0835	MM	G44	WS	5/9	P	XAIS
PR55	P42	P43	P44	—	—	Int	—	—	P	2	2	8	5/9	0955	MM	G44	WS	5/9	P	XAIS
PR56	P43	P44	P45	—	—	Int	—	—	P	2	2	8	5/9	1000	MM	G44	WS	5/9	P	XAIS
PR57	P43	P13	P14	—	—	Int	—	—	P	2	2	8	5/9	1116	SL	G744	WS	5/9	P	XAIS
PR58	P43	P45	P14	—	—	Int	—	—	P	2	2	8	5/9	1113	SL	G744	WS	5/9	P	XAIS
PR59	P45	P14	P15	—	—	Int	—	—	P	2	2	8	5/9	1106	SL	G744	WS	5/9	P	XAIS
PR60	P45	P46	P15	P12	—	Int	—	—	P	2	6	16	5/9	1103	SL	G744	WS	5/9	P	XAIS

Total (Page)	202
Total (Project)	770

Notes: _____

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PG 3 of 13

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCSNR-01

CQA SOLUTIONS

Sheet 4 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Primary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
PR61	P17	P46	—	—	—	CAP	7	—	P	2	3	10	5/9	1100	SL	G744	WS	5/12	P	XAIS
PR62	P14	P15	P16	—	—	Int	—	—	P	2	3	10	5/9	1449	SL	G744	WS	5/12	P	XAIS
PR63	P15	P16	P17	—	—	Int	—	—	P	2	2	8	5/9	1443	SL	G744	WS	5/12	P	XAIS
PR64	P46	P47	P17	P18	—	Int	—	—	P	2	5	14	5/9	1051	SL	G744	WS	5/12	P	XAIS
PR65	P47	—	—	—	—	Hole	31	11' W	P	1	1	4	5/9	1046	SL	G744	WS	5/12	P	XAIS
PR66	P47	—	—	—	—	Hole	5'	11' W	P	1	1	4	5/9	1042	SL	G744	WS	5/12	P	XAIS
PR67	P47	P18	P19	—	—	Int	—	—	P	2	2	8	5/9	1038	SL	G744	WS	5/12	P	XAIS
PR68	P47	P48	P19	—	—	Int	—	—	P	2	2	8	5/9	1036	SL	G744	WS	5/12	P	XAIS
PR69	P48	P19	P20	—	—	Int	—	—	P	2	2	8	5/9	1012	SL	G744	WS	5/12	P	XAIS
PR70	P48	P49	P20	—	—	Int	—	—	P	3	3	12	5/9	1010	SL	G744	WS	5/12	P	XAIS
PR71	P89	P101	—	—	—	CP0536	37	—	P	2	5	18	5/12	*	MM	G44	WS	5/12	P	XAIS
PR72	P101	P102	—	—	—	CP0537	51	—	P	2	6	14	5/12	*	MM	G44	WS	5/12	P	XAIS
PR73	P102	P103	—	—	—	CP0538	76	—	P	2	6	16	5/12	*	MM	G44	WS	5/12	P	XAIS
PR74	P104	P105	—	—	—	CP0539	129	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	XAIS
PR75	P112	P113	—	—	—	CP0540	166	—	P	3	5	16	5/12	*	MM	G44	WS	5/12	P	XAIS
PR76	P115	P116	—	—	—	CP0541	81	—	P	2	6	16	5/12	*	MM	G44	WS	5/12	P	XAIS
PR77	P117	P118	—	—	—	CP0542	127	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	XAIS
PR78	P118	P121	—	—	—	CP0543	114	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	XAIS
PR79	P113	P124	—	—	—	CP0544	80	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	XAIS
PR80	P97	P103	—	—	—	CP0545	10	—	P	2	5	14	5/12	*	MM	G44	WS	5/12	P	XAIS
											Total (Page)	236								
											Total (Project)	1006								

Notes: * = TIME NOT PROVIDED BY INSTALLER

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PG 4 OF 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 5 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR81	P49	P50	P51	—	—	Int	—	—	P	2	2	8	5/9	1007	SL	GT44	WS	5/9	P	XAIS
PR82	P49	P50	P51	P52	—	Int	—	—	P	2	3	10	5/9	0950	SL	GT44	WS	5/9	P	XAIS
PR83	P50	P52	—	—	—	CAP	10	—	P	2	2	8	5/9	0945	SL	GT44	WS	5/9	P	XAIS
PR84	P50	P52	P53	—	—	Int	—	—	P	2	2	8	5/9	0943	SL	GT44	WS	5/9	P	XAIS
PR85	P50	P52	P53	—	—	Int	—	—	P	2	2	8	5/9	0940	SL	GT44	WS	5/9	P	XAIS
PR86	P53	—	—	—	—	Hole	149	11' E	P	1	1	4	5/9	0939	SL	GT44	WS	5/9	P	XAIS
PR87	P53	—	—	—	—	Hole	149	13' E	P	1	1	4	5/9	0937	SL	GT44	WS	5/9	P	XAIS
PR88	P53	—	—	—	—	Hole	146	13' E	P	1	1	4	5/9	0935	SL	GT44	WS	5/9	P	XAIS
PR89	P53	—	—	—	—	Hole	126	13' E	P	1	1	4	5/9	0934	SL	GT44	WS	5/9	P	XAIS
PR90	P53	—	—	—	—	Hole	120	13' E	P	1	1	4	5/9	0933	SL	GT44	WS	5/9	P	XAIS
PR91	P49	P50	P51	—	—	Int	—	—	P	2	2	8	5/9	1002	MM	G44	WS	5/9	P	XAIS
PR92	P50	P51	P52	—	—	Int	—	—	P	2	2	8	5/9	1027	MM	G44	WS	5/9	P	XAIS
PR93	P52	P53	P54	—	—	Int	—	—	P	2	2	8	5/9	1036	MM	G44	WS	5/9	P	XAIS
PR94	P53	P54	P55	—	—	Int	—	—	P	2	3	10	5/9	1037	MM	G44	WS	5/9	P	XAIS
PR95	P53	P55	—	—	—	CAP	167	—	P	2	2	8	5/9	1103	MM	G44	WS	5/9	P	XAIS
PR96	P53	P55	—	—	—	Int	145	—	P	2	3	10	5/9	1114	MM	G44	WS	5/9	P	XAIS
PR97	P52	P53	P54	—	—	Int	—	—	P	2	2	8	5/9	0924	SL	G44	WS	5/9	P	XAIS
PR98	P52	P53	P54	—	—	Int	—	—	P	2	2	8	5/9	0921	SL	G44	WS	5/9	P	XAIS
PR99	P53	P54	P55	—	—	Int	—	—	P	2	2	8	5/9	0918	SL	G44	WS	5/9	P	XAIS
PR100	P53	P55	P55	P56	—	Int	—	—	P	2	6	16	5/9	0902	SL	G44	WS	5/9	P	XAIS

Total (Page)	154
Total (Project)	1160

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 5 of 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NR-01

Sheet 6 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 6 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR101	P55	P56	P26	P27	—	Int	—	—	P	2	7	18	5/9	0845	SL	G-744	WS	5/9	P	XAIS
PR102	P56	P27	P28	—	—	Int	—	—	P	2	2	8	5/9	0847	SL	G-744	WS	5/9	P	XAIS
PR103	P56	P58	P28	—	—	Int	—	—	P	2	3	10	5/9	0839	SL	G-744	WS	5/9	P	XAIS
PR104	P58	P28	P29	—	—	Int	—	—	P	2	2	8	5/9	0833	SL	G-744	WS	5/9	P	XAIS
PR105	P58	P64	P69	P71	—	Int	—	—	P	3	4	14	5/9	1317	SL	G-744	WS	5/9	P	XAIS
PR106	P69	P70	P71	—	—	Int	—	—	P	2	4	12	5/9	1355	SL	G-744	WS	5/9	P	XAIS
PR107	P71	P72	—	—	—	CAP	81	—	P	3	2	10	5/9	1348	SL	G-744	WS	5/9	P	XAIS
PR108	P34	—	—	—	—	CAP	55	1'G	P	2	4	12	5/9	1377	SL	G-744	WS	5/9	P	XAIS
PR109	P34	—	—	—	—	Hole	99	1'F	P	1	2	6	5/9	1331	SL	G-744	WS	5/9	P	XAIS
PR110	P34	—	—	—	—	Hole	140	1'G	P	1	2	6	5/9	1319	SL	G-744	WS	5/9	P	XAIS
PR111	P34	P69	P65	—	—	Int	—	—	P	3	3	12	5/12	0823	MM	G-44	WS	5/12	P	XAIS
PR112	P39	P34	P68	P70	—	Int	—	—	P	2	2	8	5/12	0813	MM	G-44	WS	5/12	P	XAIS
PR113	P32	P33	P70	P71	—	Int	—	—	P	2	2	8	5/12	805	MM	G-44	WS	5/12	P	XAIS
PR114	P32	P71	P64	—	—	Int	—	—	P	2	3	10	5/12	0800	MM	G-44	WS	5/12	P	XAIS
PR115	P32	P71	P64	—	—	Int	—	—	P	1	2	6	5/9	1140	SL	G-744	WS	5/9	P	XAIS
PR116	P56	P59	P64	—	—	Int	—	—	P	3	3	12	5/9	0827	SL	G-744	WS	5/9	P	XAIS
PR117	P59	—	—	—	—	Hole	2	11'G	P	1	1	4	5/9	0820	SL	G-744	WS	5/9	P	XAIS
PR118	P59	—	—	—	—	Hole	5	11'E	P	1	1	4	5/9	0822	SL	G-744	WS	5/9	P	XAIS
PR119	P59	—	—	—	—	Hole	12	11'E	P	1	1	4	5/9	0824	SL	G-744	WS	5/9	P	XAIS
PR120	P59	P60	P64	—	—	Int	—	—	P	2	2	8	5/9	0807	SL	G-744	WS	5/9	P	XAIS

Total (Page)	180
Total (Project)	340

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 6 OF 13

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 7 of 13
Date 7/26/22
Rev. Date: _____

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR121	P66	P6L	P64	—	—	Int	—	—	P	2	2	8	5/9	0805	SL	G-744	WS	5/9	P	XAIS
PR122	P55	P56	P57	—	—	Int	—	—	P	3	3	12	5/9	1045	MM	G-44	WS	5/9	P	XAIS
PR123	P5C	P57	P58	—	—	Int	—	—	P	2	2	8	5/9	1049	MM	G44	WS	5/9	P	XAIS
PR124	P5A	P6C	P61	—	—	Int	—	—	P	2	3	10	5/9	1135	MA	G-44	WS	5/9	P	XAIS
PR125	P60	P61	P62	—	—	Int	—	—	P	2	2	8	5/9		MM	G44	WS	5/9	P	XAIS
PR126	P6:	P6L	P63	—	—	Int	—	—	P	2	2	8	5/9		MM	G44	WS	5/9	P	XAIS
PR127	P67L	P101	—	—	—	CPD546	—	—	P	2	5	14	5/1		MM	G-44	WS	5/13	P	XAIS
PR128	P64	P70	P71	—	—	Int	—	—	P	2	3	10	5/12	0810	MM	G-44	WS	5/12	P	XAIS
PR129	P64	P69	P70	—	—	Int	—	—	P	2	2	8	5/12	0820	MM	G-44	WS	5/12	P	XAIS
PR130	P64	P63	P69	—	—	Int	—	—	P	2	2	8	5/12	0826	MM	G-44	WS	5/12	P	XAIS
RR131	P64	P65	P66	—	—	Int	—	—	P	2	2	8	5/12	0830	MM	G-44	WS	5/12	P	XAIS
PR132	P64	P6C	P67	—	—	Int	—	—	P	2	2	8	5/12	0840	MM	G-44	WS	5/12	P	XAIS
PR133	P64	P67	P68	—	—	Int	—	—	P	2	3	10	5/12	0845	MM	G-44	WS	5/12	P	XAIS
PR134	P64	P68	P72	—	—	Int	—	—	P	3	3	12	5/12	0850	MM	G-44	WS	5/12	P	XAIS
PR135	P72	—	—	—	—	Hole	253	11' W	P	1	1	4	5/12	0854	MM	G-44	WS	5/12	P	XAIS
PR136	P64	P72	P73	—	—	Int	—	—	P	3	3	12	5/12	0857	MM	G-44	WS	5/12	P	XAIS
PR137	P98	P99	P100	—	—	Int	—	—	P	2	2	8	5/12	1102	MM	G-44	WS	5/12	P	XAIS
PR138	P88	P99	P98	—	—	Int	—	—	P	2	2	8	5/12	1125	MM	G-44	WS	5/12	P	XAIS
PR139	P87	P80	P97	P98	—	Int	—	—	P	2	5	14	5/12	1135	MM	G-44	WS	5/12	P	XAIS
PR140	P87	P97	—	—	—	CAP	—	—	P	1	2	6	5/12	1305	MM	G-44	WS	5/12	P	XAIS

Total (Page)	184
Total (Project)	1524

Notes: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 02-325-NRL-01

CQA

Sheet 8 of 13
Date 7/12/22
Rev. Date:

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
141	P87	P97	P96	—	—	Int	—	—	P	3	3	12	5/12	1315	MM	G-44	WS	5/12	P	XAIS
142	P87	P97	—	—	—	CAP	8	—	P	2	2	8	5/12	1317	MM	G-44	WS	5/12	P	XAIS
PR143	P87	P86	P96	—	—	Int	—	—	P	2	2	8	5/12	1320	MM	G-44	WS	5/12	P	XAIS
PR144	P86	P96	P85	P95	—	Int	—	—	P	2	4	12	5/12	1340	MM	G-44	WS	5/12	P	XAIS
PR145	P84	P85	P94	P95	—	Int	—	—	P	2	2	8	5/12	1350	MM	G-44	WS	5/12	P	XAIS
PR146	P83	P84	P93	P94	—	Int	—	—	P	3	4	14	5/12	1400	MM	G-44	WS	5/12	P	XAIS
PR147	P82	P83	P92	P93	—	Int	—	—	P	2	3	10	5/12	1410	MM	G-44	WS	5/12	P	XAIS
PR148	P82	P92	—	—	—	WLD	124	3'5	P	1	1	4	5/12	1415	MM	G-44	WS	5/12	P	XAIS
PR149	P82	P93	—	—	—	WLD	95	—	P	2	2	8	5/12	1420	MM	G-44	WS	5/12	P	XAIS
PR150	P82	—	—	—	—	Help	95	7'5	P	1	1	4	5/12	1425	MM	G-44	WS	5/12	P	XAIS
PR151	P81	P82	P91	P93	—	Int	—	—	P	2	2	8	5/12	1430	MM	G-44	WS	5/12	P	XAIS
PR152	P80	P81	P90	P91	—	Int	—	—	P	2	4	12	5/12	1435	MM	G-44	WS	5/12	P	XAIS
PR153	P79	P80	P89	P90	—	Int	—	—	P	2	2	8	5/12	0935	MM	G-44	WS	5/12	P	XAIS
PR154	P79	P89	P101	—	—	Int	—	—	P	2	2	8	5/12	0940	MM	G-44	WS	5/12	P	XAIS
PR155	P78	P102	—	—	—	CPD545A	3	—	P	3	12	30	5/13	X	MM	G-44	WS	5/13	P	XAIS
PR156	P77	P76	P104	—	—	CPD545B	—	—	P	3	14	34	5/13	X	MM	G-44	WS	5/13	P	XAIS
PR157	P76	P79	P103	—	—	Int	—	—	P	2	2	8	5/12	0945	MM	G-44	WS	5/12	P	XAIS
PR158	P78	P101	P102	—	—	Int	—	—	P	2	2	8	5/12	0950	MM	G-44	WS	5/12	P	XAIS
PR159	P105	P104	P76	—	—	Int	—	—	P	2	3	10	5/12	1015	MM	G-44	WS	5/12	P	XAIS
PR160	P103	P105	—	—	—	WLD	56		P	3	4	14	5/12	X	MM	G-44	WS	5/12	P	XAIS
									Total (Page)			228								
									Total (Project)			772								

Notes: X = TAPE NOT PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL -01

Sheet 9 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell G1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR161	P133	P134	P135	—	—	Int	—	—	P	2	3	10	5/12	1630	MM	G44	WS	5/12	P	XAIS
PR162	P6	P136	—	—	—	CPOS47	27	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR163	P136	P137	—	—	—	CPOS48	91	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR164	P128	P129	—	—	—	CPOS49	41	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR165	P129	P131	—	—	—	CPOS50	—	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR166	P131	P132	—	—	—	CPOS51	33	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR167	P132	P134	—	—	—	CPOS52	97	—	P	2	6	16	5/17	*	SL	G744	WS	5/17	P	XAIS
PR168	P134	P136	—	—	—	CPOS53	153	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR169	P136	P138	—	—	—	CPOS54	118	—	P	2	6	16	5/17	*	SL	G744	WS	5/17	P	XAIS
PR170	P138	P140	—	—	—	CPOS55	17	—	P	3	5	16	5/17	*	SL	G744	WS	5/17	P	XAIS
PR171	P139	P142	P144	—	—	CPOS56	27	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR172	P142	P143	—	—	—	CAP	166	—	P	2	4	12	5/17	*	SL	G744	WS	5/17	P	XAIS
PR173	PR172	P142	—	—	—	CPOS57	—	—	P	2	5	14	5/17	*	SL	G744	WS	5/17	P	XAIS
PR174	P6	P126	P64	—	—	Int	—	—	P	3	5	16	5/17	0806	SL	G744	WS	5/17	P	XAIS
PR175	P64	P118	P127	—	—	Int	—	—	P	2	3	10	5/17	0812	SL	G744	WS	5/17	P	XAIS
PR176	P64	P126	P127	—	—	Int	—	—	P	2	3	10	5/17	0812	SL	G744	WS	5/17	P	XAIS
PR177	P126	P127	P118	—	—	Int	—	—	P	2	3	10	5/16	1428	MM	G44	WS	5/16	P	XAIS
PR178	P127	P128	P134	—	—	Int	—	—	P	2	4	8	5/16	1432	MM	G44	WS	5/16	P	XAIS
PR179	P6	P63	P126	—	—	Int	—	—	P	2	2	8	5/16	1445	MM	G44	WS	5/16	P	XAIS
PR180	P118	P119	P120	—	—	Int	—	—	P	2	2	8	5/16	1450	MM	G44	WS	5/16	P	XAIS

Total (Page)	252
Total (Project)	2004

Notes: * = TIME NOT RECORDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: M-SCS-NRL-01

Sheet 10 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 61 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR181	P129	P131	P130	—	—	Int	—	—	P	2	2	8	5/16	1500	MM	G44	WS	5/16	P	XAIS
PR182	P127	P129	P64	—	—	Int	—	—	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR183	P126	P131	P64	—	—	Int	—	—	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR184	P131	P132	P64	—	—	Int	—	—	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR185	P132	P134	P64	—	—	Int	—	—	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR186	P131	P132	P133	—	—	Int	—	—	P	2	2	8	5/17	0878	SL	G744	WS	5/17	P	XAIS
PR187	P132	P133	P119	—	—	Int	—	—	P	2	2	8	5/17	0841	SL	G744	WS	5/17	P	XAIS
PR188	P133	P134	P135	—	—	Int	—	—	P	2	2	8	5/16	1503	MM	G44	WS	5/16	P	XAIS
PR189	P134	P135	P136	—	—	Int	—	—	P	2	2	8	5/16	505	MM	G44	WS	5/16	P	XAIS
PR190	P64	P134	P136	—	—	Int	—	—	P	2	2	8	5/17	0930	SL	G744	WS	5/17	P	XAIS
PR191	P64	P136	P137	—	—	Int	—	—	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR192	P136	P137	P138	—	—	Int	—	—	P	2	2	8	5/17	0738	MM	G44	WS	5/17	P	XAIS
PR193	P137	P138	P139	—	—	Int	—	—	P	2	2	8	5/17	0841	MM	G44	WS	5/17	P	XAIS
PR194	P64	P108	P137	—	—	Int	—	—	P	2	5	14	5/17	0944	SL	G744	WS	5/17	P	XAIS
PR195	P64	P108	P107	—	—	Int	—	—	P	2	2	8	5/17	0948	SL	G744	WS	5/17	P	XAIS
PR196	P64	P107	P73	P74	—	Int	—	—	P	5	6	22	5/17	1006	SL	G744	WS	5/17	P	XAIS
PR197	P74	P107	P146	—	—	Int	—	—	P	3	3	12	5/17	1040	SL	G744	WS	5/17	P	XAIS
PR198	P107	—	—	—	—	Hole	185	7'5	P	2	2	8	5/17	*	SL	G744	WS	5/17	P	XAIS
PR199	P145	P146	P74	P75	—	Int	—	—	P	2	6	16	5/17	*	SL	G744	WS	5/17	P	XAIS
PR200	P145	P75	P106	—	—	Int	—	—	P	2	5	14	5/17	1101	SL	G744	WS	5/17	P	RAIS

Total (Page)	198
Total (Project)	1202

Notes: * TIME NOT PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 11 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell 1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR201	P106	P105	P104	P76	—	Int	—	—	P	3	5	16	5/17	1113	SL	GT44	WS	5/17	P	XAIS
PR202	P145	P146	P106	—	—	Int	—	—	P	2	2	8	5/17	1123	SL	GT44	WS	5/17	P	XAIS
PR203	P146	P106	P107	—	—	Int	—	—	P	2	5	14	5/17	1056	SL	GT44	WS	5/17	P	XAIS
PR204	P139	P141	P108	—	—	Int	—	—	P	2	2	8	5/17	*	SL	GT44	WS	5/17	P	XAIS
PR205	P139	P141	P142	—	—	Int	—	—	P	2	2	8	5/17	0811	MM	GT44	WS	5/17	P	XAIS
PR206	P138	P139	P140	—	—	Int	—	—	P	2	2	8	5/16	1533	MM	GT44	WS	5/16	P	XAIS
PR207	P139	P140	P143	P144	—	Int	—	—	P	2	5	14	5/16	1547	MM	GT44	WS	5/16	P	XAIS
PR208	P125	P123	P140	—	—	Int	—	—	P	2	2	8	5/16	1513	MM	GT44	WS	5/16	P	XAIS
PR209	P140	P122	P123	—	—	Int	—	—	P	2	2	8	5/16	1517	MM	GT44	WS	5/16	P	XAIS
PR210	P140	P144	P122	—	—	Int	—	—	P	2	2	8	5/16	1521	MM	GT44	WS	5/16	P	XAIS
PR209	P140	P125	P143	—	—	Int	—	—	P	2	2	8	5/16	*	MM	GT44	WS	5/16	P	XAIS
PR209	P140	P144	P122	—	—	Int	—	—	P	2	2	8	5/16	1517	MM	GT44	WS	5/16	P	XAIS
PR210	P125	P143	—	—	P114R1	Int	—	—	P	2	2	8	5/17	*	MM	GT44	WS	5/17	P	XAIS
PR211	P140	P144	P122	—	—	Int	—	—	P	2	3	10	5/16	1521	MM	GT44	WS	5/16	P	XAIS
PR212	P144	P122	P121	—	—	Int	—	—	P	2	8	8	5/16	1525	MM	GT44	WS	5/16	P	XAIS
PR213	P144	P121	P110	—	—	Int	—	—	P	2	2	8	5/16	1532	MM	GT44	WS	5/16	P	XAIS
PR214	P144	P122	P119	—	—	Int	—	—	P	2	2	8	5/16	1557	MM	GT44	WS	5/16	P	XAIS
PR215	P144	P143	P119	—	—	Int	—	—	P	2	2	8	5/16	1600	MM	GT44	WS	5/16	P	YAIS
PR216	P143	P119	P118	—	—	Int	—	—	P	2	2	8	5/16	1603	MM	GT44	WS	5/16	P	YAIS
PR217	P118	—	—	—	—	Vole	160	5' N	P	1	1	4	5/16	*	MM	GT44	WS	5/16	P	XAIS

Total (Page)	118
Total (Project)	2380

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PG (11) OF (13)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 12 of 13
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell E1 Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
PR221	P118	—	—	—	—	Hole	159	10'S	P	3	2	10	5/16	*	MM	G44	WS	5/16	P	KAIS
PR222	P118	P117	P143	—	—	Int	—	—	P	2	2	8	5/16	1605	MM	G44	WS	5/16	P	KAIS
PR223	P117	P116	P143	—	—	Int	—	—	P	2	2	8	5/16	*	MM	G44	WS	5/16	P	KAIS
PR224	P116	P115	P143	—	—	Int	—	—	P	2	2	8	5/17	0737	MM	G44	WS	5/17	P	KAIS
PR225	P115	—	—	—	—	Hole	165	1' N	P	2	3	10	5/17	0740	MM	G44	WS	5/17	P	KAIS
PR226	P115	P143	P142	—	—	Int	—	—	P	2	2	8	5/17	0748	MM	G44	WS	5/17	P	KAIS
PR227	P115	P114	P142	—	—	Int	—	—	P	2	2	8	5/17	0752	MM	G44	WS	5/17	P	KAIS
PR228	P114	P113	P142	—	—	Int	—	—	P	2	2	8	5/17	0755	MM	G44	WS	5/17	P	KAIS
PR229	P113	P112	P142	—	—	Int	—	—	P	2	2	8	5/17	*	MM	G44	WS	5/17	P	KAIS
PR230	P111	P112	P142	—	—	Int	—	—	P	2	2	8	5/17	0803	MM	G44	WS	5/17	P	KAIS
PR231	P111	P142	P141	—	—	Int	—	—	P	2	2	8	5/17	0806	MM	G44	WS	5/17	P	KAIS
PR232	P111	P110	P141	—	—	Int	—	—	P	2	2	8	5/17	0815	MM	G44	WS	5/17	P	KAIS
PR233	P110	P109	P141	—	—	Int	—	—	P	2	2	8	5/17	0820	MM	G44	WS	5/17	P	KAIS
PR234	P141	—	—	—	—	Hole	6'	5' N	P	2	2	8	5/17	0823	MM	G44	WS	5/17	P	KAIS
PR235	P141	—	—	—	—	Hole	4	5' N	P	1	1	4	5/17	0825	MM	G44	WS	5/17	P	KAIS
PR236	P141	P109	P108	—	—	Int	—	—	P	2	2	8	5/17	0828	MM	G44	WS	5/17	P	KAIS
PR237	P107	P108	—	—	—	CAP	157	—	P	2	2	8	5/17	*	MM	G44	WS	5/17	P	KAIS
PR238	P107	P108	—	—	—	CAP	34'	—	P	2	6	16	5/1.	*	MM	G44	WS	5/17	P	KAIS
PR239	P107	P108	—	—	—	Boot	10	—	P	8	8	92	5/1.	*	MM	G44	WS	5/17	P	KAIS
PR240	P143	P117	—	—	—	CPOSS	11'	—	P	2	5	14	5/17	*	MM	G44	WS	5/17	P	KAIS

Total (Page)	198
Total (Project)	2578

Notes: * TIME NOT PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 13 of 13
Date VARIOUS
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cell C1 Primary

Repair #	Damage								Repair									Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
PR241	P102	P101	P74	P78	—	CAP	—	—	P	3	20	46	5/19	1307	MM	G44	WS	5/19	P	YA2S
PR242	P224	P79	—	—	—	CPD559	4	—	P	2	5	14	5/19	1315	MM	G44	WS	5/19	P	YA2S
PR243	P105	P104	P75	P76	—	CAP	—	—	P	3	18	42	5/19	1331	MM	G44	WS	5/19	P	YA2S
PR244	P107	P108	—	—	—	CAP	150	—	P	10	17	54	5/20	0855	SL	G44	WS	5/20	P	YA2S
PR245	P10A	P76	—	—	—	CPD545B1	—	—	P	4	8	24	5/21	0911	MM	G44	WS	5/21	P	YA2S
PR246	—	—	—	P101	P76	CPD545A1	—	—	P	5	10	30	5/21	0917	MM	G44	WS	5/21	P	YA2S

Total (Page)	210
Total (Project)	2788

Notes:

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APPENDIX H-5:
CQA Field Records
Leachate Pond

APPENDIX H-5-A:
CQA Field Records
Leachate Pond - Earthwork

North Ranch
Density Test Log
Leachate Pond - Lift 1

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from Modifed compaction spec	PASS / FAIL	Tech. Initials
LP-L1-01	N/A	1	1	4/23/22	SF1-M	13.3	114.8	109.5	17.30	15.80	95.38	126.8	2.50	3.38	PASS	XAIS
LP-L1-02	N/A	1	1	4/23/22	SF1-M	13.3	114.8	110.3	14.30	12.96	96.08	124.6	-0.34	4.08	PASS	XAIS
LP-L1-03	N/A	1	2	4/25/22	SF1-M	13.3	114.8	110.1	13.90	12.62	95.91	124.0	-0.68	3.91	PASS	XAIS
LP-L1-04	N/A	1	2	4/25/22	SF1-M	13.3	114.8	112.1	14.60	13.02	97.65	126.7	-0.28	5.65	PASS	XAIS
LP-L1-05	N/A	1	2	4/25/22	SF1-M	13.3	114.8	109.8	15.20	13.84	95.64	125.0	0.54	3.64	PASS	XAIS
LP-L1-06	N/A	1	3	4/25/22	SF1-M	13.3	114.8	107.9	17.50	16.22	93.99	125.4	2.92	1.99	PASS	XAIS
LP-L1-07	N/A	1	3	4/25/22	SF1-M	13.3	114.8	113.1	12.50	11.05	98.52	125.6	-2.25	6.52	PASS	XAIS
LP-L1-08	N/A	1	3	4/25/22	SF1-M	13.3	114.8	111.7	12.90	11.55	97.30	124.6	-1.75	5.30	PASS	XAIS
LP-L1-09	N/A	1	4	4/26/22	SF1-M	13.3	114.8	108.7	17.70	16.28	94.69	126.4	2.98	2.69	PASS	XAIS
LP-L1-10	N/A	1	5	4/26/22	SF1-M	13.3	114.8	109.1	16.40	15.03	95.03	125.5	1.73	3.03	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Leachate Pond - Lift 2

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
LP-L2-01	N/A	2	1	4/27/22	SF1-M	13.3	114.8	108.3	15.10	13.94	94.34	123.4	0.64	2.34	PASS	XAIS
LP-L2-02	N/A	2	1	4/27/22	SF1-M	13.3	114.8	108.7	16.00	14.72	94.69	124.7	1.42	2.69	PASS	XAIS
LP-L2-03	N/A	2	2	4/28/22	SF1-M	13.3	114.8	107.9	13.30	12.33	93.99	121.2	-0.97	1.99	PASS	XAIS
LP-L2-04	N/A	2	2	4/28/22	SF1-M	13.3	114.8	109.9	16.80	15.29	95.73	126.7	1.99	3.73	PASS	XAIS
LP-L2-05	N/A	2	3	4/28/22	SF1-M	13.3	114.8	110.5	15.50	14.03	96.25	126.0	0.73	4.25	PASS	XAIS
LP-L2-06	N/A	2	4	4/28/22	SF1-M	13.3	114.8	112.0	15.70	14.02	97.56	127.7	0.72	5.56	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Leachate Pond - Lift 3

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
LP-L3-01	N/A	2	1	4/29/22	SF1-M	13.3	114.8	108.1	14.90	13.78	94.16	123.0	0.48	2.16	PASS	XAIS
LP-L3-02	N/A	2	1	4/29/22	SF1-M	13.3	114.8	109.5	15.20	13.88	95.38	124.7	0.58	3.38	PASS	XAIS
LP-L3-03	N/A	2	2	4/29/22	SF1-M	13.3	114.8	111.4	13.10	11.76	97.04	124.5	-1.54	5.04	PASS	XAIS
LP-L3-04	N/A	2	2	4/29/22	SF1-M	13.3	114.8	110.4	16.20	14.67	96.17	126.6	1.37	4.17	PASS	XAIS
LP-L3-05	N/A	2	3	4/30/22	SF1-M	13.3	114.8	109.0	17.10	15.69	94.95	126.1	2.39	2.95	PASS	XAIS
LP-L3-06	N/A	2	4	4/30/22	SF1-M	13.3	114.8	113.0	14.90	13.19	98.43	127.9	-0.11	6.43	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Leachate Pond - Lift 4

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
LP-L4-01	N/A	4	1	4/30/22	SF1-M	13.3	114.8	113.5	15.60	13.74	98.87	129.1	0.44	6.87	PASS	XAIS
LP-L4-02	N/A	4	2	4/30/22	SF1-M	13.3	114.8	111.8	16.10	14.40	97.39	127.9	1.10	5.39	PASS	XAIS
LP-L4-03	N/A	4	3	5/2/22	SF1-M	13.3	114.8	110.1	17.20	15.62	95.91	127.3	2.32	3.91	PASS	XAIS
LP-L4-04	N/A	4	4	5/2/22	SF1-M	13.3	114.8	112.0	15.90	14.20	97.56	127.9	0.90	5.56	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Leachate Pond - Lift 5

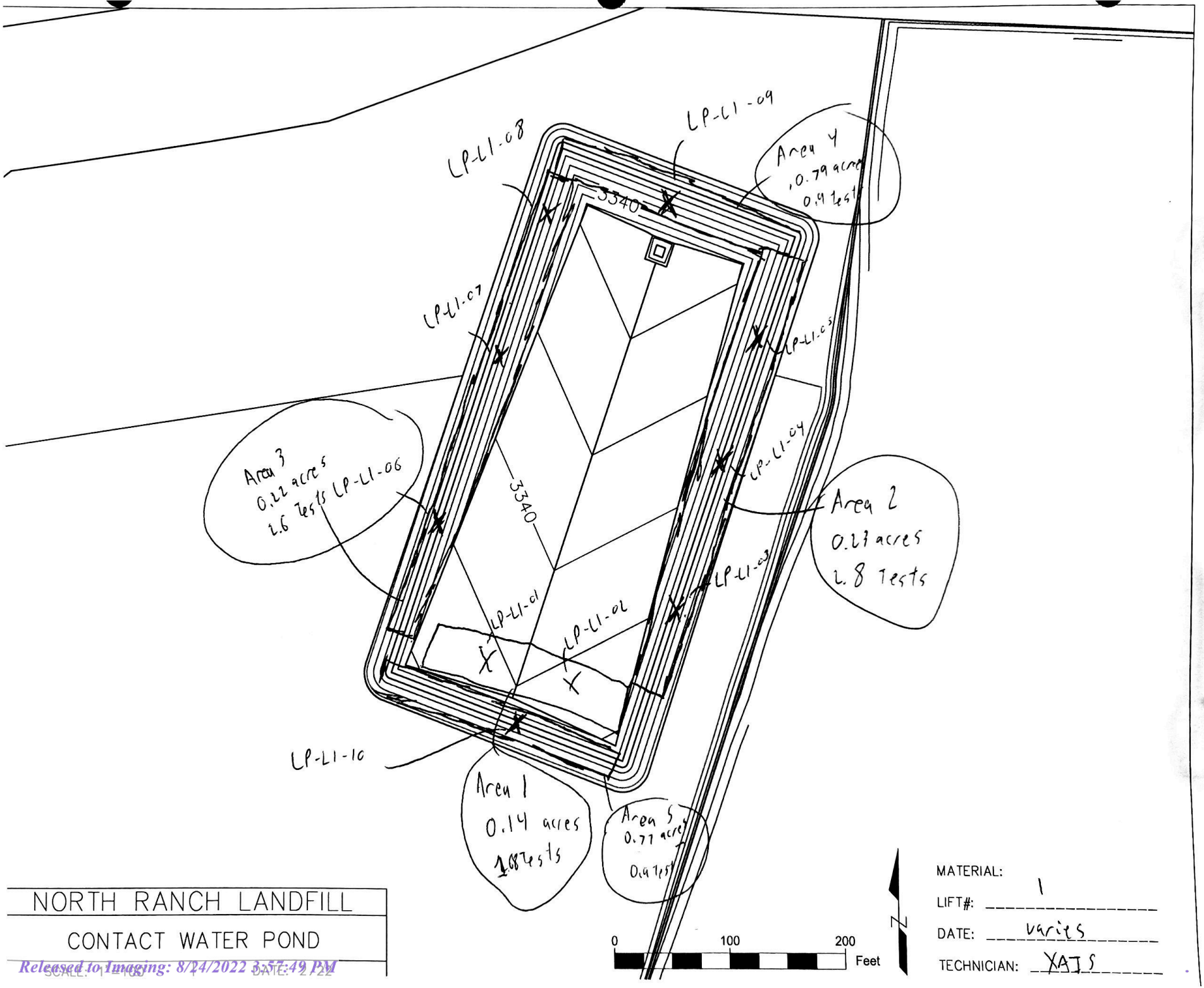
Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
LP-L5-01	N/A	5	1	5/2/22	SF1-M	13.3	114.8	109.3	15.40	14.09	95.21	124.7	0.79	3.21	PASS	XAIS
LP-L5-02	N/A	5	2	5/3/22	SF1-M	13.3	114.8	110.7	13.90	12.56	96.43	124.6	-0.74	4.43	PASS	XAIS
LP-L5-03	N/A	5	3	5/3/22	SF1-M	13.3	114.8	107.5	13.60	12.65	93.64	121.1	-0.65	1.64	PASS	XAIS
LP-L5-04	N/A	5	4	5/17/22	SF1-M	13.3	114.8	110.2	11.70	10.62	95.99	121.9	-2.68	3.99	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches

North Ranch
Density Test Log
Leachate Pond - Lift 6

Test #	Re-Test #	Lift #	Area	Date	Sample ID	OMC	MDD (PCF)	DD (PCF)	MC (PCF)	MC (%)	% Proctor	WD (PCF)	Deviation from OMC	Deviation from MODIFIED compaction spec	PASS / FAIL	Tech. Initials
LP-L6-01	N/A	9	1	5/3/22	SF1-M	13.3	114.8	107.5	15.40	14.33	93.64	122.9	1.03	1.64	PASS	XAIS
LP-L6-02	N/A	9	2	5/3/22	SF1-M	13.3	114.8	106.9	15.90	14.87	93.12	122.8	1.57	1.12	PASS	XAIS

Frequency:	12	tests/lift/acre
Compaction Spec:	92	% of Modified Proctor (Per CQA Plan)
Moisture Spec:		3% below OM to 3% above OM
Loose Lift Thickness:	8	inches



NORTH RANCH LANDFILL

CONTACT WATER POND

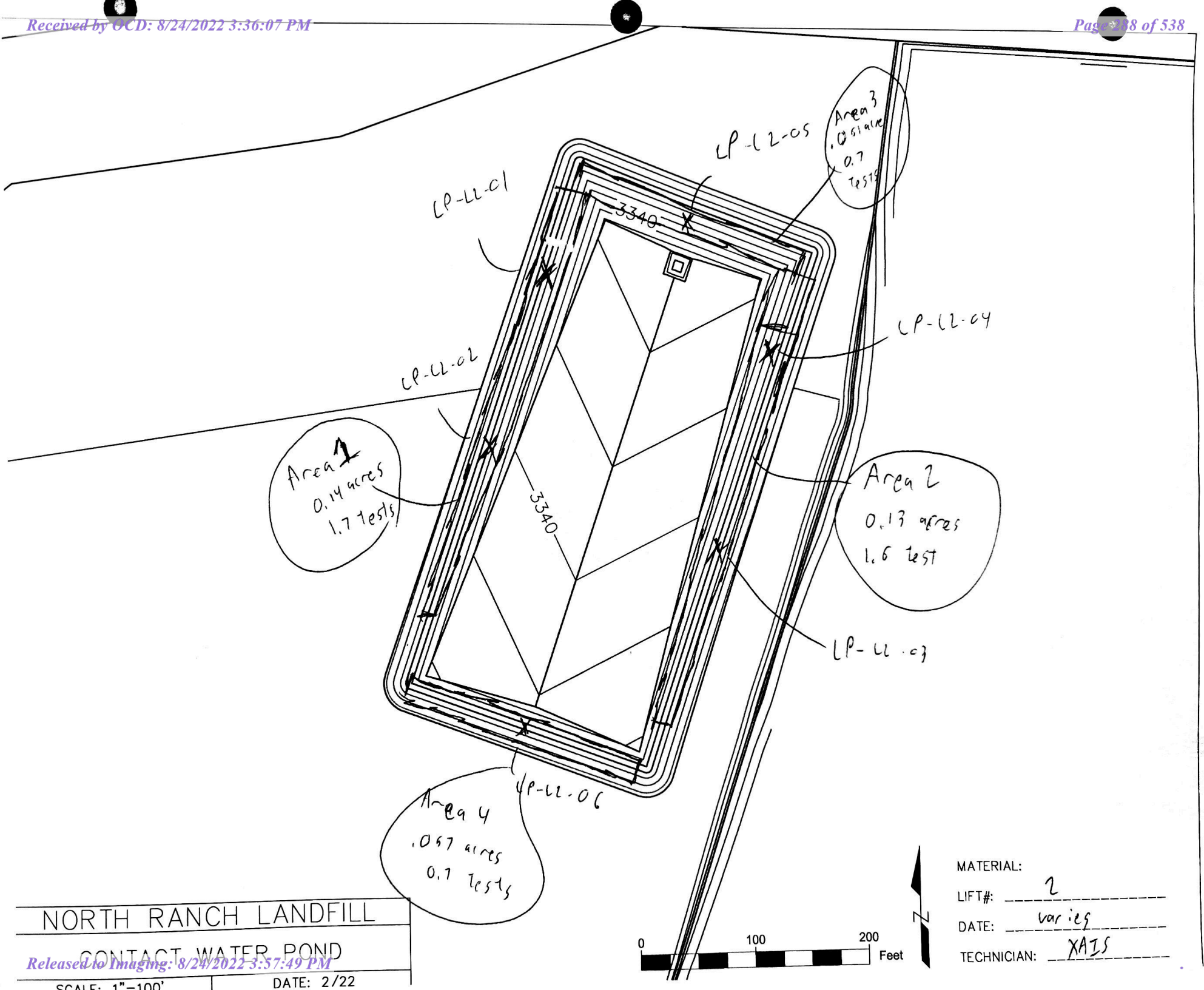
SCALE: 1" = 100' DATE: 2/22

MATERIAL: 1

LIFT#: _____

DATE: varies

TECHNICIAN: XAJS



NORTH RANCH LANDFILL

CONTACT WATER POND

SCALE: 1"=100'

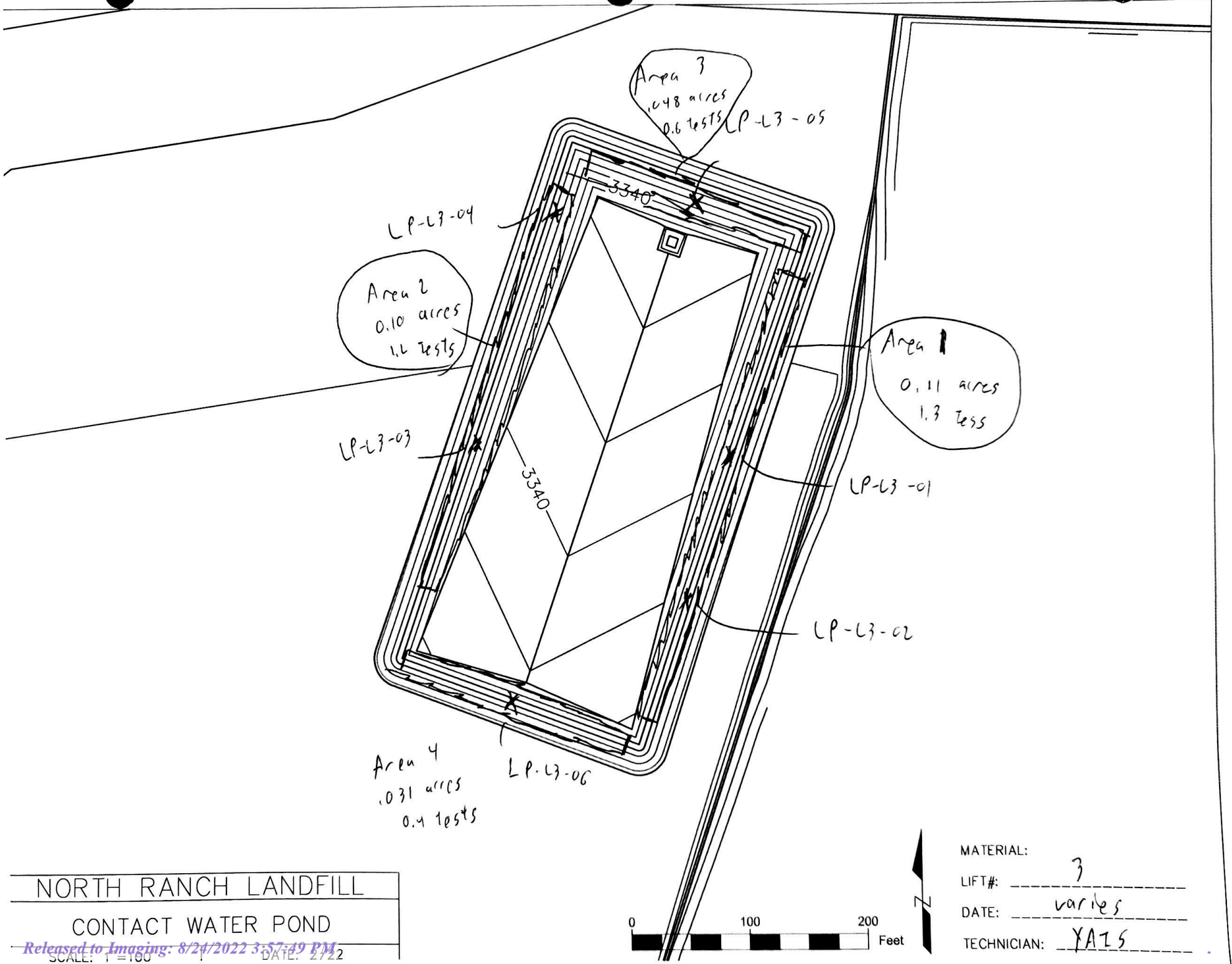
DATE: 2/22

MATERIAL:

LIFT#: 2

DATE: varies

TECHNICIAN: XAIS



NORTH RANCH LANDFILL

CONTACT WATER POND

SCALE: 1" = 100'

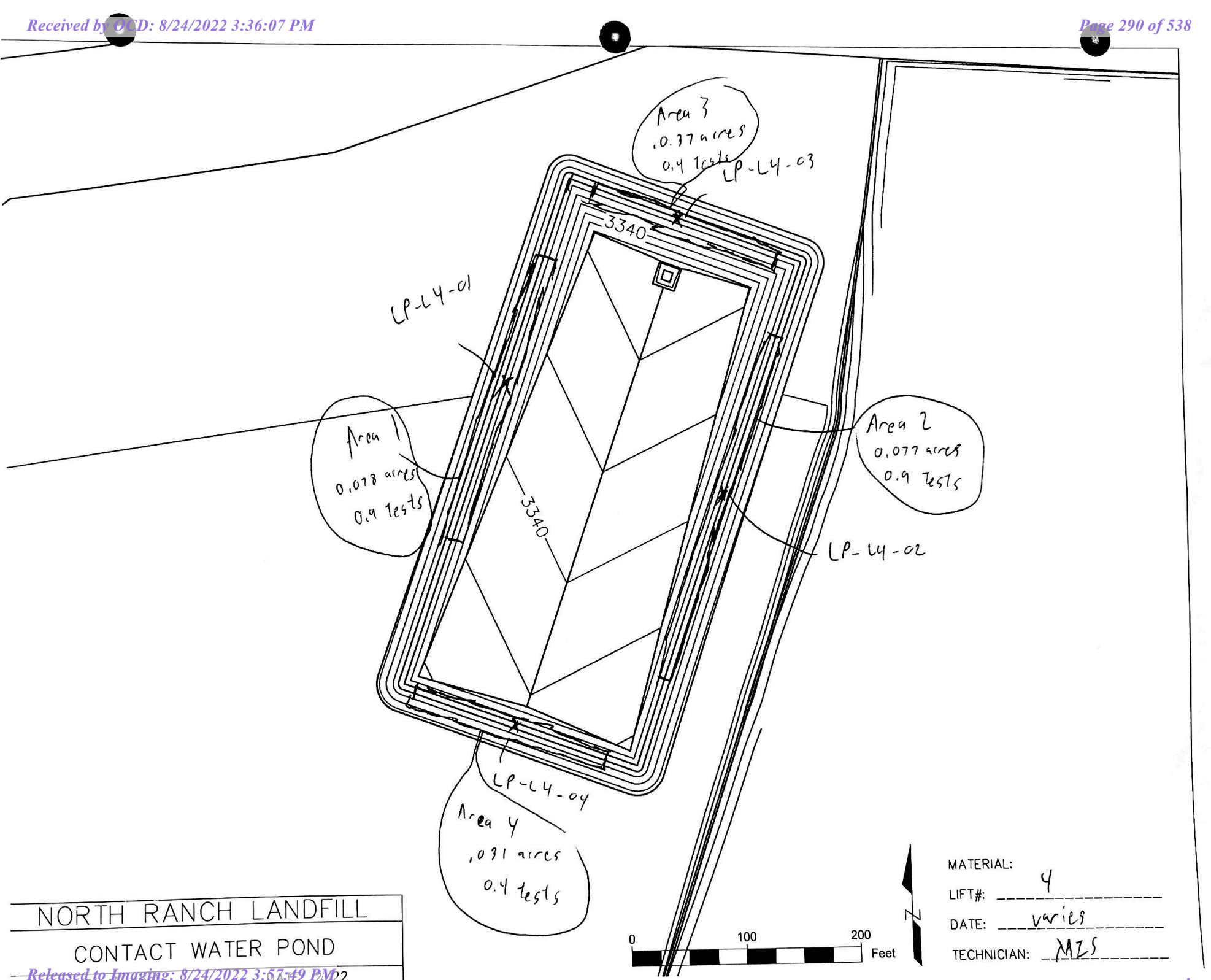
DATE: 2/22

MATERIAL:

LIFT#: 3

DATE: varies

TECHNICIAN: YAZS

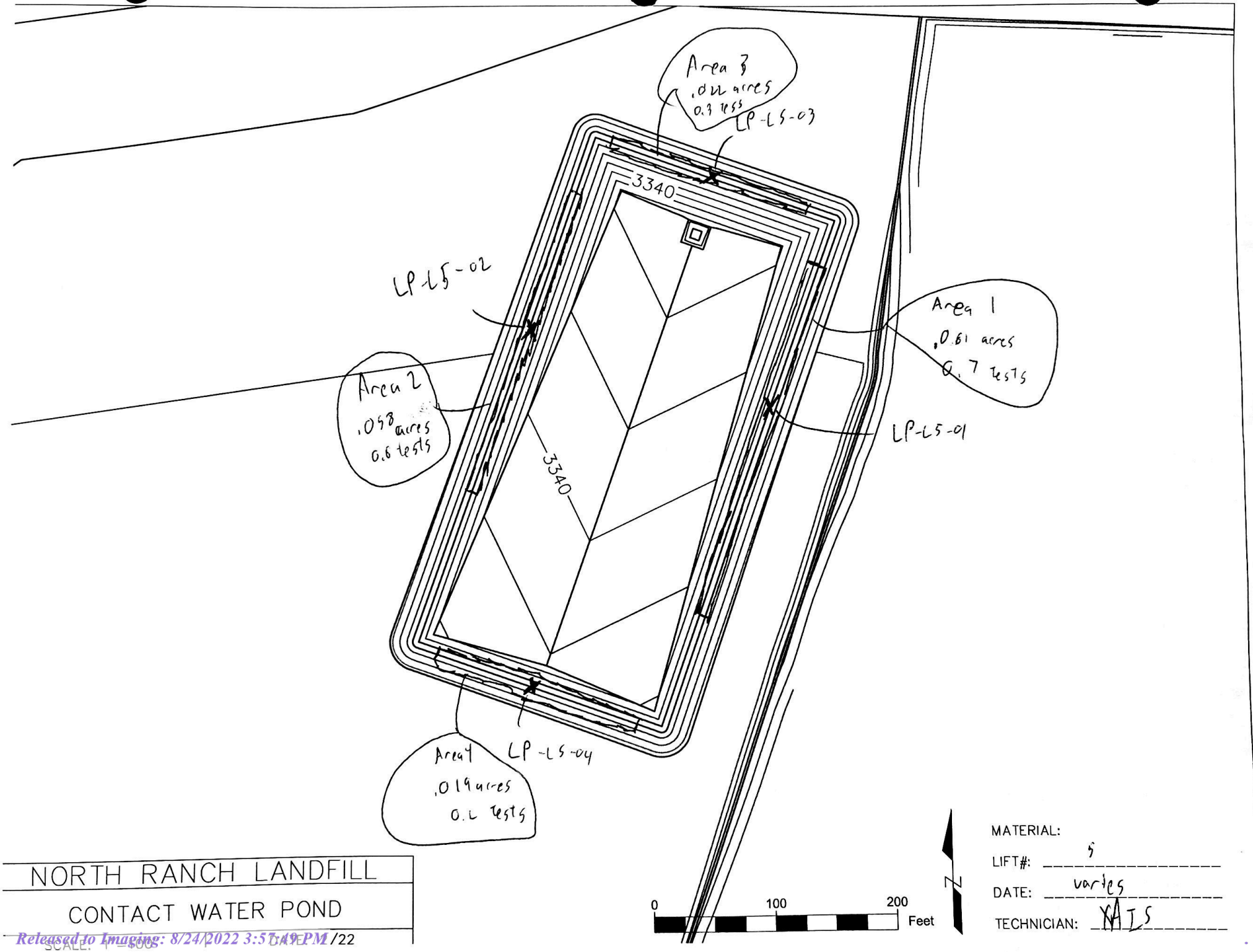


NORTH RANCH LANDFILL

CONTACT WATER POND

SCALE: 1" = 100'

DATE: 2022



NORTH RANCH LANDFILL

CONTACT WATER POND

SCALE: 1" = 100'

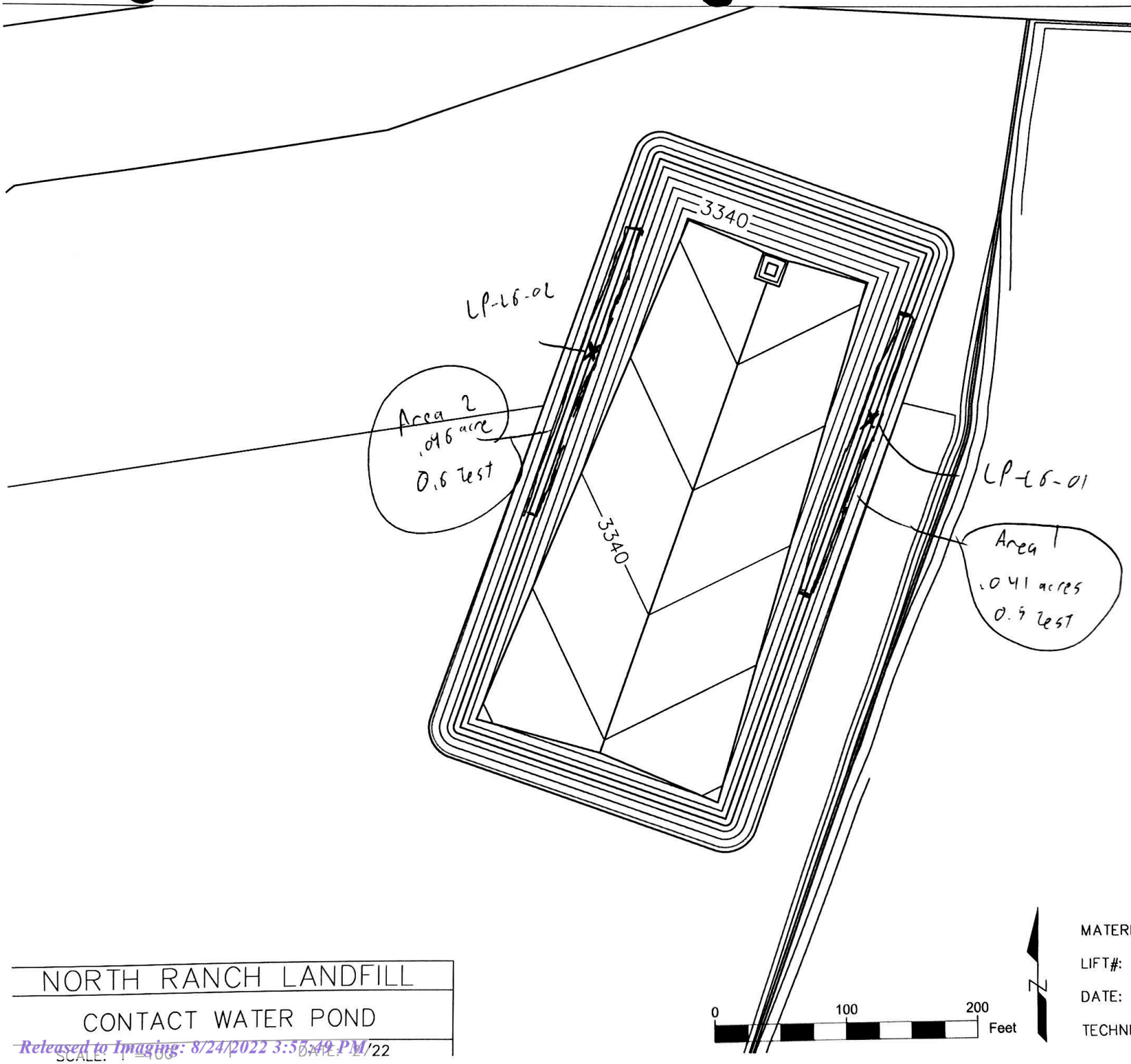
DATE: 7/22

MATERIAL:

LIFT#: 5

DATE: varies

TECHNICIAN: MLS



NORTH RANCH LANDFILL

CONTACT WATER POND

SCALE: 1" = 100'

DATE: 5/3/22

MATERIAL:

LIFT#: 6

DATE: 5/3/22

TECHNICIAN: YAIS

APPENDIX H-5-B:
CQA Field Records – Leachate Pond Geosynthetics - Secondary

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 2
Date: 5/23/22
Rev. Date: _____

SUBGRADE ACCEPTANCE FORM

Layer: Leachate Pond Secondary

Liner Installer: Mustang

Subgrade covered by panels: 522 - 554

Approximate Area (SF): 73479.5 SF

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

Tim Smith 5/23/22
Liner Installer's Signature Date

Vincent Bright 5/25/22
Quality Technician's Signature Date

Sketch of Approved Area

See As Built Sketch

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 OF 2

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 12-SCS-NRL.01

CQA SOLUTIONS

Sheet 2 of 2
Date: 5/20/22
Rev. Date:

SUBGRADE ACCEPTANCE FORM

Layer: Leachate Pond Secondary

Liner Installer: Mustang

Subgrade covered by panels: 51-521

Approximate Area (SF): 38000

I hereby approve the condition of the subgrade for the area described above prior to the placement of the geomembrane liner. Condition refers to the surface of the subgrade and objects that may cause damage to the geomembrane liner and not the engineering soundness of the subgrade.

Comments: _____

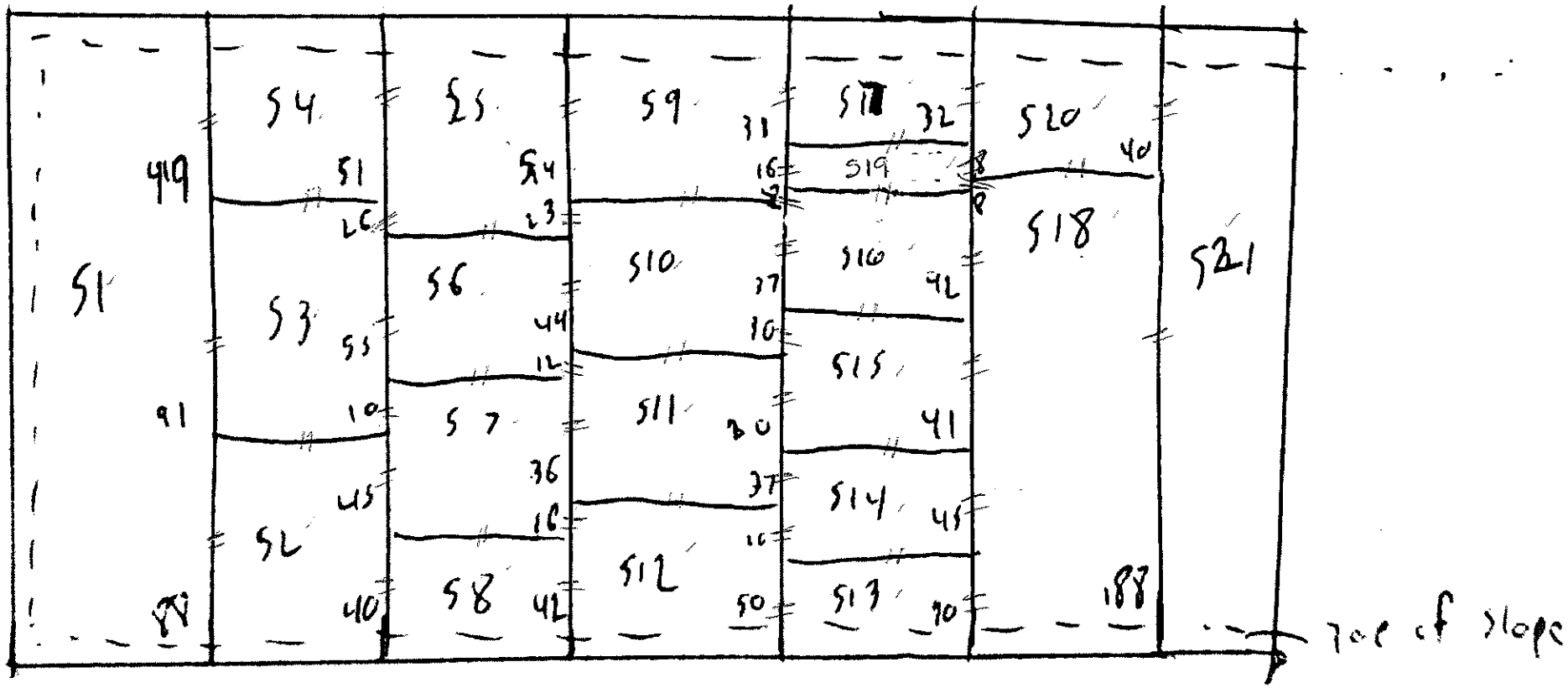
Liner Installer's Signature — Date 5/20/22

Quality Technician's Signature — Date 5/23/22

Sketch of Approved Area

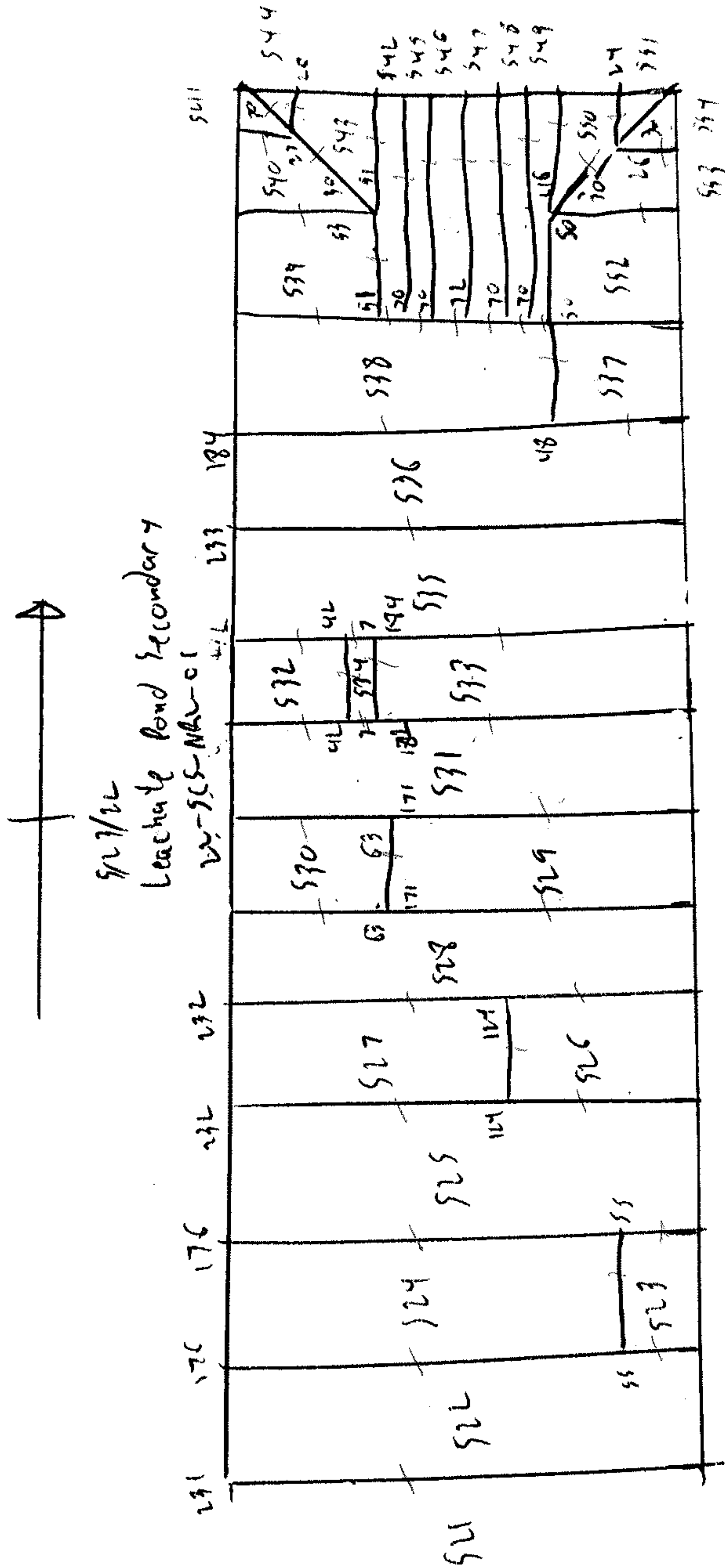
See As Built Sketch

Submit to CQAS Project Manager by 7AM EST following the date of any updated information



5120

Leachate Pond Secondary


Leachate Pond Secondary

Client: SLS Engineers
Project: North Ranch
Project Number: 22-325-NRL-01

Sheet 1 of 3
Date: 5/20/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
S1	4007	000	228	23	5244	228	22.5	5130	Floor	XAIS	
S2	3916	910	88	23	2024	88	22.5	1980	Floor	XAIS	
S3	3945	920	91	23	2093	91	22.5	2047.5	Floor	XAIS	
S4		930	51	23	1173	50	22.5	1125	Floor	XAIS	
S5	3896	940	77	23	1771	77	22.5	1732.5	Floor	XAIS	
S6	3902	1000	56	23	1288	56	22.5	1260	Floor	XAIS	
S7		1010	55	23	1265	54	22.5	1215	Floor	XAIS	
S8		1021	42	23	966	42	22.5	945	Floor	XAIS	
S9	3920	1030	55	23	1265	55	22.5	1237.5	Floor	XAIS	
S10	3989	1040	67	23	1541	65	22.5	1462.5	Floor	XAIS	
S11		1050	49	23	1127	49	22.5	1102.5	Floor	XAIS	
S12	3924	1100	60	23	1380	55	22.5	1237.5	Floor	XAIS	
S13	3895	1110	50	23	1150	50	22.5	1125	Floor	XAIS	
S14	3929	1120	47	23	1081	46	22.5	1035	Floor	XAIS	
S15	3976	1130	42	23	966	42	22.5	945	Floor	XAIS	
S16	3937	1140	45	23	1035	44	22.5	990	Floor	XAIS	
S17	3917	1150	32	23	736	32	22.5	720	Floor	XAIS	
S18		1200	188	23	4324	188	22.5	4230	Floor	XAIS	
S19	3918	1210	16	23	368	16	22.5	360	Floor	XAIS	
S20		1220	40	23	920	40	22.5	900	Floor	XAIS	
S21		1230	228	23	5244	228	22.5	5130	Floor	XAIS	
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		Total SF (Project)			76961		Total SF (Project)		76000		

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Pg 1 of 3

Client: [illegible] Ingram's
Project: North Ranch Landfill
Project Number: 22-555-NRC1

CQA SOLUTIONS

Sheet ___ of ___
Date: 5/12

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate Secondary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
522	3964	1250	231	23	5313	231	22.5	5197.5	Floor	XAIS	
523	3961	1255	55	23	1265	55	22.5	1237.5	Floor	XAIS	
524	3967	1302	176	23	4048	176	22.5	3960	Floor	XAIS	
525	3967	1310	231	23	5313	231	22.5	5197.5	Floor	XAIS	
526	3967	1315	108	23	2484	108	22.5	2430	Floor	XAIS	
527	3983	1325	124	23	2852	124	22.5	2790	Floor	XAIS	
528	3983	1330	232	23	5336	232	22.5	5220	Floor	XAIS	
529	3983	1335	171	23	3933	169	22.5	3802.5	Floor	XAIS	
530	3940	1945	63	23	1449	63	22.5	1417.5	Floor	XAIS	
531	3940	1350	233	23	5359	232	22.5	5220	Floor	XAIS	
532	3940	1355	42	23	966	42	22.5	945	Floor	XAIS	
533	3940	1400	184	23	4232	183	22.5	4117.5	Floor	XAIS	
534	3982	1410	7	23	161	7	22.5	157.5	Floor	XAIS	
535	3982	1415	233	23	5359	233	22.5	5242.5	Floor	XAIS	
536	3982	1420	232	23	5336	232	22.5	5220	Floor	XAIS	
537	3982	1430	48	23	1104	48	22.5	1080	Floor	XAIS	
538	3968	1435	184	23	4232	184	22.5	4140	Floor	XAIS	
539	3968	1445	53	23	1219	52	22.5	1170	W Berm	XAIS	
540	3968	1450	53	23	1219	40	22.5	900	W Berm	XAIS	
541	3968	1455	27	18	243	27	16	243	W Berm	XAIS	T
542	3968	1500	72	23	1656	71	22.5	1597.5	N Berm	XAIS	
543	3968	1505	51	23	1173	39	22.5	877.5	N Berm	XAIS	
544	3968	1510	26	18	234	26	18	234	N Berm	XAIS	T
545	3968	1515	70	23	1610	70	22.5	1575	N Berm	XAIS	
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379			Total SF (Project)		109057	Total SF (Project)		199.67			

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PG (2) OF (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL.01

CQA SOLUTIONS

Sheet ___ of ___
Date: 5/7 2

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate S   Material Type: HDPE   Thickness: 60mil   Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Gross Measurements Width	Gross Measurements Area (SF)	Installed Measurements Length	Installed Measurements Width	Installed Measurements Area (SF)	Location	Observer	Comments
546	3984	1525	72	23	1656	71	22.5	1597.5	N Berm	XAIS	
547	3984	1530	72	23	1656	71	22.5	1597.5	N Berm	XAIS	
548	3984	1535	70	23	1610	70	22.5	1575	N Berm	XAIS	
549	3984	1540	70	23	1610	70	22.5	1575	N Berm	XAIS	
550	3984	1545	46	23	1058	35	22.5	787.5	N Berm	XAIS	
551	3984	1550	24	18	192	24	18	192	N Berm	XAIS	T
552	3984	1555	50	23	1150	50	22.5	1125	E Berm	XAIS	
553	3984	1600	50	23	1150	38	22.5	855	E Berm	XAIS	
554	3984	1605	26	16	208	26	16	208	E Berm	XAIS	T
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				Total SF (Project)	113747		Total SF (Project)	109479.5			

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PG (3) of (3)

Client: SCS
Project: NORTH RANCH
Project Number: 22SCSNR-01

Sheet 1 of 5
Date: 4/20
Rev. Date: —

TRIAL WELDS

Ambient Temp	Welder Information: Machine	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
70	WZ	CK	955	F	S	S	850	6			111	-	113	-	131	-	P	MAS	
											107	-	113	-	144	-			
											109	-	111	-	140	-			
											115	-	114	-	137	-			
											114	-	115	-	132	-			
73	WZ	SL	1010	F	T	T	850	5			119	-	107	-	128	-	P	MAS	
											121	-	113	-	135	-			
											117	-	116	-	133	-			
											115	-	113	-	137	-			
											105	-	110	-	136	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (1) OF (5)

Client: SCS Engineers
Project: North Ranch Land fill
Project Number: 22-SCS-REL.01

CQA SOLUTIONS

Date: 5/26/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
97	6744	SL	0700	F	T	T			550	550	107	-			131	-	P	XAIS	
											110	-			135	-			
											109	-			129	-			
											108	-			140	-			
											117	-			136	-			
95	V82	CH	1300	F	S	S	850	6			102	-	115	-	141	-	P	XAIS	
											113	-	104	-	140	-			
											112	-	113	-	148	-			
											109	-	120	-	135	-			
											118	-	119	-	139	-			
95	W2	SL	1102	C	T	T	850	5			110	-	103	-	132	-	P	XAIS	
											117	-	121	-	137	-			
											115	-	110	-	129	-			
											116	-	103	-	133	-			
											102	-	111	-	136	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 5
Date: 5/21/22
Rev. Date: —

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
68	G-744	SL	0700	E	T	T			550	550	101	~			131	~	P	XALS	
											105	~			125	~			
											104	~			142	~			
											111	~			140	~			
											109	~			137	~			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (5)

Client: SESEngineers
Project: North Ranch Landfill
Project Number: 22-SES-NRL-01

CQA SOLUTIONS

Sheet 4 of 5
Date: 5/23/22
Rev. Date: —

TRIAL WELDS

Ambient Temp	Welder Information: Machine	Welder Information: Operator ID	Welder Information: Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
81	W2	CK	1640	F	S	S	850	C	C		97	-	107	-	137	-	P	YAIS	
											115	-	126	-	171	-			
											112	-	109	-	136	-			
											114	-	124	-	142	-			
											125	-	118	-	140	-			
81	W2	CK	1645	F	T	T	850	S			107	-	121	-	140	-	P	YAIS	
											108	-	106	-	145	-			
											112	-	102	-	138	-			
											110	-	125	-	142	-			
											123	-	98	-	147	-			
81	W2	SL	1641	F	S	S	850	S			106	-	114	-	139	-	P	YAIS	
											105	-	104	-	134	-			
											102	-	110	-	128	-			
											108	-	123	-	138	-			
											119	-	113	-	142	-			
81	W2	SL	1647	F	T	T	850	S			96	-	117	-	147	-	P	YAIS	
											102	-	101	-	130	-			
											101	-	108	-	145	-			
											122	-	121	-	146	-			
											119	-	115	-	132	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (4) OF (5)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NAL-01

CQA SOLUTIONS

Sheet 5 of 5
Date: 5/24/22
Rev. Date: _____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Machine	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
73	G44	MM	0700	E	T	T			550	550	105	-			154	-	P	YAIS	
											101	-			174	-			
											104	-			130	-			
											121	-			141	-			
											117	-			136	-			
73	G744	SL	0707	E	T	T					109	-			174	-	P	YAIS	
											119	-			193	-			
											103	-			139	-			
											106	-			131	-			
											107	-			137	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (5) OF (5)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-XS-ERL-01

CQA SOLUTIONS

Sheet 1 of 3
Date 5/20
Rev. Date: ______

SEAMING RECORD
Layer: Leachate Secondary

Welder Initials: SL   Machine ID: W2
Welder Number: ______

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S4	S5	SL	W2	1112	1114	0	22	22	22		XA LS	
S3	S2	SL	W2	1131	1133	0	22	22	44		XA LS	
S5	S6	SL	W2	1124	1127	0	22	22	66		XA LS	
S7	S6	SL	W2	1101	1103	0	22	22	88		XA LS	
S8	S7	SL	W2	1323	1325	0	22	22	110		XA LS	
S9	S10	SL	W2	1138	1140	0	22	22	132		XA LS	
S11	S10	SL	W2	1414	1418	0	22	22	154		XA LS	
S12	S11	SL	W2	1330	1332	0	22	22	176		XA LS	
S17	S19	SL	W2	1404	1406	0	22	22	198		XA LS	
S19	S16	SL	W2	1447	1449	0	22	22	220		XA LS	
S20	S18	SL	W2	1345	1347	0	22	22	242		XA LS	
S16	S15	SL	W2	1145	1147	0	22	22	264		XA LS	
S14	S15	SL	W2	1150	1152	0	22	22	286	LSDS3	XA LS	
S13	S14	SL	W2	1335	1337	0	22	22	308		XA LS	

Total LF (Page)	308	Total DS (Page)	1	Total DS Needed (Page)	0.6	Over/Under (Page)	+0.4
Total LF (Project)	308	Total DS (Project)	1	Total DS Needed (Project)	0.6	Over/Under (Project)	+0.4

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 1 of 3

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 3
Date 5/23/22
Rev. Date:

SEAMING RECORD

Layer: leachate secondary

Welder Initials: SL
Welder Number:

Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
SLL	SL4	SL	WL	1302	1318	176	0	176	176		XAIS	
SL3	SL4	SL	WL	1321	1323	0	22	22	198		XAIS	
SL2	SL3	SL	WL	1325	1330	55	0	55	253		XAIS	
SL5	SL7	SL	WL	1341	1354	124	0	124	377	LSDS5	XAIS	
SL5	SL6	SL	WL	1354	1408	108	0	108	485		XAIS	
SL6	SL7	SL	WL	1334	1336	0	22	22	507		XAIS	
S30	SL9	SL	WL	1412	1414	0	22	22	529		XAIS	
S30	S31	SL	WL	1416	1426	62	0	62	591	LSDS7	XAIS	
SL9	S31	SL	WL	1426	1448	171	0	171	762		XAIS	
S32	S34	SL	WL	1455	1457	0	22	22	784		XAIS	
S34	S33	SL	WL	1451	1453	0	22	22	806		XAIS	
S32	S35	SL	WL	1502	1504	42	0	42	848		XAIS	
S34	S35	SL	WL	1504	1505	7	0	7	855		XAIS	
S37	S35	SL	WL	1505	1526	184	0	184	1039		XAIS	
S37	S38	SL	WL	1529	1551	0	22	22	1061		XAIS	
S38	S39	SL	WL	1540	1548	50	0	50	1111		XAIS	
S39	S40	SL	WL	1549	1553	53	0	53	1165		XAIS	
S40	S41	SL	WL	1557	1559	0	27	27	1192		XAIS	
S43	S41	SL	WL	1606	1608	0	51	51	1243	LSDS12	XAIS	
S44	S43	SL	WL	1602	1604	0	26	26	1269		XAIS	
S41	S44	SL	WL	1623	1626	0	30	30	1299		XAIS	
S40	S43	SL	WL	1626	1627	0	30	30	1329		XAIS	
S39	S42	SL	WL	1628	1630	0	22	22	1351		XAIS	
S43	S42	SL	WL	1705	1707	0	50	50	1401		XAIS	

Total LF (Page)	1401	Total DS (Page)	3	Total DS Needed (Page)	2.9	Over/Under (Page)	+0.2
Total LF (Project)	1709	Total DS (Project)	4	Total DS Needed (Project)	3.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) of (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 3
Date 9/13/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Secondary

Welder Initials: SL
Welder Number: _____
Machine ID: WL

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
513	542	SL	WL	1626	1634	0	22	22	22	USDS9	YAZS	
518	545	SL	WL	1634	1636	0	22	22	44		YAZS	
538	546	SL	WL	1636	1638	0	22	22	66		YAZS	
538	547	SL	WL	1638	1640	0	22	22	88		YAZS	
518	548	SL	WL	1640	1642	0	22	22	110		YAZS	
538	549	SL	WL	1642	1644	0	22	22	132		YAZS	
537	551	SL	WL	1644	1650	0	50	50	182		YAZS	
551	549	SL	WL	1654	1656	0	22	22	204		YAZS	

Total LF (Page)	204	Total DS (Page)	1	Total DS Needed (Page)	0.4	Over/Under (Page)	+0.6
Total LF (Project)	1813	Total DS (Project)	5	Total DS Needed (Project)	3.8	Over/Under (Project)	+1.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (5)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: _____

CQA SOLUTIONS

Sheet 1 of 3
Date 5/10
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Secondary

Welder Initials: CM
Welder Number: _____
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
S1	S2	CM	W82	1016	1023	88	0	88	88		XAES	
S1	S3	CM	W82	1023	1041	91	0	91	179		XAES	
S1	S4	CM	W82	1000	1005	49	0	49	228		XAES	
S4	S5	CM	W82	1046	1049	51	0	51	279	USDS1	XAES	
S3	S5	CM	W82	1049	1056	26	0	26	305		XAES	
S3	S6	CM	W82	1056	1058	55	0	55	360		XAES	
S3	S7	CM	W82	1058	1059	10	0	10	370		XAES	
S2	S7	CM	W82	1059	1103	45	0	45	415		XAES	
S2	S8	CM	W82	1103	1106	44	0	44	459		XAES	
S4	S9	CM	W82	1110	1115	54	0	54	513		XAES	
S5	S10	CM	W82	1115	1118	23	0	23	536		XAES	
S6	S10	CM	W82	1118	1122	44	0	44	580		XAES	
S6	S11	CM	W82	1122	1125	12	0	12	592		XAES	
S7	S11	CM	W82	1125	1129	36	0	36	628		XAES	
S7	S12	CM	W82	1129	1134	42	0	42	670		XAES	
S8	S12	CM	W82	1134	1137	42	0	42	712		XAES	
S9	S13	CM	W82	1340	1342	31	0	31	743		XAES	
S9	S14	CM	W82	1342	1344	16	0	16	759		XAES	
S9	S16	CM	W82	1344	1346	8	0	8	767		XAES	
S10	S15	CM	W82	1346	1350	37	0	37	804	USDS2	XAES	
S10	S15	CM	W82	1134	1142	30	0	30	834		XAES	
S11	S15	CM	W82	1142	1144	60	0	60	894		XAES	
S11	S14	CM	W82	1144	1146	37	0	37	931		XAES	
S12	S14	CM	W82	1146	1148	10	0	10	931		XAES	

Total LF (Page)	931	Total DS (Page)	2	Total DS Needed (Page)	1.9	Over/Under (Page)	10.1
Total LF (Project)	931	Total DS (Project)	2	Total DS Needed (Project)	1.9	Over/Under (Project)	10.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (1) of (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-25S-NRL-01

CQA SOLUTIONS

Sheet 2 of 3
Date 5/10/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Secondary

Welder Initials: CA
Welder Number: _____
Machine ID: WBL

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct		
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number	Observer	Notes
S1L	S13	CA	WBL	1148	1151	50	0	50	50		XAIS	
S17	S2C	CA	WBL	1353	1355	72	0	72	82		XAIS	
S19	S20	CA	WBL	1355	1356	8	0	8	90		XAIS	
S19	S18	CA	WBL	1400	1402	8	0	8	98		XAIS	
S16	S18	CA	WBL	1402	1405	42	0	42	140		XAIS	
S15	S18	CA	WBL	1345	1349	41	0	41	181		XAIS	
S14	S18	CA	WBL	1349	1373	45	0	45	226		XAIS	
S13	S18	CA	WBL	1373	1378	50	0	50	276		XAIS	
S20	S21	CA	WBL	1410	1416	40	0	40	316		XAIS	
S18	S21	CA	WBL	1416	1430	188	0	188	504	L5054	XAIS	

Total LF (Page)	504	Total DS (Page)	1	Total DS Needed (Page)	1	Over/Under (Page)	0
Total LF (Project)	1435	Total DS (Project)	3	Total DS Needed (Project)	2.9	Over/Under (Project)	+0.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (2) of (3)

Client: JCS Engineers
Project: North Knoll Landfill
Project Number: 22-SCS-MRL.01

CQA SOLUTIONS

Sheet 3 of 3
Date 5/23/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Secondary

Welder Initials: CH
Welder Number: _____
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
521	522	CH	W82	1253	1314	270	0	270	270		XAES	
524	525	CH	W82	1319	1338	176	0	176	406		XAES	
523	525	CH	W82	1636	1642	55	0	55	461		XAES	
527	528	CH	W82	1343	1354	121	0	121	582		XAES	
526	528	CH	W82	1354	1405	108	0	108	690	LSDS6	XAES	
529	530	CH	W82	1408	1416	63	0	63	753		XAES	
528	529	CH	W82	1416	1433	166	0	166	919	LSDS8	XAES	
531	532	CH	W82	1437	1444	42	0	42	961		XAES	
531	534	CH	W82	1444	1445	7	0	7	968		XAES	
531	533	CH	W82	1445	1501	182	0	182	1150		XAES	
535	536	CH	W82	1506	1529	232	0	232	1382		XAES	
536	538	CH	W82	1533	1551	184	0	184	1566	LSDS10	XAES	
536	537	CH	W82	1551	1556	48	0	48	1614		XAES	
542	545	CH	W82	1600	1607	0	70	70	1684		XAES	
545	546	CH	W82	1609	1614	0	70	70	1754		XAES	
546	547	CH	W82	1631	1634	0	72	72	1826		XAES	
548	547	CH	W82	1635	1638	70	0	70	1896		XAES	
549	548	CH	W82	1648	1651	70	0	70	1966	LSDS11	XAES	
550	549	CH	W82	1654	1657	46	0	46	2012		XAES	
551	550	CH	W82	1700	1702	24	0	24	2036		XAES	
554	553	CH	W82	1703	1707	0	26	26	2062		XAES	
553	550	CH	W82	1710	1713	0	70	70	2132		XAES	
554	551	CH	W82	1713	1716	0	70	70	2132		XAES	
Total LF (Page)		2132		Total DS (Page)		4	Total DS Needed (Page)		4.2	Over/Under (Page)		-0.2
Total LF (Project)		3957		Total DS (Project)		7	Total DS Needed (Project)		7.1	Over/Under (Project)		-0.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (3) of (3)

Client: XCS
Project: NORTH RANCH
Project Number: 22-XCS-NRL-01

CQA

Sheet 1 of 5
Date: 9/7/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Pond Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S1	S2	0	EOS	Full	30	30	0726	0735	P	–	RC	XAIS	N	
	S1	S3	0	EOS		30	30	0732	0737	P	–				
	S1	S4	0	EOS		30	30	0734	0739	P	–				
	S4	S5	C	EOS		30	30	0737	0742	P	–				
	S3	S5	0	EOS		30	30	0739	0744	P	–				
	S3	S6	0	EOS		30	30	0741	0746	P	–				
	S3	S7	0	EOS		30	30	0743	0748	P	–				
	S2	S7	0	EOS		30	30	0745	0750	P	–				
	S2	S8	0	EOS		30	30	0748	0753	P	–				
	S5	S9	0	EOS		30	30	0751	0756	P	–				
	S5	S10	0	EOS		30	30	0753	0758	P	–				
	S6	S10	0	EOS		30	30	0756	0801	P	–				
	S6	S11	0	EOS		30	30	0758	0803	P	–				
	S7	S11	0	EOS		30	30	0800	0805	P	–				
	S7	S12	0	EOS		30	30	0803	0808	P	–				
	S8	S12	0	EOS		30	30	0806	0811	P	–				
	S2	S3	0	EOS		30	30	0808	0813	P	–				
	S3	S4	0	EOS		30	30	0810	0815	P	–				
	S5	S6	0	EOS		30	30	0813	0818	P	–				
	S6	S7	0	EOS		30	30	0815	0820	P	–				
	S7	S8	0	EOS		30	30	0817	0822	P	–				
	S9	S10	0	EOS		30	30	0819	0824	P	–				
	S10	S11	C	EOS		30	30	0821	0826	P	–				
	S11	S12	C	EOS		30	30	0824	0829	P	–				

Specs: Pre-testing stabilization time: – Maximum Starting Pressure: 33 Maximum Allowable Loss: 3
Minimum Starting Pressure: 30 Test Duration: 5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 1 of 5

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS NRL-01

CQA

Date: 5/23/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Leachate pond Secondary

Test Type	Seams Top	Seams Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	S9	S17	0	EOS	Full	30	30	0826	0831	P		RC	XAES		
	S9	S19	0	EOS		30	30	0828	0833	P					
	S9	S16	0	EOS		30	30	0831	0836	P					
	S10	S16	0	EOS		30	30	0833	0838	P					
	S10	S15	0	EOS		30	29	0835	0840	P					
	S11	S15	0	EOS		30	30	0837	0842	P					
	S11	S14	0	EOS		30	30	0840	0845	P					
	S12	S14	0	EOS		30	30	0842	0847	P					
	S12	S13	0	EOS		30	30	0844	0849	P					
	S17	S19	0	EOS		30	30	0847	0852	P					
	S19	S15	0	EOS		30	30	0849	0854	P					
	S16	S15	0	EOS		30	30	0851	0856	P					
	S15	S14	0	EOS		30	30	0854	0859	P					
	S14	S17	0	EOS		30	30	0856	0901	P					
	S17	S20	0	EOS		30	30	0858	0903	P					
	S19	S20	0	EOS		30	30	0901	0906	P					
	S19	S18	0	EOS		30	30	0903	0908	P					
	S16	S18	0	EOS		30	30	0905	0910	P					
	S16	S18	0	EOS		30	30	0908	0913	P					
	S14	S18	0	EOS		30	30	0910	0915	P					
	S17	S18	0	EOS		30	30	0912	0917	P					
	S20	S18	0	EOS		30	30	0914	0919	P					
	S20	S21	0	EOS		30	30	0917	0922	P					
	S18	S21	0	EOS		30	29	0919	0924	P					

Specs: Pre-testing stabilization time: —
Minimum Starting Pressure: 30
Maximum Starting Pressure: 35
Test Duration: 5
Maximum Allowable Loss: 3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project: Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 5
Date: 1/13/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG
Layer: Leachate Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VF	QC Tech	Observer	To be capped?	Notes
APT	SL1	SL2	0	EOS	Full	30'	30'	1557'	1602'	P	–	VS	MAS	N	
	SL2	SL3	0	EOS		30'	30'	1559'	1604'	P	–				
	SL2	SL4	0	EOS		30'	30'	1601'	1606'	P	–				
	SL3	SL4	0	EOS		30'	30'	1819'	1820'	P	–				
	SL3	SL5	0	EOS		30'	30'	1606'	1611'	P	–				
	SL4	SL5	0	EOS		30'	30'	1608'	1613'	P	–				
	SL5	SL6	0	EOS		30'	30'	1610'	1615'	P	–				
	SL5	SL7	0	EOS		30'	30'	1612'	1617'	P	–				
	SL6	SL7	0	EOS		30'	30'	1614'	1619'	P	–				
	SL6	SL8	0	EOS		30'	30'	1617'	1622'	P	–				
	SL7	SL8	0	EOS		30'	30'	1619'	1624'	P	–				
	SL8	SL9	0	EOS		30'	30'	1621'	1626'	P	–				
	SL8	S30	0	EOS		30'	30'	1624'	1629'	P	–				
	SL9	S30	0	EOS		30'	30'	1626'	1631'	P	–				
	SL9	S31	0	EOS		30'	30'	1629'	1634'	P	–				
	S30	S31	0	EOS		30'	30'	1631'	1636'	P	–				
	S31	S32	0	EOS		30'	30'	1633'	1638'	P	–				
	S31	S34	0	EOS		30'	30'	1635'	1640'	P	–				
	S31	S33	0	EOS		30'	30'	1638'	1643'	P	–				
	S34	S32	0	EOS		30'	30'	1640'	1645'	P	–				
	S34	S33	0	EOS		30'	30'	1642'	1647'	P	–				
	S33	S35	0	EOS		30'	30'	1644'	1649'	P	–				
	S34	S35	0	EOS		30'	30'	1646'	1651'	P	–				
	S32	S35	0	EOS		30'	30'	1648'	1654'	P	–				

Specs: Pre-testing stabilization time: – Maximum Starting Pressure: 36
Minimum Starting Pressure: 30 Test Duration: 5
Maximum Allowable Loss: 3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG. 3 OF 5

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet 4 of 5
Date: 5/23/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	535	536	0	EOS	Full	30	30	1651	1657	P	–	WS	YAIS	N	
	536	537	0	EOS		30	29	1654	1659	P	–				
	536	538	0	EOS		30	30	1657	1702	P	–				
	537	538	0	EOS		30	30	1659	1704	P	–				
	538	539	0	EOS		30	30	1702	1707	P	–				
	538	542	0	EOS		30	30	1704	1709	P	–				
	538	545	0	EOS		30	30	1706	1711	P	–				
	538	546	0	EOS		30	30	1708	1713	P	–				
	538	547	0	EOS		30	30	1711	1716	P	–				
	538	548	0	EOS		30	30	1713	1718	P	–				
	538	549	0	EOS		30	29	1715	1720	P	–				
	537	552	0	EOS		30	29	1717	1722	P	–				
	539	540	0	EOS		30	30	1720	1725	P	–				
	540	541	0	EOS		30	30	1722	1727	P	–				
	541	544	0	EOS		30	30	1725	1730	P	–				
	540	543	0	EOS		30	30	1727	1732	P	–				
	544	543	0	EOS		30	30	1729	1734	P	–				
	543	542	0	EOS		30	30	1731	1736	P	–				
	539	542	0	EOS		30	30	1734	1739	P	–				
	542	545	0	EOS		30	30	1736	1741	P	–				
	545	546	0	EOS		30	30	1739	1744	P	–				
	546	547	0	EOS		30	30	1741	1746	P	–				
	547	548	0	EOS		30	30	1743	1748	P	–				
	548	549	0	EOS		30	30	1746	1751	P	–				

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: 35 Maximum Allowable Loss: 3
Minimum Starting Pressure: 30 Test Duration: 5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 4 of 5

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-[illegible]

CQA SOLUTIONS

Sheet 5 of 5
Date: 7/11/22
Rev. Date: _____

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Secondary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	549	550	0	EOS	full	30	30	1749	1754	P	–	WS	XAIS	N	
	549	552	0	EOS		30	30	1751	1756	P	–				
	550	551	0	EOS		30	30	1753	1758	P	–				
	550	553	0	EOS		30	30	1755	1800	P	–				
	551	554	0	EOS		30	30	1758	1803	P	–				
	552	553	0	EOS		30	30	1800	1805	P	–				
	553	554	0	EOS		30	30	1802	1807	P	–			↓	

Specs: Pre-testing stabilization time: 10 Maximum Starting Pressure: 35 Maximum Allowable Loss: ≤ 3
Minimum Starting Pressure: 30 Test Duration: 5

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 5 of 5

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 12-SCS-MIL-01

CQA SOLUTIONS

Sheet 1 of 1
Date: 5/26/22
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Leachate Secondary

Sample Information					Welder Information			Testing Information		Comments, Tracking Notes, Etc.
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	
LSDS1	S4/S5	26	5/21	5/23	CK	W82	5/20	P	P	
LSDS2	S16/S16	17	5/21	5/23	CK	W82	5/20	P	P	
LSDS3	S4/S14	3	5/21	5/23	SL	W2	5/20	P	P	
LSDS4	S18/S21	25	5/21	5/23	CK	W82	5/20	P	P	
LSDS5	S25/S27	50	5/24	5/24	SL	W2	5/23	P		
LSDS6	S26/S28	81	5/24	5/24	CK	W82	5/23	P		
LSDS7	S30/S31	41	5/24	5/24	SL	W2	5/23	P		
LSDS8	S28/S29	21	5/24	5/24	CK	W82	5/23	P		
LSDS9	S38/S42	7	5/24	5/24	SL	W2	5/23	P		
LSDS10	S36/S38	34	5/24	5/24	CK	W82	5/23	P		
LSDS11	S48/S49	27	5/24	5/24	CK	W82	5/23	P		
LSDS12	S42/S43	20	5/24	5/24	SL	W2	5/23	P		
LSDS13	SR34/S49		5/24	5/24	MM	G44	5/24	P		
LSDS14	SR37/S39		5/24	5/24	SL	G744	5/24	P		

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 1 of 1

Client: SCS Engineers
Project: Navajo Rapids Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 4
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Secondary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR1	S1	S3	S4	--	—	Int	—	—	P	3	3	12	5/21	928	SL	G-744	WS	5/21	P	XAIS
SR2	S1	S2	S3	—	—	Int	—	—	P	2	4	12	5/21	911	SL	G-744	WS	5/21	P	XAIS
SR3	S2	S8	S7	—	—	Int	—	—	P	2	2	8	5/21	921	SL	G-744	WS	5/21	P	XAIS
SR4	S2	S6	S7	—	—	Int	—	—	P	2	2	8	5/21	903	SL	G-744	WS	5/21	P	XAIS
SR5	S3	S7	S6	—	—	Int	—	—	P	2	2	8	5/21	900	SL	G-744	WS	5/21	P	XAIS
SR6	S3	S6	S5	—	—	Int	—	—	P	2	2	8	5/21	915	SL	G-744	WS	5/21	P	XAIS
SR7	S3	S4	S5	—	—	Int	—	—	P	2	2	8	5/21	923	SL	G-744	WS	5/21	P	XAIS
SR8	S5	S9	S10	—	—	Int	—	—	P	2	2	8	5/21	935	SL	G-744	WS	5/21	P	XAIS
SR9	S5	S6	S10	—	—	Int	—	—	P	2	2	8	5/21	830	SL	G-744	WS	5/21	P	XAIS
SR10	S6	S10	S11	—	—	Int	—	—	P	2	2	8	5/21	918	SL	G-744	WS	5/21	P	XAIS
SR11	S6	S7	S11	—	—	Int	—	—	P	2	2	8	5/21	843	SL	G-744	WS	5/21	P	XAIS
SR12	S7	S11	S12	—	—	Int	—	—	P	2	2	8	5/21	815	SL	G-744	WS	5/21	P	XAIS
SR13	S7	S8	S12	—	—	Int	—	—	P	2	2	8	5/21	818	SL	G-744	WS	5/21	P	XAIS
SR14	S12	S13	S14	—	—	Int	—	—	P	2	2	8	5/21	809	SL	G-744	WS	5/21	P	XAIS
SR15	S12	S11	S14	—	—	Int	—	—	P	2	4	12	5/21	912	SL	G-744	WS	5/21	P	XAIS
SR16	S11	S14	S15	—	—	Int	—	—	P	2	2	8	5/21	826	SL	G-744	WS	5/21	P	XAIS
SR17	S11	S10	S15	—	—	Int	—	—	P	2	2	8	5/21	829	SL	G-744	WS	5/21	P	XAIS
SR18	S10	S15	S16	—	—	Int	—	—	P	2	2	8	5/21	1004	SL	G-744	WS	5/21	P	XAIS
SR19	S10	S9	S16	—	—	Int	—	—	P	2	2	8	5/21	713	SL	G-744	WS	5/21	P	XAIS
SR20	S9	S16	S19	—	—	Int	—	—	P	2	3	10	5/21	741	SL	G-744	WS	5/21	P	XAIS
									Total (Page)			174								
									Total (Project)			174								

PG (1) of (4)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 21-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 4
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Secondary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR1	S9	S17	S14	—	—	Int	—	—	P	2	2	8	5/21		SL	G744	WS	5/21	P	KAIS
SR2	S17	S19	S20	—	—	Int	—	—	P	2	2	8	5/21	950	SL	G744	WS	5/21	P	YAIS
SR3	S19	S20	S18	—	—	Int	—	—	P	2	3	10	5/21	0757	SL	G744	WS	5/21	P	XAIS
SR4	S16	S19	S20	—	—	Int	—	—	P	2	2	8	5/21	0755	SL	G744	WS	5/21	P	XAIS
SR5	S16	S15	S19	—	—	Int	—	—	P	2	2	8	5/21	1009	SL	G744	WS	5/21	P	XAIS
SR6	S14	S15	S18	—	—	Int	—	—	P	2	2	8	5/21	0824	SL	G744	WS	5/21	P	XAIS
SR7	S13	S14	S18	—	—	Int	—	—	P	2	2	8	5/21	0806	SL	G744	WS	5/21	P	XAIS
SR8	S18	S20	S21	—	—	Int	—	—	P	2	2	8	5/21	1001	SL	G744	WS	5/21	P	XAIS
SR9	S4	S5	—	—	—	LSDS1	26	—	P	2	5	14	5/24	770	MM	G 44	WS	5/24	P	XAIS
SR10	S10	S16	—	—	—	LSDS2	17	—	P	2	5	14	5/24	746	MM	G 44	WS	5/24	P	XAIS
SR11	S14	S15	—	—	—	LSDS3	3	—	P	2	5	14	5/24	745	MM	G 44	WS	5/24	P	YAIS
SR12	S18	S21	—	—	—	LSDS4	25	—	P	2	6	16	5/24	850	MM	G 44	WS	5/24	P	XAIS
SR13	S25	S27	—	—	—	LSDS5	50	—	P	2	5	14	5/24	903	MM	G 44	WS	5/24	P	XAIS
SR14	S26	S28	—	—	—	LSDS6	81	—	P	3	6	18	5/24	916	MM	G 44	WS	5/24	P	XAIS
SR15	S30	S31	—	—	—	LSDS7	41	—	P	2	5	14	5/24	914	MM	G 44	WS	5/24	P	XAIS
SR16	S29	S29	—	—	—	LSDS8	21	—	P	2	5	14	5/24	925	MM	G 44	WS	5/24	P	XAIS
SR17	S38	S42	—	—	—	LSDS9	7	—	P	2	5	14	5/24	*	SL	G744	WS	5/24	P	XAIS
SR18	S36	S38	—	—	—	LSDS10	79	—	P	2	6	16	5/24	0935	MM	G 44	WS	5/24	P	XAIS
SR19	S48	S49	—	—	—	LSDS11	27	—	P	2	5	14	5/24	*	MM	G 44	WS	5/24	P	XAIS
SR20	S42	S47	—	—	—	LSDS12	70	—	P	2	5	14	5/24	0935	SL	G744	WS	5/24	P	XAIS
											Total (Page)	242								
											Total (Project)	416								

Notes: * TIME NOT PROVIDED BY INSTALLER

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PG (2) OF (4)

Client: SCS Engineers
Project: North Ranch Unit 1
Project Number: 22-SCS-NR1-01

CQA SOLUTIONS

Sheet 3 of 4
Date VARIES
Rev. Date: NA

GEOMEMBRANE REPAIR LOG

Layer: Leachate Secondary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
SR41	549	548	—	—	—	LSDS13	—	—	P	2	7	18	5/24	*	MM	G44	WS	5/24	P	YAJS
SR42	537	538	—	—	—	LSDS4	—	—	P	2	7	18	5/24	*	MM	G44	WS	5/24	P	YAJS
SR43	522	523	524	—	—	Int	—	—	P	2	2	8	5/24	855	MM	G44	WS	5/24	P	YAJS
SR44	523	524	525	—	—	Int	—	—	P	2	2	8	5/24	853	MM	G44	WS	5/24	P	YAJS
SR45	525	526	527	—	—	Int	—	—	P	2	2	8	5/24	907	MM	G44	WS	5/24	P	YAJS
SR46	526	527	528	—	—	Int	—	—	P	2	2	8	5/24	910	MM	G44	WS	5/24	P	YAJS
SR47	528	529	530	—	—	Int	—	—	P	2	2	8	5/24	905	SL	G744	WS	5/24	P	YAJS
SR48	529	530	531	—	—	Int	—	—	P	2	2	8	5/24	902	SL	G744	WS	5/24	P	YAJS
SR49	531	532	534	—	—	Int	—	—	P	2	2	8	5/24	325	SL	G744	WS	5/24	P	YAJS
SR50	531	534	533	—	—	Int	—	—	P	2	4	12	5/24	830	SL	G744	WS	5/24	P	YAJS
SR51	532	534	535	—	—	Int	—	—	P	2	2	8	5/24	858	SL	G744	WS	5/24	P	YAJS
SR52	533	534	535	—	—	Int	—	—	P	2	2	8	5/24	851	SL	G744	WS	5/24	P	YAJS
SR53	536	537	538	—	—	Int	—	—	P	2	2	8	5/24	945	MM	G44	WS	5/24	P	YAJS
SR54	550	551	553	554	—	Int	—	—	P	3	4	14	5/24	1025	MM	G44	WS	5/24	P	YAJS
SR55	549	550	552	553	—	Int	—	—	P	4	6	20	5/24	957	MM	G44	WS	5/24	P	YAJS
SR56	537	537	542	544	—	Int	—	—	P	3	4	14	5/24	950	MM	G44	WS	5/24	P	YAJS
SR57	538	548	549	—	—	Int	—	—	P	2	2	8	5/24	940	MM	G44	WS	5/24	P	YAJS
SR58	536	547	548	—	—	Int	—	—	P	2	2	8	5/24	937	MM	G44	WS	5/24	P	YAJS
SR59	539	546	547	—	—	Int	—	—	P	2	2	8	5/24	1014	SL	G744	WS	5/24	P	YAJS
SR60	538	545	546	—	—	Int	—	—	P	2	2	8	5/24	1008	SL	G744	WS	5/24	P	YAJS

Total (Page)	208
Total (Project)	624

Notes: * = TIME NOT PROVIDED BY INSTALLER

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Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL.01

CQA SOLUTIONS

Sheet 4 of 4
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Secondary

Repair #	Damage								Repair									Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
SR61	538	542	545	—	—	Int	—	—	P	2	2	8	5/24	1002	SL	G744	WS	5/24	P	YAIS
SR62	539	540	542	543	—	Int	—	—	P	2	5	14	5/24	925	SL	G744	WS	5/24	P	YAIS
SR63	540	541	543	544	—	Int	—	—	P	2	3	10	5/24	945	SL	G744	WS	5/24	P	YAIS
SR64	541	543	—	—	—	CAP	15'	—	P	1	2	6	5/24	949	SL	G744	WS	5/24	P	YAIS
SR65	538	539	542	—	—	Int	—	—	P	2	3	10	5/24	920	SL	G744	WS	5/24	P	YAIS

Total (Page)	48
Total (Project)	672

Notes:

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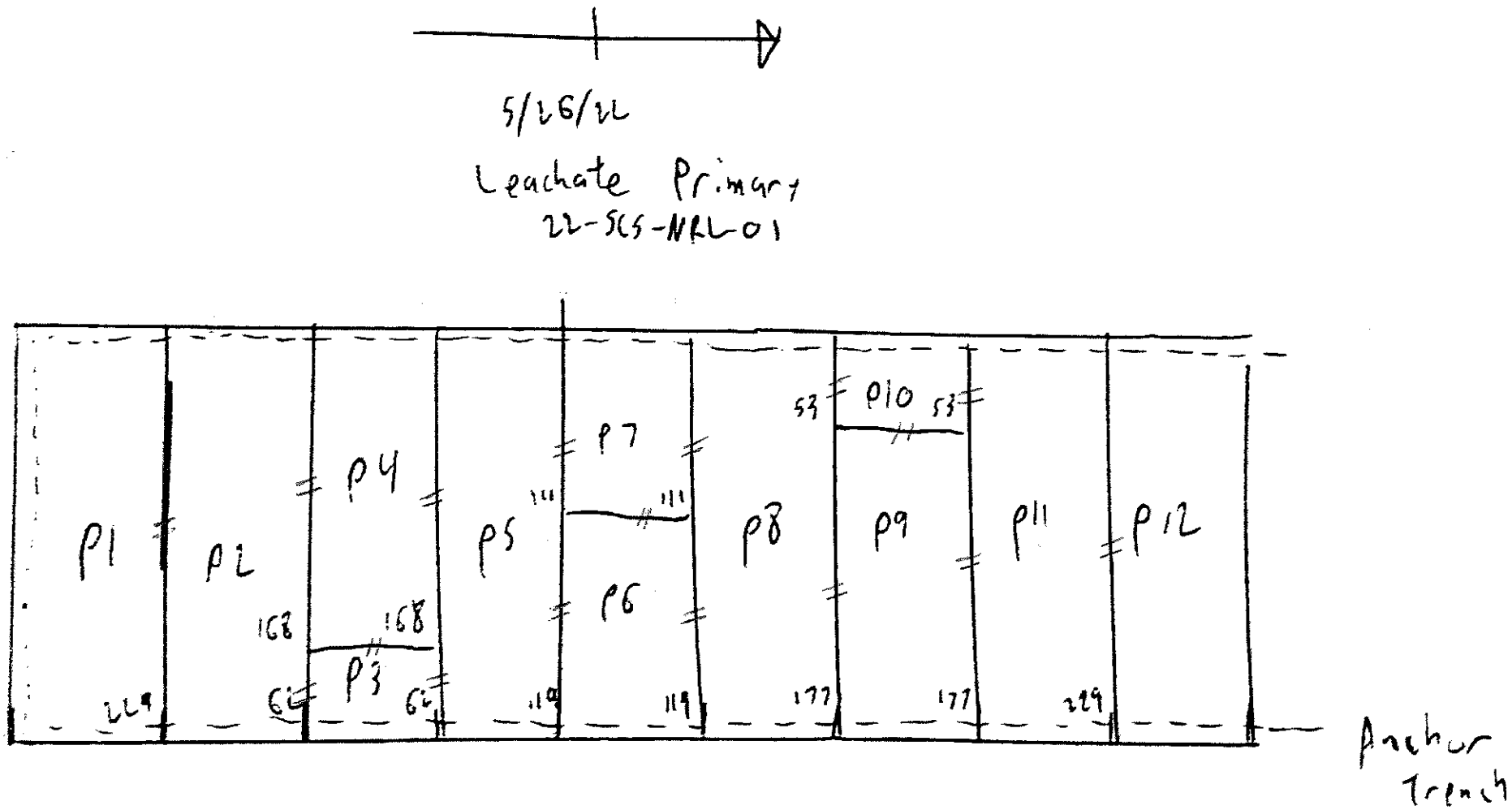
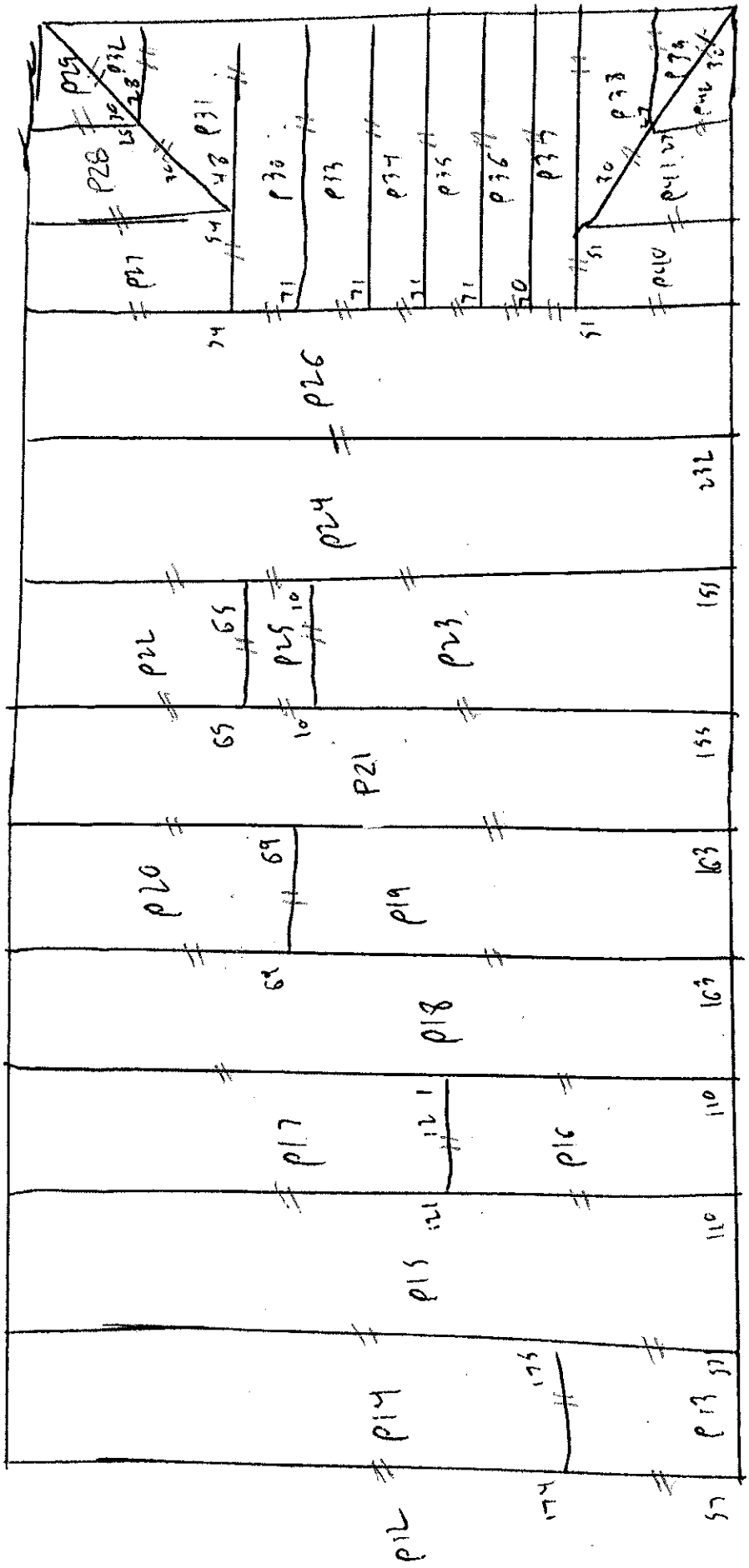
PG ④ of ④

APPENDIX H-5-C:
CQA Field Records – Leachate Pond
Geosynthetics - Primary



PG (1) of (2)



Leachate Primary
22-515-MAL-01

PG (2) OF (2)

Client: SES Engineers
Project: North Ranch Landfill
Project Number: 22-SES-NRL-01

CQA SOLUTIONS

Date: 8/2/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P1	3452	1300	229	23	5267	229	22.5	5152.5	Floor	XAIS	
P2	3452	1305	229	23	5267	229	22.5	5152.5	Floor	XAIS	
P3	3497	1315	62	23	1426	62	22.5	1395	Floor	XAIS	
P4	3466	1325	168	23	3864	168	22.5	3780	Floor	XAIS	
P5	3466	1330	230	23	5290	230	22.5	5175	Floor	XAIS	
P6	3486	1335	119	23	2737	119	22.5	2677.5	Floor	XAIS	
P7	3456	1345	111	23	2553	111	22.5	2497.5	Floor	XAIS	
P8	3450	1355	230	23	5290	230	22.5	5175	Floor	XAIS	
P9	3456	1400	177	23	4071	177	22.5	3982.5	Floor	XAIS	
P10	3484	1410	53	23	1219	53	22.5	1192.5	Floor	XAIS	
P11	3498	1415	230	23	5290	230	22.5	5175	Floor	XAIS	
P12	3498	1420	229	23	5267	229	22.5	5152.5	Floor	XAIS	
			Total SF (Page)		47541		Total SF (Page)		46507.5		
			Total SF (Project)		47541		Total SF (Project)		46507.5		

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PG (1) OF (3)

Client: [illegible]
Project: North Ranch [illegible] 21.11
Project Number: 21-515-NRL-01

CQA SOLUTIONS

Sheet 2 of 3
Date: [illegible] 8/17/22

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate Frac. Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements			Installed Measurements			Location	Observer	Comments
			Length	Width	Area (SF)	Length	Width	Area (SF)			
P13	3910	0750	57	23	1311	57	22.5	1282.5	Floor	XAES	
P14	*	0749	174	23	4002	174	22.5	3915	Floor	XAES	
P15	*	0800	231	23	5313	231	22.5	5197	Floor	XAES	
P16	*	0805	110	23	2530	110	22.5	2475	Floor	XAES	
P17	*	0815	121	23	2783	121	22.5	2722.5	Floor	XAES	
P18	*	0823	232	23	5336	232	22.5	5220	Floor	XAES	
P19	*	0830	163	23	3749	163	22.5	3667.5	Floor	XAES	
P20	*	0835	69	23	1587	69	22.5	1552.5	Floor	XAES	
P21	*	0843	232	23	5336	232	22.5	5220	Floor	XAES	
P22	*	0850	65	23	1495	65	22.5	1462.5	Floor	XAES	
P23	3910	0853	155	23	3565	155	22.5	3487.5	Floor	XAES	
P24	*	0903	232	23	5336	232	22.5	5197.5	Floor	XAES	
P25	*	0910	10	23	230	10	22.5	225	Floor	XAES	
P26	*	0920	232	23	5336	232	22.5	5220	Floor	XAES	
P27	*	0930	54	23	1242	54	22.5	1215	W Berm	XAES	
P28	*	0940	54	23	1242	40	22.5	ROC	W Berm	XAES	
P29	*	0945	25	17	212.5	25	17	212.5	W Berm	XAES	T
P30	*	0955	71	23	1633	69	22.5	1552.5	N Berm	XAES	
P31	*	1000	48	23	1104	38	22.5	855	N Berm	XAES	
P32	*	1005	22	18	252	28	18	252	N Berm	XAES	T
P33	*	1015	71	23	1633	71	22.5	1597.5	N Berm	XAES	
P34	*	1255	71	23	1633	71	22.5	1597.5	N Berm	XAES	
P35	*	1300	71	23	1633	71	22.5	1597.5	N Berm	XAES	
P36	*	1305	70	23	1610	70	22.5	1575	N Berm	XAES	
			Total SF (Page)		60109.5	Total SF (Page)		59289			
			Total SF (Project)		167644.5	Total SF (Project)		164716.5			

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

* ROLL # NOT PROVIDED BY INSTALLER

PG (2) OF (3)

Client: SCS Engineers
Project: North Lunch Landfill
Project Number: 22-956-NRL-01

CQA SOLUTIONS

Sheet 3 of 3
Date: 5/27

GEOMEMBRANE DEPLOYMENT RECORD

Layer: Leachate Primary Material Type: HDPE Thickness: 60 mil Manufacturer: Solmax

Panel Number	Roll Number	Time	Gross Measurements Length	Width	Area (SF)	Installed Measurements Length	Width	Area (SF)	Location	Observer	Comments
P37	*	1310	70	23	1610	70	22.5	1575	N Berm	YATS	
P38	*	1320	48	23	1104	38	22.5	855	N Berm	YATS	
P39	*	1330	27	15	202.5	27	15	202.5	N Berm	YATS	T
P40	*	1335	51	23	1173	51	22.5	1147.5	E Berm	YATS	
P41	*	1349	51	23	1173	39	22.5	877.5	E Berm	YATS	
P42	*	1356	27	10	135	27	10	135	E Berm	YATS	T

Total SF (Page)	5397.5	Total SF (Page)	4792.5
Total SF (Project)	113042	Total SF (Project)	109509

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 3 of 3

Client: SCS Engineers
Project: North Lunch Landfill
Project Number: 22-SCS-NRL-01

CQA

Sheet 1 of 4
Date: 5/26/22
Rev. Date: —

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong %			
87	W2	CK	1258	F	S	S	850	6			109	~	116	~	127	-	P	XAIS	
											112	~	110	-	134	~			
											113	-	118	-	145	~			
											119	-	114	-	134	~			
											122	~	120	~	140	~			
87	W2	CK	1300	F	T	T	850	5			119	~	121	~	134	-	P	XAIS	
											113	~	119	-	136	~			
											118	-	121	~	132	-			
											127	-	117	-	134	-			
											109	~	121	-	135	~			
87	W2	SL	1257	F	S	S	850	5			108	~	113	-	130	-	P	XAIS	
											118	-	105	-	138	~			
											121	~	115	-	142	~			
											115	~	110	-	132	~			
											122	~	115	~	129	-			
87	W2	SL	1259	F	T	T	850	5			107	-	116	~	132	-	P	XAIS	
											119	~	118	-	136	~			
											109	~	119	-	130	~			
											115	~	113	~	128	-			
											123	~	116	~	125	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 1 of 4

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 4
Date: 5/17/22
Rev. Date: ____

TRIAL WELDS

Ambient Temp	Welder Information			Weld Type	Top Material	Bottom Material	Fusion		Extrusion		Peel				Shear		Pass/Fail	Observer	Comments
	Mach#	Operator ID	Time				Wedge Temp	Wedge Speed	Barrel Temp	Preheat	Coupon Inside		Coupon Outside		Coupon				
											PPI	%	PPI	%	PPI	Elong. %			
73	V902	CK	1800	F	SS	S	850	6			105	-	118	-	133	-	P	XAIS	
											108	-	122	-	132	-			
											124	-	108	-	142	-			
											121	-	114	-	138	-			
											112	-	105	-	140	-			
73	V902	CA	1802	F	T	T	850	5			102	-	112	-	132	-	P	XAIS	
											107	-	114	-	144	-			
											113	-	119	-	142	-			
											108	-	101	-	134	-			
											98	-	107	-	132	-			
73	WL	SL	0759	F	S	S	850	5			107	-	109	-	128	-	P	XAIS	
											114	-	113	-	131	-			
											119	-	108	-	140	-			
											113	-	112	-	139	-			
											102	-	106	-	137	-			
73	WL	SL	0801	F	T	T	850	5			98	-	105	-	178	-	P	XAIS	
											113	-	119	-	142	-			
											105	-	113	-	132	-			
											112	-	108	-	129	-			
											105	-	102	-	139	-			

Specs: Fusion Peel: ____ Peel Incursion: ____ % Extrusion Peel: ____ Peel Incursion: ____ %
Fusion Shear: ____ Elongation: ____ % Extrusion Shear: ____ Elongation: ____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 2 of 4

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 4
Date: 5/27/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
97	W502	CA	1257	F	S	S	850	6			108	-	119	-	136	-	P	YAIS	
											107	-	107	-	130	-			
											116	-	106	-	128	-			
											114	-	123	-	125	-			
											105	-	118	-	138	-			
87	W502	CA	1259	F	T	T	850	5			99	-	101	-	129	-	P	YAIS	
											116	-	112	-	142	-			
											110	-	101	-	138	-			
											111	-	125	-	146	-			
											127	-	98	-	141	-			
87	W2	SL	1258	F	S	S	850	5			109	-	112	-	136	-	P	YAIS	
											121	-	112	-	136	-			
											119	-	104	-	130	-			
											108	-	123	-	128	-			
											105	-	113	-	135	-			
87	W2	SL	1900	F	T	T	850	5			118	-	104	-	134	-	P	YAIS	
											113	-	105	-	137	-			
											105	-	115	-	142	-			
											122	-	117	-	142	-			
											119	-	115	-	132	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to COAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (4)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 4 of 4
Date: 8/23/22
Rev. Date:

TRIAL WELDS

Ambient Temp	Welder Information: Mach#	Operator ID	Time	Weld Type	Top Material	Bottom Material	Fusion: Wedge Temp	Fusion: Wedge Speed	Extrusion: Barrel Temp	Extrusion: Preheat	Peel: Coupon Inside PPI	Peel: Coupon Inside %	Peel: Coupon Outside PPI	Peel: Coupon Outside %	Shear: Coupon PPI	Shear: Coupon Elong. %	Pass/Fail	Observer	Comments
89	644	MM	0715	E	T	T			550	550	107	-			145	-	P	XAIS	
											116	-			134	-			
											118	-			142	-			
											121	-			172	-			
											117	-			138	-			
88	G744	SL	0720	E	T	T			550	550	105	-			132	-	P	XMIS	
											118	-			134	-			
											122	-			130	-			
											106	-			128	-			
											107	-			138	-			
105	644	MM	1702	E	T	T			550	550	117	-			134	-	P	XAIS	
											103	-			130	-			
											109	-			145	-			
											99	-			127	-			
											113	-			132	-			

Specs: Fusion Peel: _____ Peel Incursion: _____ % Extrusion Peel: _____ Peel Incursion: _____ %
Fusion Shear: _____ Elongation: _____ % Extrusion Shear: _____ Elongation: _____ %

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg 4 of 4

Client: SCS Engineers
Project: North Ranch Landfill V
Project Number: 22-SCS-MRL-01

CQA SOLUTIONS

Sheet 1 of 2
Date 5/26/22
Rev. Date: —

SEAMING RECORD

Layer: Leachate Primary

Welder Initials: CH
Welder Number:
Machine ID: W82

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P1	P2	CH	W82	1335	1402	0	229	229	229	LPOS1	XAIS	
P4	P5	CH	W82	1406	1421	0	168	168	397		XAIS	
P3	P5	CH	W82	1421	1427	0	62	62	459		XAIS	
P5	P7	CH	W82	1433	1443	0	111	111	570	LPOS2	XAIS	
P6	P8	CH	W82	1443	1507	0	119	119	689		XAIS	
P10	P11	CH	W82	1532	1537	0	53	53	742	LPOS4	XAIS	
P9	P11	CH	W82	1537	1602	0	177	177	919		XAIS	

Total LF (Page)	919	Total DS (Page)	3	Total DS Needed (Page)	1.8	Over/Under (Page)	+1.2
Total LF (Project)	919	Total DS (Project)	3	Total DS Needed (Project)	1.8	Over/Under (Project)	+1.2

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (1) OF (2)

Client: SLS Engineers
Project: North Ranch Landfill
Project Number: 21-SLS-NRL-01

CQA SOLUTIONS

Sheet 2 of 2
Date 5/27/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Primary

Welder Initials: CK
Welder Number: _____
Machine ID: W902

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P1L	P14	CK	W902	0900	0820	0	174	174	174		XAIS	
P1L	P13	CK	W902	0750	0758	0	17	17	291		XAIS	
P15	P17	CK	W902	0844	0836	0	121	121	342		XAIS	
P15	P16	CK	W902	0836	0844	0	110	110	462	LP057	XAIS	
P17	P18	CK	W902	0848	0900	0	121	121	583		XAIS	
P16	P18	CK	W902	0900	0913	0	110	110	693		XAIS	
P20	P21	CK	W902	915	922	0	69	69	762	LP058	XAIS	
P19	P21	CK	W902	0922	0941	0	173	173	935		XAIS	
P22	P24	CK	W902	0946	0950	0	65	65	1000		XAIS	
P25	P24	CK	W902	0950	0954	0	10	10	1010		XAIS	
P23	P24	CK	W902	0954	1015	0	155	155	1165	LP059	XAIS	
P24	P26	CK	W902	1020	1054	0	232	232	1397		XAIS	
P30	P31	CK	W902	1058	1101	0	48	48	1445	LP059	XAIS	
P30	P27	CK	W902	1101	1103	0	22	22	1467		XAIS	
P30	P33	CK	W902	1117	1117	0	71	71	1538		XAIS	
P26	P30	CK	W902	1128	1130	0	22	22	1560		XAIS	
P26	P33	CK	W902	1132	1132	0	22	22	1582		XAIS	
P26	P34	CK	W902	1132	1134	0	22	22	1604		XAIS	
P26	P35	CK	W902	1134	1136	0	22	22	1626		XAIS	
P26	P36	CK	W902	1136	1138	0	22	22	1648		XAIS	
P26	P37	CK	W902	1142	1144	0	22	22	1670		XAIS	
P26	P40	CK	W902	1144	1148	51	0	51	1721		XAIS	
P41	P42	CK	W902	1552	1556	27	0	27	1748		XAIS	

Total LF (Page)	1721	Total DS (Page)	4	Total DS Needed (Page)	7.4	Over/Under (Page)	+0.6
Total LF (Project)	1721	Total DS (Project)	4	Total DS Needed (Project)	7.4	Over/Under (Project)	+0.6

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) OF (2)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-PRJ-01

CQA

Sheet 1 of 3
Date 5/26/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Primary

Welder Initials: SL
Welder Number: _____
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed	Cumul.	Destruct	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End	Length	Lin. Ft	Number		
P2	P4	SL	W2	1356	1411	0	168	168	162		YAIS	
P3	P4	SL	W2	1417	1419	0	22	22	190		YAIS	
P2	P3	SL	W2	1421	1423	0	21	22	212		YAIS	
P7	P6	SL	W2	1435	1437	0	22	22	234		YAIS	
P7	P8	SL	W2	1443	1455	0	111	111	345		YAIS	
P6	P7	SL	W2	1445	1458	0	119	119	464	LPOSS	YAIS	
P8	P10	SL	W2	1521	1524	0	53	53	517		YAIS	
P10	P9	SL	W2	1525	1527	0	22	22	539		YAIS	
P8	P9	SL	W2	1528	1547	0	177	177	716		YAIS	
P11	P12	SL	W2	1552	1631	0	229	229	945	LPOSS	YAIS	

Total LF (Page)	945	Total DS (Page)	2	Total DS Needed (Page)	1.9	Over/Under (Page)	+0.1
Total LF (Project)	945	Total DS (Project)	2	Total DS Needed (Project)	1.9	Over/Under (Project)	+0.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Pg (1) of (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 3
Date 5/27/22
Rev. Date: _____

SEAMING RECORD

Layer: Leachate Primary

Welder Initials: SL
Welder Number: _____
Machine ID: WL

Seam Reference Top	Seam Reference Bottom	Welding Info Operator	Welding Info Machine	Weld Times Start	Weld Times End	Station Begin	Station End	Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
P13	P13	SL	WL	0818	0830	0	174	174	174	LPDSC	XAIS	
P13	P14	SL	WL	0830	0834	0	22	22	196		XAIS	
P13	P15	SL	WL	0835	0841	0	57	57	253		XAIS	
P16	P17	SL	WL	0847	0849	0	22	22	275		XAIS	
P18	P20	SL	WL	0905	0909	0	69	69	344		XAIS	
P18	P19	SL	WL	0909	0915	0	173	173	517		XAIS	
P20	P19	SL	WL	0857	0859	0	22	22	539		XAIS	
P22	P23	SL	WL	1020	1022	0	22	22	561		XAIS	
P25	P23	SL	WL	1005	1007	0	22	22	583		XAIS	
P21	P22	SL	WL	0932	0938	0	65	65	648		XAIS	
P21	P25	SL	WL	0938	0940	0	10	10	658		XAIS	
P21	P23	SL	WL	0940	1002	0	155	155	813	LPDSC	XAIS	
P26	P27	SL	WL	1012	1017	0	54	54	867		XAIS	
P27	P28	SL	WL	1039	1044	0	54	54	921		XAIS	
P28	P29	SL	WL	1048	1050	0	25	25	946		XAIS	
P32	P31	SL	WL	1104	1106	0	29	29	975		XAIS	
P33	P34	SL	WL	1122	1129	0	71	71	1046		XAIS	
P34	P35	SL	WL	1318	1315	0	71	71	1117		XAIS	
P36	P35	SL	WL	1328	1324	70	0	70	1187		XAIS	
P37	P36	SL	WL	1327	1329	70	0	70	1257		XAIS	
P40	P37	SL	WL	1607	1609	22	0	22	1279		XAIS	
P38	P37	SL	WL	1512	1543	48	0	48	1327		XAIS	
P39	P38	SL	WL	1558	1600	27	0	27	1354		XAIS	
P41	P38	SL	WL	1624	1629	30	0	30	1384		XAIS	

Total LF (Page)	1384	Total DS (Page)	1	Total DS Needed (Page)	2.8	Over/Under (Page)	-0.6
Total LF (Project)	2329	Total DS (Project)	4	Total DS Needed (Project)	4.7	Over/Under (Project)	-0.7

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) OF (3)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-515-NRL-01

CQA SOLUTIONS

Sheet 3 of 3
Date 5/27/22
Rev. Date:

SEAMING RECORD

Layer: Leachate Primary

Welder Initials: SL
Welder Number:
Machine ID: W2

Seam Reference		Welding Info		Weld Times		Station		Seamed Length	Cumul. Lin. Ft	Destruct Number	Observer	Notes
Top	Bottom	Operator	Machine	Start	End	Begin	End					
P42	P39	SL	W2	1613	1617	70	0	30	30		XAIS	
P41	P38	SL	W2	1625	1629	30	0	30	60		XAIS	
P32	P29	SL	W2	1629	1633	30	0	30	90		XAIS	
P40	P41	SL	W2	1640	1644	0	51	51	141	POS13	XAIS	

Total LF (Page)	141	Total DS (Page)	1	Total DS Needed (Page)	0.3	Over/Under (Page)	10.7
Total LF (Project)	2470	Total DS (Project)	5	Total DS Needed (Project)	4.9	Over/Under (Project)	10.1

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (3)

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet 1 of 4
Date: 5/06/22
Rev. Date: —

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Primary

Test Type	Seam # Top	Seam # Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail API	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
AP 1	P1	P2	0	EOS	Full	30	30	1601	1606	P	—	WS	YMS	N	
	P2	P3	0	EOS		30	30	1603	1608	P	—				
	P2	P4	0	EOS		30	30	1605	1610	P	—				
	P3	P4	0	EOS		30	30	1608	1613	P	—				
	P3	P5	0	EOS		30	29	1610	1615	P	—				
	P4	P5	0	EOS		30	30	1612	1617	P	—				
	P5	P6	0	EOS		30	30	1614	1619	P	—				
	P5	P7	0	EOS		30	30	1617	1622	P	—				
	P6	P7	0	EOS		30	30	1619	1624	P	—				
	P6	P8	0	EOS		30	30	1621	1626	P	—				
	P7	P8	0	EOS		30	30	1623	1628	P	—				
	P9	P9	0	EOS		30	30	1626	1631	P	—				
	P8	P10	0	EOS		30	30	1628	1633	P	—				
	P10	P9	0	EOS		30	30	1630	1635	P	—				
	P9	P11	0	EOS		30	30	1632	1637	P	—				
	P10	P11	0	EOS		30	30	1635	1640	P	—				
	P11	P12	0	EOS		30	30	1637	1642	P	—				

Specs: Pre-testing stabilization time: —
Minimum Starting Pressure: 30
Maximum Starting Pressure: 35
Test Duration: 5
Maximum Allowable Loss: 3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS
Project: NORTH RANCH
Project Number: 22-SCS-NRL-01

CQA

Sheet 2 of 4
Date: 5/17/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Primary

Test Type	Seams Top	Seams Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail ART	Pass/Fail VI	QC Tech	Observer	To be capped?	Notes
ART	P12	P13	0	EOS	Full	30	30	1545	1550	P	–	WS	YA IS	N	
	P12	P14	0	EOS		30	30	1547	1552	P	–				
	P13	P14	0	EOS		30	29	1549	1554	P	–				
	P13	P15	0	EOS		30	30	1552	1557	P	–				
	P14	P15	0	EOS		30	30	1554	1559	P	–				
	P15	P16	0	EOS		30	30	1556	1601	P	–				
	P15	P17	0	EOS		30	30	1558	1603	P	–				
	P16	P17	0	EOS		30	30	1601	1606	P	–				
	P16	P18	0	EOS		30	30	1603	1608	P	–				
	P17	P18	0	EOS		30	30	1605	1610	P	–				
	P18	P19	0	EOS		30	30	1608	1613	P	–				
	P18	P20	0	EOS		30	30	1610	1615	P	–				
	P19	P20	0	EOS		30	30	1612	1617	P	–				
	P19	P21	0	EOS		30	30	1614	1619	P	–				
	P20	P21	0	EOS		30	30	1617	1622	P	–				
	P21	P22	0	EOS		30	30	1619	1624	P	–				
	P21	P23	0	EOS		30	30	1621	1626	P	–				
	P21	P25	0	EOS		30	30	1624	1629	P	–				
	P22	P25	0	EOS		30	30	1626	1631	P	–				
	P25	P23	0	EOS		30	29	1628	1633	P	–				
	P22	P24	0	EOS		30	30	1630	1635	P	–				
	P23	P24	0	EOS		30	30	1633	1638	P	–				
	P25	P24	0	EOS		30	30	1635	1640	P	–				
	P24	P26	0	EOS		30	30	1637	1642	P	–	↓	↓	↓	

Specs: Pre-testing stabilization time: –
Minimum Starting Pressure: 30
Maximum Starting Pressure: 35
Test Duration: 5
Maximum Allowable Loss: 3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (2) OF (4)

Client: SCS
Project: NORTH RANCH
Project: Number: 22-SCS-NRL-01

CQA

Sheet 3 of 4
Date: 5/12/22
Rev. Date:

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Primary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	P26	P27	0	EOS	Full	30	30	1640	1645	P	—	VS	XAES	N	
	P26	P30	0	EOS		30	30	1642	1647	P	—				
	P26	P33	0	EOS		30	30	1644	1649	P	—				
	P26	P34	0	EOS		30	30	1647	1652	P	—				
	P26	P35	0	EOS		30	30	1650	1655	P	—				
	P26	P36	0	EOS		30	30	1653	1658	P	—				
	P26	P37	0	EOS		30	30	1655	1700	P	—				
	P26	P40	0	EOS		30	30	1657	1702	P	—				
	P27	P28	0	EOS		30	30	1659	1704	P	—				
	P27	P30	0	EOS		30	30	1701	1706	P	—				
	P28	P29	0	EOS		30	30	1704	1709	P	—				
	P28	P31	0	EOS		30	30	1706	1711	P	—				
	P29	P32	0	EOS		30	30	1708	1713	P	—				
	P32	P31	0	EOS		30	30	1710	1715	P	—				
	P31	P30	0	EOS		30	30	1712	1717	P	—				
	P30	P33	0	EOS		30	30	1715	1720	P	—				
	P33	P34	0	EOS		30	30	1717	1722	P	—				
	P34	P35	0	EOS		30	30	1719	1724	P	—				
	P36	P35	0	EOS		30	30	1721	1726	P	—				
	P37	P36	0	EOS		30	30	1724	1729	P	—				
	P38	P37	0	EOS		30	30	1726	1731	P	—				
	P39	P38	0	EOS		30	30	1729	1734	P	—				
	P40	P37	0	EOS		30	30	1731	1736	P	—				
	P40	P41	0	EOS		30	30	1733	1738	P	—				

Specs: Pre-testing stabilization time: —
Minimum Starting Pressure: 30
Maximum Starting Pressure: 35
Test Duration: 5
Maximum Allowable Loss: 3

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (3) OF (4)

Client: SCS
Project: North Vaquero
Project Number: 22-SCS-RRL-01

CQA

Sheet 4 of 4
Date: 5/27/22
Rev. Date: —

NON-DESTRUCTIVE TEST LOG

Layer: Leachate Primary

Test Type	Seam# Top	Seam# Bottom	Station Begin	Station End	Tested Length	Pressure Begin	Pressure End	Time Begin	Time End	Pass/Fail APT	Pass/Fail VT	QC Tech	Observer	To be capped?	Notes
APT	P41	P42	0	EOS	Full	30	30	1736	1741	P	—	WS	KAES	N	
APT	P41	P38	0	EOS	Full	30	30	1738	1743	P	—	WS	KAES	↓	
APT	P42	P39	0	EOS	Full	30	29	1740	1745	P	—	WS	KAES	↓	

Specs: Pre-testing stabilization time: _____ Maximum Starting Pressure: _____ Maximum Allowable Loss: _____
Minimum Starting Pressure: _____ Test Duration: _____

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (4) OF (4)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 12-SCS-082-01

CQA

Sheet 1 of 1
Date: 5/29/22
Rev. Date:

DESTRUCTIVE SAMPLE LOG

Layer: Leachate Primary

Sample Information					Welder Information			Testing Information		
ID	Seam ID	Location	Date Marked	Date Sampled	Operator	Machine ID	Date Welded	Field Pass/Fail	Lab Pass/Fail	Comments, Tracking Notes, Etc.
LPDS1	P1/P2	48	5/27	5/28	CH	W82	5/26	P		
LPDS2	P6/P7	75	5/28	5/28	CH	W82	5/26	P		
LPDS3	P10/P9	19	5/28	5/28	SL	W2	5/26	P		
LPDS4	P9/P11	50	5/27	5/28	CH	W82	5/26	P		
LPDS5	P11/P12	181	5/27	5/28	SL	W2	5/26	P		
LPDS6	P14/P15	67	5/28	5/28	SL	W2	5/27	P		
LPDS7	P15/P16	20	5/28	5/28	CH	W902	5/27	P		
LPDS8	P20/P21	20	5/28	5/28	CH	W902	5/27	P		
LPDS9	P21/P23	137	5/28	5/28	SL	W2	5/27	P		
LPDS10	P23/P24	03	5/28	5/28	CH	W902	5/27	P		
LPDS11	P31/P30	17	5/28	5/28	CH	W902	5/27	P		
LPDS12	P33/P34	22	5/28	5/28	SL	W2	5/27	P		
LPDS13	P40/41	25	5/28	5/28	SL	W2	5/27	P		
LPDS14	PRE/P35	—	5/28	5/28	SL	W744	5/28	P		
LPDS15	PR37/P38	—	5/28	5/28	MM	W44	5/28	P		

Submit to CQA's Project Manager by 7AM EST following the date of any updated information

PG 1 OF 1

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 12-SCS-NRL-01

CQA SOLUTIONS

Sheet 1 of 5
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Cachuta Primary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
PR1	P1	P2	—	—	—	LPOS1	48	—	P	2	5	14	5/28	0730	SL	G-744	WS	5/28	P	XAIS
PR2	P5	P7	—	—	—	LPOS2	73	—	P	2	5	14	5/28	0737	SL	G-744	WS	5/28	P	XAIS
PR3	P6	P8	—	—	—	LPOS3	19	—	P	2	6	16	5/28	0742	SL	G-744	WS	5/28	P	XAIS
PR4	P9	P11	—	—	—	LPOS4	50	—	P	2	5	14	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR5	P11	P12	—	—	—	LPOS5	181	—	P	3	5	16	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR6	P2	P3	P4	—	—	Int	—	—	P	2	2	8	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR7	P3	P4	P5	—	—	Int	—	—	P	2	2	8	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR8	P5	P6	P7	—	—	Int	—	—	P	2	8	20	5/28	0813	SL	G-744	WS	5/28	P	XAIS
PR9	P6	P7	P8	—	—	Int	—	—	P	2	2	8	5/28	0810	SL	G-744	WS	5/28	P	XAIS
PR10	P8	P9	P10	—	—	Int	—	—	P	2	3	10	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR11	P9	P10	P11	—	—	Int	—	—	P	2	2	8	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR13	P14	P15	—	—	—	LPOS6	69	—	P	2	5	14	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR14	P15	P16	—	—	—	LPOS7	20	—	P	2	6	16	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR15	P20	P21	—	—	—	LPOS8	20	—	P	2	5	14	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR16	P11	P13	—	—	—	LPOS9	177	—	P	2	5	14	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR17	P17	P14	—	—	—	LPOS10	63	—	P	2	6	16	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR18	P31	P30	—	—	—	LPOS11	17	—	P	2	6	16	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR19	P33	P34	—	—	—	LPOS12	22	—	P	2	6	16	5/28	*	SL	G-744	WS	5/28	P	XAIS
PR20	P40	P41	—	—	—	LPOS13	25	—	P	3	6	18	5/28	*	SLM	G-44	WS	5/28	P	XAIS
PR12	P11	—	—	—	—	Weld	227	12' N	P	2	4	12	5/28	*	SLM	G-44	WS	5/28	P	XAIS
											Total (Page)	172								
											Total (Project)	172								

Notes: * TIME NOT PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG (1) OF (5)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 02-SCS-NRL-01

CQA SOLUTIONS

Sheet 2 of 5
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data: Tech	Date	P/F	Observer
PR1	P11	—	—	—	—	Hole	226	6'S	P	1	1	4	5/28	*	MM	G44	WS	5/28	P	YAIS
PR2	PR8	P5	—	—	—	LPDSIM	—	—	P	2	7	18	5/28	*	SL	G744	WS	5/28	P	YAIS
PR3	P11	—	—	—	—	Hole	220	6'S	P	1	1	4	5/28	*	SL	G744	WS	5/28	P	YAIS
PR4	P11	—	—	—	—	Hole	215	6'S	P	1	1	4	5/28	*	SL	G744	WS	5/28	P	YAIS
PR5	P12	P13	P14	—	—	Int	—	—	P	2	2	8	5/28	*	SL	G744	WS	5/28	P	YAIS
PR6	P13	—	—	—	—	Hole	173	11'S	P	2	2	8	5/28	*	SL	G744	WS	5/28	P	YAIS
PR7	P13	P14	P15	—	—	Int	—	—	P	2	3	10	5/28	*	SL	G744	WS	5/28	P	YAIS
PR8	P15	P16	P17	—	—	Int	—	—	P	2	2	8	5/28	*	MM	G44	WS	5/28	P	YAIS
PR9	P17	—	—	—	—	Hole	119	11'S	P	1	1	4	5/28	844	MM	G44	WS	5/28	P	YAIS
PR10	P17	—	—	—	—	Hole	116	11'S	P	1	1	4	5/28	842	MM	G44	WS	5/28	P	YAIS
PR11	P16	P17	P18	—	—	Int	—	—	P	2	2	8	5/28	847	MM	G44	WS	5/28	P	YAIS
PR12	P18	P19	P20	—	—	Int	—	—	P	2	2	8	5/28	755	MM	G44	WS	5/28	P	YAIS
PR13	P20	—	—	—	—	Hole	61	8'N	P	1	1	4	5/28	757	MM	G44	WS	5/28	P	YAIS
PR14	P20	P19	P21	—	—	Int	—	—	P	2	2	8	5/28	802	MM	G44	WS	5/28	P	YAIS
PR15	P21	P22	P23	—	—	Int	—	—	P	2	2	8	5/28	808	MM	G44	WS	5/28	P	YAIS
PR16	P21	P23	P25	—	—	Int	—	—	P	2	2	8	5/28	806	MM	G44	WS	5/28	P	YAIS
PR17	P22	P25	P24	—	—	Int	—	—	P	2	3	10	5/28	812	MM	G44	WS	5/28	P	YAIS
PR18	P23	P24	P25	—	—	Int	—	—	P	2	3	10	5/28	816	MM	G44	WS	5/28	P	YAIS
PR19	P28	P29	P31	P32	—	Int	—	—	P	2	6	16	5/28	*	MM	G44	WS	5/28	P	YAIS
PR20	P29	P28	—	—	—	LPDSIS	—	—	P	3	7	20	5/28	*	MM	G44	WS	5/28	P	YAIS

Total (Page) 172
Total (Project) 4114

Notes: * TIME NOT PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 12-SCS-NRL-01

CQA SOLUTIONS

Sheet 3 of 5
Date VARIES
Rev. Date: _____

GEOMEMBRANE REPAIR LOG

Layer: Leachate Primary

Repair #	Damage: Seam Reference 1	2	3	4	Panel ID	Defect Type	Location: Station	Perpendicular	Repair Type	Repair Size: Width	Length	Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Testing: Vacuum Test Data Tech	Date	P/F	Observer
PR41	P26	P26	P26	–	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR42	P26	P26	P33	–	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR43	P26	P33	P14	–	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR44	P26	P34	P35	–	–	Int	–	–	P	3	4	14	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR45	P26	P35	P36	–	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR46	P26	P36	P37	–	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR47	P26	P37	P38	P46	–	Int	–	–	P	2	2	8	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR48	P27	P36	P41	P46	–	Int/CAP	–	–	P	2	9	22	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR49	P41	P42	P30	P39	–	Int	–	–	P	3	5	16	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR50	P27	P28	P30	P31	–	Int	–	–	P	5	6	22	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR51	P36	–	–	–	–	Vent	6	5' W	P	1	1*	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR52	P37	–	–	–	–	Vent	6	11' W	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR53	P36	–	–	–	–	Vent	6	12' W	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR54	P35	–	–	–	–	Vent	8	10' E	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR55	~~P44~~ P33	–	–	–	–	Vent	8	10' W	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR56	~~P42~~ P32	–	–	–	–	Vent	8	10' E	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR57	P31	–	–	–	–	Vent	8	8' E	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR58	P26	–	–	–	–	Vent	8	11' S	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR59	P27	–	–	–	–	Vent	8	10' N	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
PR60	P26	–	–	–	–	Vent	9	5' N	P	1	1	3	5/18	*	MM	GUN	WS	5/18	P	XAIS
											Total (Page)	142								
											Total (Project)	596								

Notes: ◊ Only 3 sides of the vents are welded
* TIME NOT PROVIDED BY THE INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22C-SCS-NRL-01

CQA SOLUTIONS

Sheet 4 of 5
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Primary

Repair #	Damage								Repair								Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
PR61	P24	–	–	–	–	Vent	8	3' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR62	P22	–	–	–	–	Vent	8	2' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR63	P20	–	–	–	–	Vent	8	2' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR64	P18	–	–	–	–	Vent	8	3' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR65	P17	–	–	–	–	Vent	8	6' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR66	P15	–	–	–	–	Vent	8	10' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR67	P14	–	–	–	–	Vent	8	10' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR68	P12	–	–	–	–	Vent	8	6' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR69	P11	–	–	–	–	Vent	8	4' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR70	P10	–	–	–	–	Vent	8	2' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR71	P7	–	–	–	–	Vent	8	2' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR72	P5	–	–	–	–	Vent	8	4' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR73	P4	–	–	–	–	Vent	8	7' S	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR74	P2	–	–	–	–	Vent	8	10' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR75	P1	–	–	–	–	Vent	70	8' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR76	P1	–	–	–	–	Vent	55	8' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR77	P1	–	–	–	–	Vent	80	8' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR78	P1	–	–	–	–	Vent	105	8' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR79	P1	–	–	–	–	Vent	130	8' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS
PR80	P1	–	–	–	–	Vent	155	6' N	P	1	1	3	5/18	*	MM	G44	WS	5/18	P	XAIS

Total (Page)	60
Total (Project)	555

PG (4) OF (5)

Client: SCS Engineers
Project: North Ranch Landfill
Project Number: 22-SCS-11RL-01

CQA SOLUTIONS

Sheet 5 of 5
Date VARIES
Rev. Date: —

GEOMEMBRANE REPAIR LOG

Layer: Leachate Primary

Repair #	Damage								Repair							Testing			
	Seam Reference				Panel ID	Defect Type	Location		Repair Type	Repair Size		Lineal Feet	Repair Date	Repair Time	Repair Tech	Machine	Vacuum Test Data			
	1	2	3	4			Station	Perpendicular		Width	Length						Tech	Date	P/F	Observer
RR1	P1	—	—	—	—	Vent	180	8' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR2	P1	—	—	—	—	Vent	205	8' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR3	P1	—	—	—	—	Vent	220	8' # 5	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR4	P2	—	—	—	—	Vent	57	4' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR5	P5	—	—	—	—	Vent	57	4' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR6	P6	—	—	—	—	Vent	112	4' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR7	P8	—	—	—	—	Vent	112	7' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR8	P9	—	—	—	—	Vent	170	10' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR8a	P11	—	—	—	—	Vent	170	7' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR10	P12	—	—	—	—	Vent	56	4' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR11	P13	—	—	—	—	Vent	56	2' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR12	P16	—	—	—	—	Vent	103	2' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR13	P18	—	—	—	—	Vent	103	7' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR14	P19	—	—	—	—	Vent	156	5' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR15	P21	—	—	—	—	Vent	156	10' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR16	P23	—	—	—	—	Vent	149	10' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR17	P24	—	—	—	—	Vent	226	7' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR18	P25	—	—	—	—	Vent	226	4' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR19	P40	—	—	—	—	Vent	6	2' S	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS
PR20	P42	—	—	—	—	Vent	6	2' N	P	1	1	3'	5/18	*	SL	G744	WS	5/18	P	XAIS

Total (Page)	60
Total (Project)	

Notes: * TIME NOT PROVIDED BY INSTALLER

Submit to CQAS Project Manager by 7AM EST following the date of any updated information

PG 5 OF 5

APPENDIX H-6:
CQA Field Records
Geosynthetics – Destructive Seam Test Results

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-03-28

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**70900**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 70900

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: ESDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	157	138	142	154	161	**150**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	131	127	129	128	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	175	177	182	171	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: ESDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	137	142	140	145	142	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	126	147	120	141	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	178	176	182	180	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-03-28

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**70901**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 70901

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: WSDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	157	142	148	139	148	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	142	146	141	146	143	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	178	180	174	175	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: WSDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	130	142	133	148	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	145	155	149	145	142	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	176	180	182	175	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-03-28

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

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High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**70943**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 70943

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: TSDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	145	135	135	135	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	131	126	129	133	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	175	173	180	183	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: TSDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	137	135	132	123	129	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	126	117	119	121	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	175	177	182	183	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-03-31

Mail To:
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High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71041**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71041

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: EPDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	135	130	141	130	135	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	127	129	126	129	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	181	176	181	182	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: EPDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	141	140	130	135	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	151	151	153	149	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	173	171	168	170	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
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Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71043**
Material(s) Tested:	(2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71043

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: EODS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	129	131	136	127	138	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	180	183	182	190	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: EODS-2 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	117	128	109	97	116	**113**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	172	171	183	180	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

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Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71044**
Material(s) Tested:	(2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71044

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: WODS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	142	138	139	143	144	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	176	181	180	182	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: WODS-2 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	164	149	151	167	160	**158**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	179	177	182	180	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-03-31

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71045**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71045

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: TPDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	138	139	130	131	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	153	147	138	150	139	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	178	176	173	181	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: TPDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	145	144	144	153	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	137	135	135	136	132	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	173	174	177	175	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-03-31

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71046**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71046

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: WPDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	124	123	124	124	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	137	136	137	152	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	180	176	176	177	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: WPDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	131	123	118	138	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	136	132	132	131	134	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	171	173	176	160	168	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-25

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1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**72262**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72262

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	131	134	155	143	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	146	148	149	142	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	182	177	176	176	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	152	144	152	145	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	145	156	132	145	142	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	181	182	182	186	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72262

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	161	164	165	166	172	**166**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	164	156	163	161	170	**163**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	186	180	177	182	179	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	140	126	136	138	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	113	150	114	116	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	181	188	182	181	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
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AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-26

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Center , TX , 75935

Bill To:

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e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**72295**
Material(s) Tested:	(8) Heat Fusion Weld Seam(s) (2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72295

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: LSDS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	146	146	136	149	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	125	127	122	127	128	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	179	177	177	182	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: LSDS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	135	136	140	143	158	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	126	136	126	137	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	180	183	180	187	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72295

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: LSDS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	144	140	148	157	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	126	127	129	126	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	181	180	176	179	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: LSDS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	124	128	142	134	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	121	121	148	122	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	183	178	180	180	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72295

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: LSDS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	141	130	129	142	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	148	154	133	144	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	184	182	177	182	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: LSDS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	128	129	134	133	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	142	151	139	152	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	177	179	177	178	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72295

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: LSDS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	151	142	163	153	147	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	162	128	143	138	134	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	188	181	180	183	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: LSDS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	153	155	152	155	156	**154**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	129	135	136	132	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	177	181	179	185	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72295

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: LSDS-13 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	145	141	139	151	131	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	176	175	187	176	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: LSDS-14 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	104	134	138	125	130	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	174	174	172	178	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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Date: 2022-06-01

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**72409**
Material(s) Tested:	(13) Heat Fusion Weld Seam(s) (2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	131	130	136	137	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	145	152	119	137	133	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	186	185	182	188	186	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	128	128	151	130	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	125	125	129	131	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	181	179	185	188	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	144	160	144	155	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	128	120	126	122	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	179	178	182	177	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	142	146	137	138	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	140	134	145	115	142	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	179	178	180	181	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	154	139	136	145	132	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	119	128	126	123	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	168	173	183	186	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	149	115	134	143	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	138	156	137	119	134	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	180	171	176	173	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	135	131	137	140	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	145	151	155	154	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	180	179	184	182	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	158	139	125	153	132	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	151	159	149	160	157	**155**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	185	179	187	183	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	134	134	141	144	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	150	149	127	121	121	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	176	178	179	181	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	139	133	131	133	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	136	134	131	161	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	183	180	180	181	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	133	130	137	137	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	142	145	154	154	138	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	186	185	183	184	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	153	142	140	143	139	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	150	125	125	124	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	180	181	184	184	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	140	142	135	127	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	139	135	134	144	134	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	182	176	177	177	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72409

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-14 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	134	127	125	119	122	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	176	173	174	176	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-15 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	137	125	140	136	141	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	163	163	164	164	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-04-20

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

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ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71466**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71466

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	151	149	129	131	126	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	143	145	138	143	146	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	181	175	175	175	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	150	148	152	150	**150**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	144	153	136	144	142	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	171	176	181	178	174	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71466

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	132	152	139	136	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	143	153	147	147	154	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	181	177	176	174	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	147	137	138	139	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	151	146	152	152	**150**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	173	174	178	179	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-04-21

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71494**
Material(s) Tested:	(6) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71494

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	148	145	159	160	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	127	127	152	127	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	173	176	179	180	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	143	143	143	141	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	127	126	128	136	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	169	175	174	180	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71494

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	153	134	136	143	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	144	129	143	137	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	184	180	180	181	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	134	136	146	135	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	130	125	130	125	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	176	175	179	180	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71494

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	143	135	145	134	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	137	134	135	132	135	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	176	149	154	172	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	137	139	140	143	142	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	128	131	130	134	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	178	176	178	178	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-04-22

Mail To:
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1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71526**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71526

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	139	145	143	135	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	128	130	133	128	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	169	173	178	172	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	135	134	132	136	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	133	133	135	130	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	168	181	181	175	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71526

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	164	147	140	145	136	**146**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	125	146	135	126	132	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	185	176	176	179	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	157	151	128	137	141	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	155	159	151	149	145	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	181	186	185	181	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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Date: 2022-04-26

Mail To:
Ravi Vemulapalli
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1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

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ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71590**
Material(s) Tested:	(11) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	136	139	136	135	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	137	136	129	130	132	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	184	175	184	179	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	149	149	149	143	155	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	126	123	168	124	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	187	185	177	179	182	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	137	139	138	141	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	132	126	152	122	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	175	175	179	173	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	139	136	146	137	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	132	140	139	139	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	175	174	172	177	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	161	154	150	138	140	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	150	137	127	134	140	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	186	178	169	167	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	156	127	127	125	128	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	132	142	133	133	139	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	179	185	185	180	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	139	136	135	141	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	151	147	155	153	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	181	183	182	185	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	136	137	144	137	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	125	127	162	126	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	180	152	169	183	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	153	140	139	144	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	138	156	140	140	136	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	184	171	182	178	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	144	142	155	155	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	135	134	128	132	134	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	189	175	181	184	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	125	133	147	121	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	126	131	146	125	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	178	170	187	177	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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Date: 2022-04-28

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71639**
Material(s) Tested:	(11) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	141	144	144	145	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	136	135	141	141	150	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	181	180	186	190	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	133	124	128	140	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	157	160	141	159	153	**154**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	188	186	178	181	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	130	127	131	126	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	132	140	138	133	127	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	187	180	180	181	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	150	161	143	151	**149**
Peel Incursion (%)	60	10	<5	<5	50	
Peel Locus Of Failure Code	AD-BRK	AD-BRK	SE	SE	AD-BRK	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	171	174	172	161	149	**165**
Peel Incursion (%)	<5	<5	<5	<5	10	
Peel Locus Of Failure Code	SE	SE	SE	SE	AD-BRK	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	191	180	178	185	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-30 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	136	136	127	141	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	123	127	132	128	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	188	187	180	181	183	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-31 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	148	136	140	141	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	150	154	120	122	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	187	181	180	183	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-32 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	133	129	126	123	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	126	127	124	126	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	185	185	176	180	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-33 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	134	130	130	129	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	126	132	138	132	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	171	177	183	188	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-34 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	116	131	131	118	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	137	133	125	140	148	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	181	178	185	187	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-35 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	142	133	132	133	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	124	122	125	130	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	182	180	186	189	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71639

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	118	121	119	119	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	120	126	125	121	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	181	180	186	189	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-04-29

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71684**
Material(s) Tested:	(8) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71684

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-37 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	126	134	128	132	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	121	126	142	123	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	180	175	177	182	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-38 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	150	146	150	153	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	126	121	125	125	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	182	184	177	176	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71684

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-39 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	137	56	134	131	104	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	140	135	134	138	139	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	176	173	182	169	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-40 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	156	146	155	159	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	138	131	156	142	154	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	194	181	179	183	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71684

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-41 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	132	134	138	135	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	138	133	144	147	150	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	185	177	180	180	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-42 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	159	143	144	133	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	118	124	123	137	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	186	179	180	175	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71684

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-43 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	122	123	124	125	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	121	132	121	133	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	173	178	186	175	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-44 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	165	129	152	163	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	135	155	148	135	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	175	180	177	178	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-02

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71711**
Material(s) Tested:	(8) Heat Fusion Weld Seam(s) (2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71711

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-29A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	154	148	144	155	147	**150**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	173	157	152	153	161	**159**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	174	173	178	174	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-29B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	145	161	147	163	154	**154**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	136	159	155	138	**148**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	174	178	176	181	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71711

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-47 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	135	132	131	137	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	146	133	148	128	129	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	172	175	182	175	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-48 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	137	126	116	142	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	130	136	136	124	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	176	185	179	177	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71711

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-49 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	159	133	129	128	160	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	162	149	131	142	132	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	188	182	177	180	180	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-50 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	143	148	151	160	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	151	119	145	140	124	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	180	177	179	177	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71711

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-51 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	143	143	153	134	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	135	136	131	129	132	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	187	182	179	182	182	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-52 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	150	128	134	143	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	157	146	163	156	164	**157**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	170	170	182	172	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71711

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-45 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	145	158	134	145	153	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	171	175	176	174	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-46 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	146	142	149	151	140	**146**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	178	181	173	175	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-05-05

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71804**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s) (2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71804

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-39A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	122	119	149	154	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	131	126	129	141	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	176	183	176	183	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-39B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	131	133	134	142	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	122	123	122	131	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	181	178	182	185	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71804

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CSDS-53 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	133	137	115	110	125	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	180	176	182	176	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CSDS-54 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	125	154	150	154	135	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	172	174	170	169	185	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-06

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71840**
Material(s) Tested:	(10) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71840

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	144	150	160	158	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	111	102	110	112	**111**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	177	183	179	179	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	150	144	143	137	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	147	159	146	127	154	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	157	166	169	178	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71840

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	151	143	140	149	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	128	110	146	115	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	183	168	168	172	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	135	136	140	139	134	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	147	154	123	154	147	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	161	170	172	175	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71840

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	139	133	142	152	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	108	109	111	118	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	176	178	174	181	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	141	139	159	140	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	142	142	143	128	142	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	176	173	173	178	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71840

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	120	123	123	122	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	109	113	110	116	113	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	175	171	173	172	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	142	153	139	159	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	103	143	122	153	158	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	173	174	178	172	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71840

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	131	135	128	134	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	124	138	123	135	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	175	178	178	189	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	129	141	131	136	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	121	127	128	129	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	173	180	181	179	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-05-10

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

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Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71881**
Material(s) Tested:	(12) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	149	146	162	154	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	129	128	142	134	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	181	176	185	174	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	140	141	142	151	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	126	129	146	135	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	187	181	185	189	183	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	149	142	144	140	148	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	150	127	135	127	131	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	185	180	180	185	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	137	145	146	149	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	119	123	117	123	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	180	177	182	187	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	151	151	126	145	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	150	169	158	160	149	**157**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	176	170	168	173	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	160	139	132	139	147	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	153	119	125	149	123	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	173	174	179	176	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	134	136	139	151	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	140	137	125	129	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	170	178	172	162	170	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	140	141	138	145	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	140	145	142	139	140	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	175	171	177	172	182	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	137	139	142	135	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	122	121	115	124	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	185	176	177	182	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	137	143	151	154	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	126	133	125	136	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	181	154	179	179	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71881

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	151	140	137	136	134	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	126	120	126	127	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	179	175	185	173	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	155	142	137	138	156	**146**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	138	129	126	141	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	171	172	172	180	177	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2022-05-13

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

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ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**71989**
Material(s) Tested:	(20) Heat Fusion Weld Seam(s) (3) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	143	136	149	156	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	132	151	136	164	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	178	187	181	187	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	144	143	141	138	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	160	153	146	148	155	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	177	178	184	180	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	161	144	159	156	133	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	129	128	133	132	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	180	179	180	179	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	145	151	139	143	145	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	131	131	129	125	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	183	184	181	181	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	144	140	146	142	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	133	127	135	160	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	183	182	180	184	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	150	145	147	145	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	133	120	134	125	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	181	180	185	186	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	150	141	155	166	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	156	164	149	155	139	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	187	187	184	183	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-30 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	176	167	176	124	130	**155**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	153	144	151	145	151	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	184	189	192	188	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-31 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	155	161	148	147	156	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	159	154	149	133	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	188	193	187	184	184	**187**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-32 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	149	140	135	138	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	145	128	134	149	135	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	183	186	178	181	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	162	134	151	141	**146**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	135	128	137	108	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	185	185	181	183	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-37 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	164	143	141	135	128	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	128	127	131	134	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	181	180	181	185	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-38 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	148	145	160	154	**150**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	131	129	130	132	134	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	182	186	182	184	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-39 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	154	159	149	151	154	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	134	143	135	131	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	180	179	180	181	181	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-40 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	137	171	130	161	125	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	150	140	146	149	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	187	186	184	187	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-41 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	145	144	143	142	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	141	138	135	149	148	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	179	180	179	181	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-42 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	158	164	146	142	155	**153**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	150	149	158	163	136	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	190	186	184	182	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-43 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	134	158	150	140	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	146	145	162	160	156	**154**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	181	185	180	184	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-44 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	157	167	158	156	160	**160**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	130	129	128	122	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	176	184	182	179	181	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-45 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	154	130	139	150	**142**
Peel Incursion (%)	30	25	20	25	<5	
Peel Locus Of Failure Code	AD-BRK	AD-BRK	AD-BRK	AD-BRK	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	136	144	140	143	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	180	178	181	180	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 71989

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-33 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	134	132	123	115	141	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	187	184	184	183	190	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-34 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	129	103	103	105	130	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	184	178	180	178	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-35 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	132	122	124	107	123	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	190	183	186	184	195	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-18

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
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Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**72084**
Material(s) Tested:	(13) Heat Fusion Weld Seam(s) (2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-45A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	181	161	167	163	**165**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	149	150	154	144	154	**150**
Peel Incursion (%)	<5	<5	<5	20	<5	
Peel Locus Of Failure Code	SE	SE	SE	AD-BRK	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	177	173	181	176	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-45B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	145	145	147	167	**146**
Peel Incursion (%)	20	<5	<5	<5	<5	
Peel Locus Of Failure Code	AD-BRK	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	174	167	160	160	168	**166**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	172	172	168	174	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-47 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	155	161	173	156	**158**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	174	156	164	164	167	**165**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	190	180	183	179	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-48 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	135	138	128	136	**134**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	130	134	130	133	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	188	186	166	183	183	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-49 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	137	130	139	135	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	153	155	139	131	129	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	184	176	179	183	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-50 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	141	144	133	137	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	144	145	151	144	150	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	180	175	181	176	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-51 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	157	144	134	150	134	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	135	138	132	131	131	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	183	183	176	179	188	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-52 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	129	156	158	138	**144**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	125	126	136	130	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	182	176	188	182	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-53 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	125	131	132	136	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	124	129	133	135	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	183	179	186	184	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-54 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	140	138	146	136	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	122	124	122	126	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	187	182	182	182	182	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-55 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	138	139	131	136	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	142	129	139	135	**136**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	181	178	186	183	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-56 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	161	159	153	144	151	**154**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	127	122	125	135	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	181	185	184	187	192	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-58 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	170	167	170	159	169	**167**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	152	150	164	144	151	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	184	194	186	186	199	**190**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72084

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-46 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	149	149	146	160	155	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	171	174	167	170	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-57 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	94	119	105	129	139	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	178	171	169	167	178	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

Date: 2022-05-25

Mail To:
Ravi Vemulapalli
High Roller - EPC NuBlu Energy
1008 Southview Circle
Center , TX , 75935

Bill To:

High Roller - EPC NuBlu Energy
22-SCS-NRL-01

e-mail:
ravi@hr-epc.com travis@hr-epc.com mbradford@scsengineers.com xavier@cqasolutions.co brent@cqasolutions.co

Dear Mr. Vemulapalli,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**North Ranch Landfill**
TRI Job Reference Number:	**72263**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Jarrett A. Nelson

Jarret Nelson
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72263

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-45A1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	158	161	154	144	143	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	141	159	136	143	148	**145**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	172	172	176	182	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CPDS-45B1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	163	158	155	159	159	**159**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	153	151	140	143	156	**149**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	164	159	161	166	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: High Roller - EPC NuBlu Energy
Project: North Ranch Landfill

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 72263

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CPDS-59 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	154	165	143	146	149	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	171	166	162	164	163	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

APPENDIX I:
CQA Field Records
Concrete Laboratory Test Data

BEYOND Engineering & Testing

www.BeyondET.com
West Texas
3011-B South County Road 1260
Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040A
PDF ID: 0514.7040A-CON

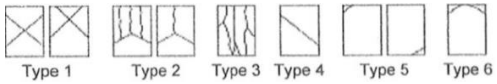
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 30' E and 10' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1125	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	43,870	3,490	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,890	3,810	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	52,190	4,150	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	54,140	4,310	VM
E	Air	3	28	6/11	4.00	12.57	58,360	4,640	VM
	CYLINDER SIZE: 4 **X** 8					**28 Day Compressive Strength Average:**		**4,480**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:58 AM	**ACCUMULATED YARDS:**	10.0	**AMBIENT TEMP:**	50 °F
SLUMP:	4.50"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	52 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507652	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

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West Texas
3011-B South County Road 1260
Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040B
PDF ID: 0514.7040B-CON

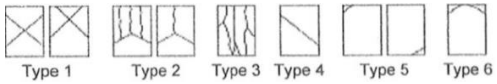
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 50' E and 5' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1126	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	41,080	3,270	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	45,390	3,610	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	51,990	4,140	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	52,120	4,150	VM
E	Air	2	28	6/11	4.00	12.57	56,380	4,490	VM
	CYLINDER SIZE: 4 **X** 8						**28 Day Compressive Strength Average:**	**4,320**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:20 AM	**ACCUMULATED YARDS:**	80.0	**AMBIENT TEMP:**	60 °F
SLUMP:	6.50"	**TRUCK NO.:**	35	**CONCRETE TEMP:**	52 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	507659	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040C
PDF ID: 0514.7040C-CON

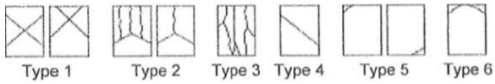
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 60' E and 20' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1127	PRODUCER:								
A	NM Ready Mix	3	3	5/17	4.00	12.57	45,070	3,590	SS
B	MIX ID:	3	7	5/21	4.00	12.57	47,880	3,810	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	53,650	4,270	DN
D	ADMIXTURE:	3	28	6/11	4.00	12.57	55,690	4,430	VM
E	Air	3	28	6/11	4.00	12.57	60,750	4,830	VM
	CYLINDER SIZE: 4 X 8						28 Day Compressive Strength Average:	4,630	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): 4,000

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:13 AM	**ACCUMULATED YARDS:**	150.0	**AMBIENT TEMP:**	47 °F
SLUMP:	5.50"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	50 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507666	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040D
PDF ID: 0514.7040D-CON

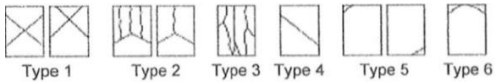
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 40' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1128	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	43,860	3,490	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	45,530	3,620	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	56,240	4,480	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	58,800	4,680	VM
E	Air	3	28	6/11	4.00	12.57	53,720	4,270	VM
	CYLINDER SIZE: 4 **X** 8						**28 Day Compressive Strength Average:**	**4,480**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	5:20 AM	**ACCUMULATED YARDS:**	200.0	**AMBIENT TEMP:**	60 °F
SLUMP:	5.25"	**TRUCK NO.:**	36	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	5.5%	**TICKET NO.:**	507671	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
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Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040E
PDF ID: 0514.7040E-CON

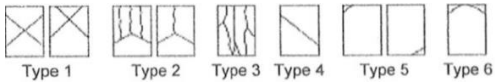
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 70' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1129	PRODUCER:								
A	NM Ready Mix	3	3	5/17	4.00	12.57	47,650	3,790	SS
B	MIX ID:	3	7	5/21	4.00	12.57	52,320	4,160	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	56,750	4,520	DN
D	ADMIXTURE:	3	28	6/11	4.00	12.57	59,120	4,700	VM
E	Air	3	28	6/11	4.00	12.57	58,050	4,620	VM
	CYLINDER SIZE: 4 X 8						28 Day Compressive Strength Average:	4,660	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): 4,000

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	6:00 AM	**ACCUMULATED YARDS:**	250.0	**AMBIENT TEMP:**	63 °F
SLUMP:	5.50"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	5.0%	**TICKET NO.:**	507675	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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PROJECT: North Ranch
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PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040F
PDF ID: 0514.7040F-CON

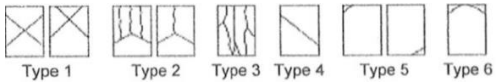
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 100' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1130	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	40,360	3,210	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,920	3,420	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	49,710	3,960	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	50,300	4,000	VM
E	Air	3	28	6/11	4.00	12.57	49,660	3,950	VM
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**3,980**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:00 AM	**ACCUMULATED YARDS:**	300.0	**AMBIENT TEMP:**	63 °F
SLUMP:	5.00"	**TRUCK NO.:**	31	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	4.4%	**TICKET NO.:**	507678	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040G
PDF ID: 0514.7040G-CON

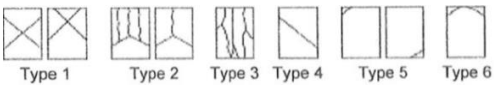
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 20' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1131	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,120	3,030	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,760	3,400	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	49,430	3,930	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	51,330	4,080	VM
E	Air	3	28	6/11	4.00	12.57	50,550	4,020	VM
	CYLINDER SIZE: 4 **X** 8						**28 Day Compressive Strength Average:**	**4,050**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:49 AM	**ACCUMULATED YARDS:**	350.0	**AMBIENT TEMP:**	70 °F
SLUMP:	4.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	69 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507683	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040H
PDF ID: 0514.7040H-CON

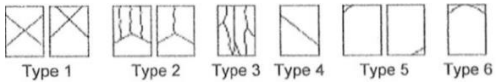
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Pad Slab, 40' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1132	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,560	3,070	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	44,340	3,530	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,350	3,690	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	51,980	4,140	VM
E	Air	3	28	6/11	4.00	12.57	51,130	4,070	VM
	CYLINDER SIZE: 4 **X** 8						**28 Day Compressive Strength Average:**	**4,110**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	8:08 AM	**ACCUMULATED YARDS:**	400.0	**AMBIENT TEMP:**	69 °F
SLUMP:	5.75"	**TRUCK NO.:**	31	**CONCRETE TEMP:**	65 °F
AIR CONTENT:	4.0%	**TICKET NO.:**	507688	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
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PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040I
PDF ID: 0514.7040I-CON

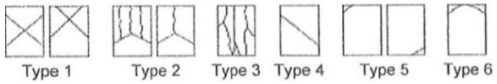
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 50' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1133	PRODUCER:								
A	NM Ready Mix	3	3	5/17	4.00	12.57	39,430	3,140	SS
B	MIX ID:	3	7	5/21	4.00	12.57	42,850	3,410	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	44,460	3,540	DN
D	ADMIXTURE:	3	28	6/11	4.00	12.57	48,100	3,830	VM
E	Air		56	7/9					
	CYLINDER SIZE: 4 X 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	8:48 AM	**ACCUMULATED YARDS:**	450.0	**AMBIENT TEMP:**	70 °F
SLUMP:	5.75"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	65 °F
AIR CONTENT:	4.9%	**TICKET NO.:**	507693	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040J
PDF ID: 0514.7040J-CON

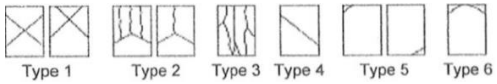
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 100' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1134	**PRODUCER:**								
A	NM Ready Mix	2	3	5/17	4.00	12.57	38,580	3,070	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,020	3,740	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	47,340	3,770	DN
D	**ADMIXTURE:**		28	6/11	4.00	12.57	49,470	3,940	VM
E	4,000 PSI Mix w/Air		56	7/9					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	9:59 AM	**ACCUMULATED YARDS:**	500.0	**AMBIENT TEMP:**	72 °F
SLUMP:	4.75"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	70 °F
AIR CONTENT:	3.8%	**TICKET NO.:**	507697	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040K
PDF ID: 0514.7040K-CON

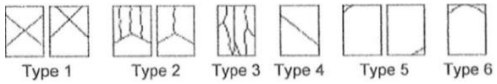
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 70' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1135	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,120	3,030	SS
B	**MIX ID:**	2	7	5/21	4.00	12.57	40,570	3,230	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,060	3,670	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	11:41 AM	**ACCUMULATED YARDS:**	550.0	**AMBIENT TEMP:**	72 °F
SLUMP:	4.50"	**TRUCK NO.:**	13	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	5.2%	**TICKET NO.:**	507702	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040L
PDF ID: 0514.7040L-CON

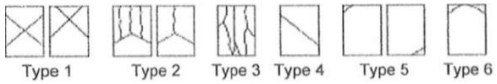
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 180' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1136	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	36,790	2,930	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	41,080	3,270	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	45,590	3,630	DN
D	**ADMIXTURE:**		28	6/11	4.00	12.57	41,320	3,290	VM
E	Air		56	7/9					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	12:50 PM	**ACCUMULATED YARDS:**	600.0	**AMBIENT TEMP:**	90 °F
SLUMP:	6.50"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	4.7%	**TICKET NO.:**	507707	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040M
PDF ID: 0514.7040M-CON

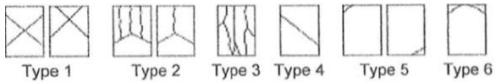
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1137	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,110	3,030	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	39,990	3,180	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,400	3,690	DN
D	**ADMIXTURE:**		28	6/11	4.00	12.57	47,960	3,820	VM
E	Air		56	7/9					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:10 PM	**ACCUMULATED YARDS:**	650.0	**AMBIENT TEMP:**	91 °F
SLUMP:	5.25"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	89 °F
AIR CONTENT:	3.9%	**TICKET NO.:**	507713	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 17, 2022
REPORT NO.: 202047.0514.7040N
PDF ID: 0514.7040N-CON

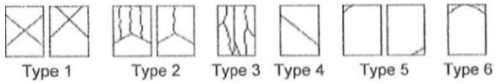
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 190' E and 70' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1138	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	36,930	2,940	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	44,200	3,520	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	47,010	3,740	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	51,030	4,060	VM
E	Air	3	28	6/11	4.00	12.57	49,000	3,900	VM
	CYLINDER SIZE: 4 **X** 8						**28 Day Compressive Strength Average:**	**3,980**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:47 PM	**ACCUMULATED YARDS:**	700.0	**AMBIENT TEMP:**	92 °F
SLUMP:	5.50"	**TRUCK NO.:**	43	**CONCRETE TEMP:**	84 °F
AIR CONTENT:	4.1%	**TICKET NO.:**	507719	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232A
PDF ID: 0521.7232A-CON

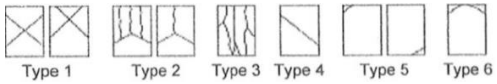
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1259	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,530	4,180	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	54,780	4,360	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	57,440	4,570	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:30 AM	**ACCUMULATED YARDS:**	30.0	**AMBIENT TEMP:**	60 °F
SLUMP:	5.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	4.1%	**TICKET NO.:**	507799	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232B
PDF ID: 0521.7232B-CON

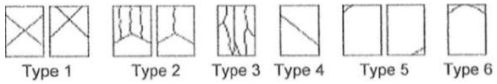
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 20' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1260	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,460	4,490	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	59,970	4,770	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	61,430	4,890	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:15 AM	**ACCUMULATED YARDS:**	60.0	**AMBIENT TEMP:**	60 °F
SLUMP:	2.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507802	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

www.BeyondET.com
West Texas
3011-B South County Road 1260
Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232C
PDF ID: 0521.7232C-CON

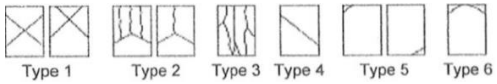
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1261	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	54,830	4,360	SS
B	**MIX ID:**	2	10	5/31	4.00	12.57	62,530	4,980	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	59,150	4,710	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:40 AM	**ACCUMULATED YARDS:**	110.0	**AMBIENT TEMP:**	62 °F
SLUMP:	5.00"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	85 °F
AIR CONTENT:	4.5%	**TICKET NO.:**	507807	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232D
PDF ID: 0521.7232D-CON

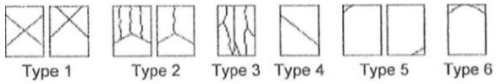
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 60' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1262	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,100	4,460	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	69,520	5,530	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	66,610	5,300	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:30 AM	**ACCUMULATED YARDS:**	170.0	**AMBIENT TEMP:**	65 °F
SLUMP:	3.75"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	83 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507813	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232E
PDF ID: 0521.7232E-CON

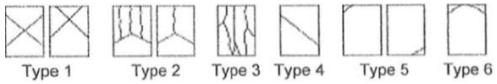
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1263	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,730	4,590	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	65,600	5,220	DN
C	4,000 AEAC	2	14	6/4	4.00	12.57	66,290	5,280	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:00 AM	**ACCUMULATED YARDS:**	210.0	**AMBIENT TEMP:**	65 °F
SLUMP:	4.75"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	87 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507817	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232F
PDF ID: 0521.7232F-CON

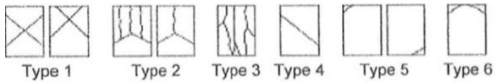
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1264	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	54,410	4,330	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,840	4,680	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	60,750	4,830	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:50 AM	**ACCUMULATED YARDS:**	250.0	**AMBIENT TEMP:**	66 °F
SLUMP:	6.50"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507821	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232G
PDF ID: 0521.7232G-CON

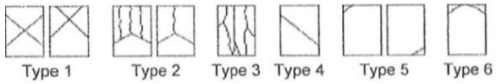
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: Middle of slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1265	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	59,760	4,760	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	68,000	5,410	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	69,330	5,520	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Windy
TIME OF FIELD TEST:	6:40 AM	**ACCUMULATED YARDS:**	310.0	**AMBIENT TEMP:**	68 °F
SLUMP:	2.50"	**TRUCK NO.:**	12	**CONCRETE TEMP:**	90 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507827	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232H
PDF ID: 0521.7232H-CON

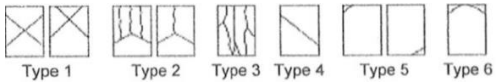
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' W from Center of Pad

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1266	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,670	4,590	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	66,880	5,320	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	64,810	5,160	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Windy
TIME OF FIELD TEST:	7:20 AM	**ACCUMULATED YARDS:**	360.0	**AMBIENT TEMP:**	68 °F
SLUMP:	3.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	81 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507832	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232I
PDF ID: 0521.7232I-CON

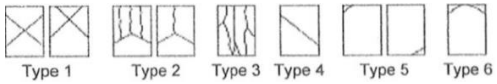
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1267	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	47,090	3,750	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	52,210	4,150	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	61,100	4,860	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:15 AM	**ACCUMULATED YARDS:**	420.0	**AMBIENT TEMP:**	68 °F
SLUMP:	5.00"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	74 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507838	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232J
PDF ID: 0521.7232J-CON

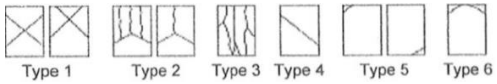
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1268	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,720	4,200	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,900	4,690	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	62,930	5,010	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:40 AM	**ACCUMULATED YARDS:**	470	**AMBIENT TEMP:**	70 °F
SLUMP:	4.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	76 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507843	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

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West Texas
3011-B South County Road 1260
Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232K
PDF ID: 0521.7232K-CON

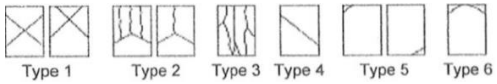
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 100' N and 80' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1269	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	38,990	3,100	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	47,020	3,740	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	51,330	4,080	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Windy
TIME OF FIELD TEST:	9:15 AM	**ACCUMULATED YARDS:**	510	**AMBIENT TEMP:**	70 °F
SLUMP:	7.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507847	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232L
PDF ID: 0521.7232L-CON

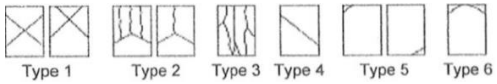
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 10' N and 10' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1270	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	43,780	3,480	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	51,620	4,110	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	54,070	4,300	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	10:30 AM	**ACCUMULATED YARDS:**	560	**AMBIENT TEMP:**	70 °F
SLUMP:	5.50"	**TRUCK NO.:**	11	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507852	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232M
PDF ID: 0521.7232M-CON

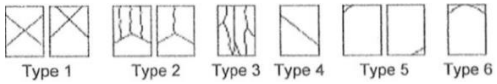
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: 20' N and 45' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1271	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	44,300	3,530	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	53,290	4,240	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	53,520	4,260	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	11:15 AM	**ACCUMULATED YARDS:**	610	**AMBIENT TEMP:**	72 °F
SLUMP:	5.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	507857	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 8, 2022
REPORT NO.: 202047.0521.7232N
PDF ID: 0521.7232N-CON

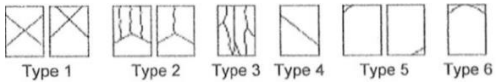
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 25' N and 85' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1272	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	39,520	3,140	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	50,770	4,040	DN
C	4,000 AEAC	2	14	6/4	4.00	12.57	51,370	4,090	VM
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	12:30 PM	**ACCUMULATED YARDS:**	660	**AMBIENT TEMP:**	75 °F
SLUMP:	5.00"	**TRUCK NO.:**	23	**CONCRETE TEMP:**	82 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507862	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

SCS ENGINEERS Environmental Consultants & Contractors

June 3, 2022
File No. 01222034.00 / Task 2

MEMORANDUM

TO: High Roller EPC

FROM: Michael Bradford, P.E.

SUBJECT: North Ranch Landfill – Cell E-1 and Supporting Infrastructure Construction

Response to Construction Material Submittal #30 – Beyond Engineering and Testing Results for Concrete at East and West Drying Pads

Requested Date: June 2, 2022

Information Requested:

Review and Approval for Concrete Cylinder Testing Results from Beyond Engineering and Testing for East and West Drying Pads.

SCS Response:

Structural Engineer of Record has reviewed the attached concrete testing results and has made the following comments:

1. Samples associated with Reports #202047.0514.740 A-F, have met the specified strength requirements as of the break of the third cylinder sample. No further cylinder breaks are necessary

2. Samples associated with Reports #202047.0514.740 G-N, have not yet met the specified strength requirements as of the break of the third cylinder sample. Further cylinder breaks are required. Lab is to break 1 more cylinder from each sample set at 28-days and if necessary the final cylinder at 52 days.

3. Samples associated with Reports #202047.0514.723 A-J, and L -N, have met the specified strength requirements as of the break of the third cylinder sample. No further cylinder breaks are necessary

4. Samples associated with Report #202047.0514.723 K , has not yet met the specified strength requirements as of the break of the third cylinder sample. Further cylinder breaks are required. Lab is to break 1 more cylinder from each sample set at 28-days and if necessary the final cylinder at 52 days.

BEYOND Engineering & Testing

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Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040A
PDF ID: 0514.7040A-CON

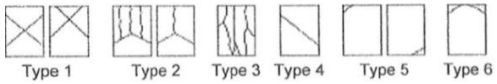
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 30' E and 10' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1125	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	43,870	3,490	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,890	3,810	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	52,190	4,150	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:58 AM	**ACCUMULATED YARDS:**	10.0	**AMBIENT TEMP:**	50 °F
SLUMP:	4.50"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	52 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507652	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040B
PDF ID: 0514.7040B-CON

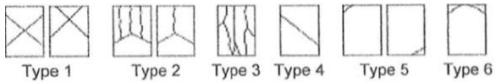
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 50' E and 5' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1126	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	41,080	3,270	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	45,390	3,610	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	51,990	4,140	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:20 AM	**ACCUMULATED YARDS:**	80.0	**AMBIENT TEMP:**	60 °F
SLUMP:	6.50"	**TRUCK NO.:**	35	**CONCRETE TEMP:**	52 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	507659	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040C
PDF ID: 0514.7040C-CON

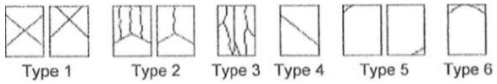
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 60' E and 20' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1127	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	45,070	3,590	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,880	3,810	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	53,650	4,270	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:13 AM	**ACCUMULATED YARDS:**	150.0	**AMBIENT TEMP:**	47 °F
SLUMP:	5.50"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	50 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507666	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040D
PDF ID: 0514.7040D-CON

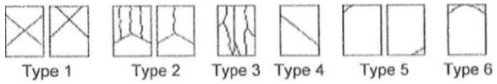
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 40' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1128	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	43,860	3,490	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	45,530	3,620	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	56,240	4,480	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	5:20 AM	**ACCUMULATED YARDS:**	200.0	**AMBIENT TEMP:**	60 °F
SLUMP:	5.25"	**TRUCK NO.:**	36	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	5.5%	**TICKET NO.:**	507671	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040E
PDF ID: 0514.7040E-CON

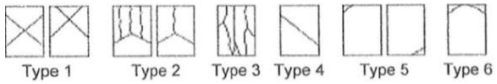
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 70' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1129	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	47,650	3,790	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	52,320	4,160	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	56,750	4,520	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	6:00 AM	**ACCUMULATED YARDS:**	250.0	**AMBIENT TEMP:**	63 °F
SLUMP:	5.50"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	5.0%	**TICKET NO.:**	507675	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040F
PDF ID: 0514.7040F-CON

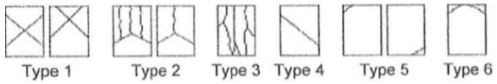
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 100' E and 35' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1130	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	40,360	3,210	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,920	3,420	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	49,710	3,960	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:00 AM	**ACCUMULATED YARDS:**	300.0	**AMBIENT TEMP:**	63 °F
SLUMP:	5.00"	**TRUCK NO.:**	31	**CONCRETE TEMP:**	59 °F
AIR CONTENT:	4.4%	**TICKET NO.:**	507678	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040G
PDF ID: 0514.7040G-CON

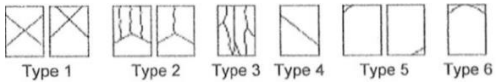
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 20' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1131	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,120	3,030	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,760	3,400	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	49,430	3,930	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:49 AM	**ACCUMULATED YARDS:**	350.0	**AMBIENT TEMP:**	70 °F
SLUMP:	4.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	69 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507683	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040H
PDF ID: 0514.7040H-CON

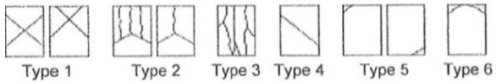
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Pad Slab, 40' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1132	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,560	3,070	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	44,340	3,530	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,350	3,690	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	8:08 AM	**ACCUMULATED YARDS:**	400.0	**AMBIENT TEMP:**	69 °F
SLUMP:	5.75"	**TRUCK NO.:**	31	**CONCRETE TEMP:**	65 °F
AIR CONTENT:	4.0%	**TICKET NO.:**	507688	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040I
PDF ID: 0514.7040I-CON

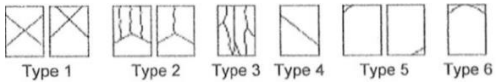
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 50' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1133	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	39,430	3,140	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,850	3,410	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	44,460	3,540	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	8:48 AM	**ACCUMULATED YARDS:**	450.0	**AMBIENT TEMP:**	70 °F
SLUMP:	5.75"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	65 °F
AIR CONTENT:	4.9%	**TICKET NO.:**	507693	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040J
PDF ID: 0514.7040J-CON

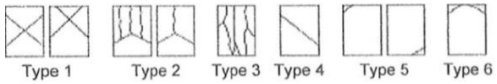
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 100' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1134	**PRODUCER:**								
A	NM Ready Mix	2	3	5/17	4.00	12.57	38,580	3,070	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,020	3,740	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	47,340	3,770	DN
D	**ADMIXTURE:**		28	6/11					
E	4,000 PSI Mix w/Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	9:59 AM	**ACCUMULATED YARDS:**	500.0	**AMBIENT TEMP:**	72 °F
SLUMP:	4.75"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	70 °F
AIR CONTENT:	3.8%	**TICKET NO.:**	507697	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

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West Texas
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Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040K
PDF ID: 0514.7040K-CON

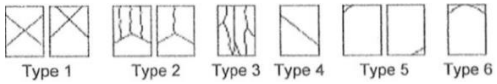
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 70' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1135	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,120	3,030	SS
B	**MIX ID:**	2	7	5/21	4.00	12.57	40,570	3,230	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,060	3,670	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	11:41 AM	**ACCUMULATED YARDS:**	550.0	**AMBIENT TEMP:**	72 °F
SLUMP:	4.50"	**TRUCK NO.:**	13	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	5.2%	**TICKET NO.:**	507702	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040L
PDF ID: 0514.7040L-CON

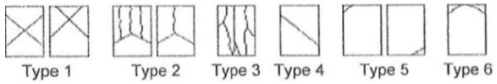
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 180' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1136	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	36,790	2,930	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	41,080	3,270	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	45,590	3,630	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	12:50 PM	**ACCUMULATED YARDS:**	600.0	**AMBIENT TEMP:**	90 °F
SLUMP:	6.50"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	4.7%	**TICKET NO.:**	507707	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040M
PDF ID: 0514.7040M-CON

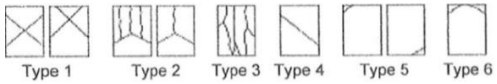
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1137	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,110	3,030	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	39,990	3,180	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,400	3,690	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:10 PM	**ACCUMULATED YARDS:**	650.0	**AMBIENT TEMP:**	91 °F
SLUMP:	5.25"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	89 °F
AIR CONTENT:	3.9%	**TICKET NO.:**	507713	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0514.7040N
PDF ID: 0514.7040N-CON

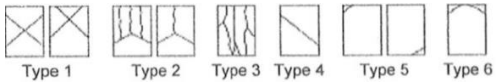
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 190' E and 70' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1138	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	36,930	2,940	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	44,200	3,520	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	47,010	3,740	DN
D	**ADMIXTURE:**		28	6/11					
E	Air		28	6/11					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:47 PM	**ACCUMULATED YARDS:**	700.0	**AMBIENT TEMP:**	92 °F
SLUMP:	5.50"	**TRUCK NO.:**	43	**CONCRETE TEMP:**	84 °F
AIR CONTENT:	4.1%	**TICKET NO.:**	507719	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232A
PDF ID: 0521.7232A-CON

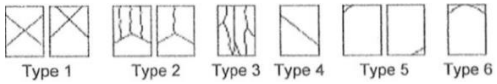
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1259	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,530	4,180	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	54,780	4,360	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:30 AM	**ACCUMULATED YARDS:**	30.0	**AMBIENT TEMP:**	60 °F
SLUMP:	5.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	4.1%	**TICKET NO.:**	507799	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232B
PDF ID: 0521.7232B-CON

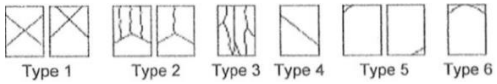
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 20' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1260	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,460	4,490	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	59,970	4,770	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:15 AM	**ACCUMULATED YARDS:**	60.0	**AMBIENT TEMP:**	60 °F
SLUMP:	2.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507802	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232C
PDF ID: 0521.7232C-CON

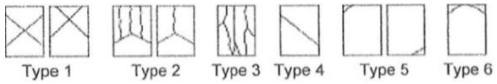
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1261	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	54,830	4,360	SS
B	**MIX ID:**	2	10	5/31	4.00	12.57	62,530	4,980	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:40 AM	**ACCUMULATED YARDS:**	110.0	**AMBIENT TEMP:**	62 °F
SLUMP:	5.00"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	85 °F
AIR CONTENT:	4.5%	**TICKET NO.:**	507807	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232D
PDF ID: 0521.7232D-CON

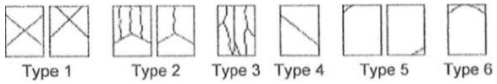
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 60' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1262	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,100	4,460	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	69,520	5,530	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:30 AM	**ACCUMULATED YARDS:**	170.0	**AMBIENT TEMP:**	65 °F
SLUMP:	3.75"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	83 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507813	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

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Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232E
PDF ID: 0521.7232E-CON

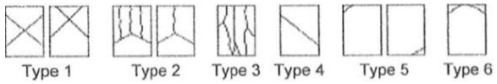
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1263	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,730	4,590	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	65,600	5,220	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:00 AM	**ACCUMULATED YARDS:**	210.0	**AMBIENT TEMP:**	65 °F
SLUMP:	4.75"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	87 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507817	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232F
PDF ID: 0521.7232F-CON

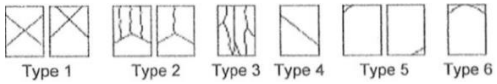
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1264	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	54,410	4,330	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,840	4,680	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:50 AM	**ACCUMULATED YARDS:**	250.0	**AMBIENT TEMP:**	66 °F
SLUMP:	6.50"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507821	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232G
PDF ID: 0521.7232G-CON

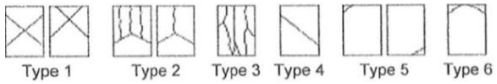
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: Middle of slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1265	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	59,760	4,760	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	68,000	5,410	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Windy
TIME OF FIELD TEST:	6:40 AM	**ACCUMULATED YARDS:**	310.0	**AMBIENT TEMP:**	68 °F
SLUMP:	2.50"	**TRUCK NO.:**	12	**CONCRETE TEMP:**	90 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507827	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232H
PDF ID: 0521.7232H-CON

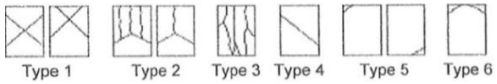
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' W from Center of Pad

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1266	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,670	4,590	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	66,880	5,320	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Windy
TIME OF FIELD TEST:	7:20 AM	**ACCUMULATED YARDS:**	360.0	**AMBIENT TEMP:**	68 °F
SLUMP:	3.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	81 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507832	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232I
PDF ID: 0521.7232I-CON

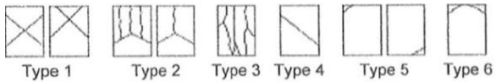
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1267	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	47,090	3,750	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	52,210	4,150	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:15 AM	**ACCUMULATED YARDS:**	420.0	**AMBIENT TEMP:**	68 °F
SLUMP:	5.00"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	74 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507838	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232J
PDF ID: 0521.7232J-CON

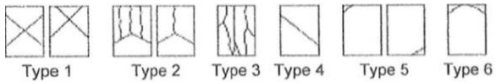
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1268	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,720	4,200	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,900	4,690	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:40 AM	**ACCUMULATED YARDS:**	470	**AMBIENT TEMP:**	70 °F
SLUMP:	4.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	76 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507843	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232K
PDF ID: 0521.7232K-CON

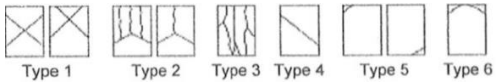
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 100' N and 80' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1269	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	38,990	3,100	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	47,020	3,740	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Windy
TIME OF FIELD TEST:	9:15 AM	**ACCUMULATED YARDS:**	510	**AMBIENT TEMP:**	70 °F
SLUMP:	7.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507847	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232L
PDF ID: 0521.7232L-CON

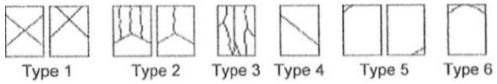
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 10' N and 10' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1270	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	43,780	3,480	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	51,620	4,110	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	10:30 AM	**ACCUMULATED YARDS:**	560	**AMBIENT TEMP:**	70 °F
SLUMP:	5.50"	**TRUCK NO.:**	11	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507852	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232M
PDF ID: 0521.7232M-CON

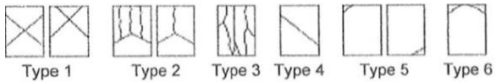
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: 20' N and 45' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1271	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	44,300	3,530	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	53,290	4,240	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	11:15 AM	**ACCUMULATED YARDS:**	610	**AMBIENT TEMP:**	72 °F
SLUMP:	5.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	507857	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 2, 2022
REPORT NO.: 202047.0521.7232N
PDF ID: 0521.7232N-CON

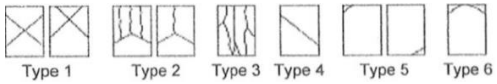
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 25' N and 85' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1272	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	39,520	3,140	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	50,770	4,040	DN
C	4,000 AEAC		14	6/4					
D	**ADMIXTURE:**		28	6/18					
	Air								
	CYLINDER SIZE:								
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	12:30 PM	**ACCUMULATED YARDS:**	660	**AMBIENT TEMP:**	75 °F
SLUMP:	5.00"	**TRUCK NO.:**	23	**CONCRETE TEMP:**	82 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507862	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: July 12, 2022
REPORT NO.: 202047.0514.7040I
PDF ID: 0514.7040I-CON

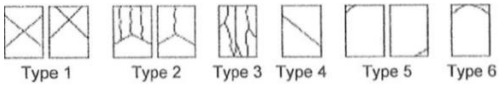
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 50' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1133	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	39,430	3,140	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	42,850	3,410	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	44,460	3,540	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	48,100	3,830	VM
E	Air	3	56	7/9	4.00	12.57	53,630	4,270	SS
	CYLINDER SIZE:								
	4 **X** 8						**56 Day Compressive Strength Average:**	**4,270**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	8:48 AM	**ACCUMULATED YARDS:**	450.0	**AMBIENT TEMP:**	70 °F
SLUMP:	5.75"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	65 °F
AIR CONTENT:	4.9%	**TICKET NO.:**	507693	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: July 12, 2022
REPORT NO.: 202047.0514.7040J
PDF ID: 0514.7040J-CON

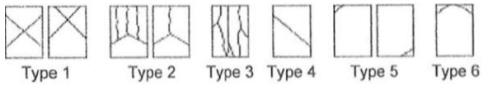
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 100' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1134	**PRODUCER:**								
A	NM Ready Mix	2	3	5/17	4.00	12.57	38,580	3,070	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	47,020	3,740	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	47,340	3,770	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	49,470	3,940	VM
E	4,000 PSI Mix w/Air	3	56	7/9	4.00	12.57	54,530	4,340	SS
	CYLINDER SIZE:								
	4 **X** 8						**56 Day Compressive Strength Average:**	**4,340**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	9:59 AM	**ACCUMULATED YARDS:**	500.0	**AMBIENT TEMP:**	72 °F
SLUMP:	4.75"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	70 °F
AIR CONTENT:	3.8%	**TICKET NO.:**	507697	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: July 12, 2022
REPORT NO.: 202047.0514.7040L
PDF ID: 0514.7040L-CON

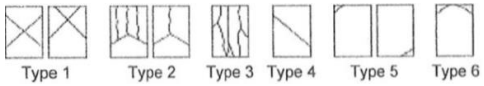
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 180' E and 50' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1136	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	36,790	2,930	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	41,080	3,270	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	45,590	3,630	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	41,320	3,290	VM
E	Air	3	56	7/9	4.00	12.57	53,290	4,240	SS
	CYLINDER SIZE:								
	4 **X** 8						**56 Day Compressive Strength Average:**	**4,240**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	12:50 PM	**ACCUMULATED YARDS:**	600.0	**AMBIENT TEMP:**	90 °F
SLUMP:	6.50"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	4.7%	**TICKET NO.:**	507707	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: J. Garcia/A. Curiel

DATE ISSUED: July 12, 2022
REPORT NO.: 202047.0514.7040M
PDF ID: 0514.7040M-CON

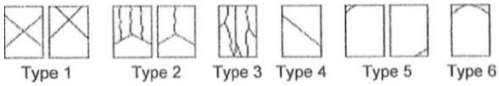
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Concrete Foundation; Drying Pit Slab, 150' E and 60' N from SW Corner of Slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1137	**PRODUCER:**								
A	NM Ready Mix	3	3	5/17	4.00	12.57	38,110	3,030	SS
B	**MIX ID:**	3	7	5/21	4.00	12.57	39,990	3,180	SS
C	4,000 AEAC	3	17	5/31	4.00	12.57	46,400	3,690	DN
D	**ADMIXTURE:**	3	28	6/11	4.00	12.57	47,960	3,820	VM
E	Air	3	56	7/9	4.00	12.57	48,230	3,840	SS
	CYLINDER SIZE:								
	4 **X** 8						**56 Day Compressive Strength Average:**	**3,840**	

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/14/2022	**WATER ADDED (gal):**	-	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:10 PM	**ACCUMULATED YARDS:**	650.0	**AMBIENT TEMP:**	91 °F
SLUMP:	5.25"	**TRUCK NO.:**	5	**CONCRETE TEMP:**	89 °F
AIR CONTENT:	3.9%	**TICKET NO.:**	507713	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232A
PDF ID: 0521.7232A-CON

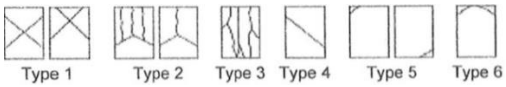
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1259	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,530	4,180	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	54,780	4,360	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	57,440	4,570	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	61,910	4,930	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**4,930**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	2:30 AM	**ACCUMULATED YARDS:**	30.0	**AMBIENT TEMP:**	60 °F
SLUMP:	5.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	4.1%	**TICKET NO.:**	507799	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232B
PDF ID: 0521.7232B-CON

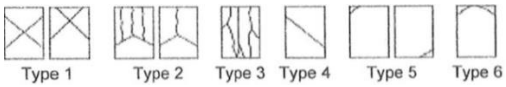
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 20' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1260	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,460	4,490	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	59,970	4,770	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	61,430	4,890	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	68,450	5,450	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,450**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:15 AM	**ACCUMULATED YARDS:**	60.0	**AMBIENT TEMP:**	60 °F
SLUMP:	2.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507802	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232C
PDF ID: 0521.7232C-CON

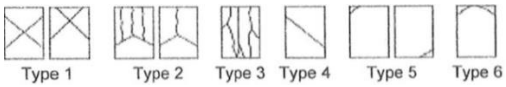
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1261	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	54,830	4,360	SS
B	**MIX ID:**	2	10	5/31	4.00	12.57	62,530	4,980	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	59,150	4,710	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	64,560	5,140	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,140**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Clear
TIME OF FIELD TEST:	3:40 AM	**ACCUMULATED YARDS:**	110.0	**AMBIENT TEMP:**	62 °F
SLUMP:	5.00"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	85 °F
AIR CONTENT:	4.5%	**TICKET NO.:**	507807	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:	1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232D
PDF ID: 0521.7232D-CON

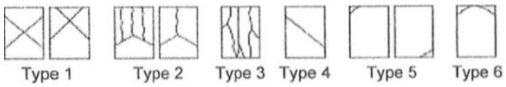
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 60' E from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1262	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	56,100	4,460	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	69,520	5,530	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	66,610	5,300	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	71,820	5,720	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,720**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:30 AM	**ACCUMULATED YARDS:**	170.0	**AMBIENT TEMP:**	65 °F
SLUMP:	3.75"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	83 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507813	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232E
PDF ID: 0521.7232E-CON

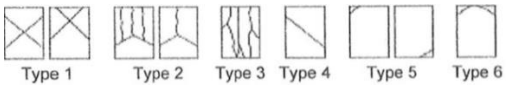
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1263	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,730	4,590	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	65,600	5,220	DN
C	4,000 AEAC	2	14	6/4	4.00	12.57	66,290	5,280	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	71,140	5,660	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,660**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:00 AM	**ACCUMULATED YARDS:**	210.0	**AMBIENT TEMP:**	65 °F
SLUMP:	4.75"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	87 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507817	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232F
PDF ID: 0521.7232F-CON

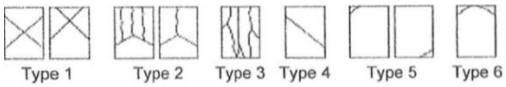
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1264	**PRODUCER:**								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	54,410	4,330	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,840	4,680	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	60,750	4,830	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	68,650	5,460	SS
	Air								
	CYLINDER SIZE:						**28 Day Compressive Strength Average:**	**5,460**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	5:50 AM	**ACCUMULATED YARDS:**	250.0	**AMBIENT TEMP:**	66 °F
SLUMP:	6.50"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	88 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	507821	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232G
PDF ID: 0521.7232G-CON

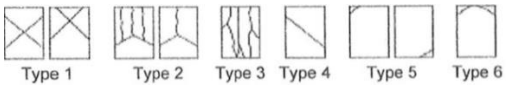
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: Middle of slab

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1265	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	59,760	4,760	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	68,000	5,410	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	69,330	5,520	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	77,410	6,160	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**6,160**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	30	**WEATHER:**	Windy
TIME OF FIELD TEST:	6:40 AM	**ACCUMULATED YARDS:**	310.0	**AMBIENT TEMP:**	68 °F
SLUMP:	2.50"	**TRUCK NO.:**	12	**CONCRETE TEMP:**	90 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507827	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232H
PDF ID: 0521.7232H-CON

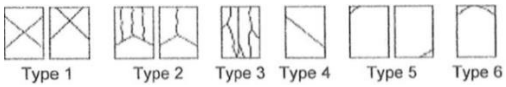
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' W from Center of Pad

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1266	PRODUCER:								
A	Lea County Ready Mix	2	3	5/24	4.00	12.57	57,670	4,590	SS
B	MIX ID:	3	10	5/31	4.00	12.57	66,880	5,320	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	64,810	5,160	VM
D	ADMIXTURE:	3	28	6/18	4.00	12.57	75,360	6,000	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**6,000**	
	4 X 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	20	**WEATHER:**	Windy
TIME OF FIELD TEST:	7:20 AM	**ACCUMULATED YARDS:**	360.0	**AMBIENT TEMP:**	68 °F
SLUMP:	3.00"	**TRUCK NO.:**	33	**CONCRETE TEMP:**	81 °F
AIR CONTENT:	3.2%	**TICKET NO.:**	507832	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232I
PDF ID: 0521.7232I-CON

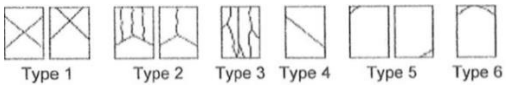
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 40' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1267	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	47,090	3,750	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	52,210	4,150	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	61,100	4,860	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	63,560	5,060	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,060**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:15 AM	**ACCUMULATED YARDS:**	420.0	**AMBIENT TEMP:**	68 °F
SLUMP:	5.00"	**TRUCK NO.:**	34	**CONCRETE TEMP:**	74 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507838	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232J
PDF ID: 0521.7232J-CON

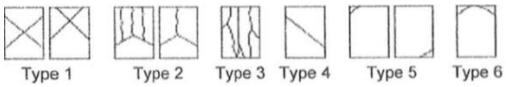
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 80' N and 40' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1268	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	52,720	4,200	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	58,900	4,690	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	62,930	5,010	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	68,560	5,460	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**5,460**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	8:40 AM	**ACCUMULATED YARDS:**	470	**AMBIENT TEMP:**	70 °F
SLUMP:	4.00"	**TRUCK NO.:**	22	**CONCRETE TEMP:**	76 °F
AIR CONTENT:	3.0%	**TICKET NO.:**	507843	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232K
PDF ID: 0521.7232K-CON

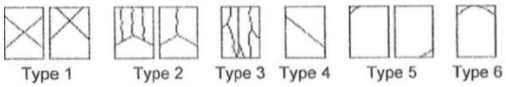
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 100' N and 80' E from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1269	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	38,990	3,100	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	47,020	3,740	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	51,330	4,080	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	55,260	4,400	SS
	Air								
	CYLINDER SIZE:						**28 Day Compressive Strength Average:**	**4,400**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Windy
TIME OF FIELD TEST:	9:15 AM	**ACCUMULATED YARDS:**	510	**AMBIENT TEMP:**	70 °F
SLUMP:	7.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.4%	**TICKET NO.:**	507847	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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PROJECT: North Ranch
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Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232L
PDF ID: 0521.7232L-CON

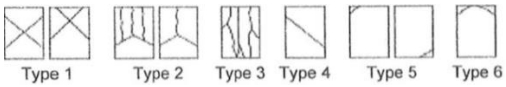
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 10' N and 10' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1270	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	43,780	3,480	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	51,620	4,110	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	54,070	4,300	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	57,000	4,540	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**4,540**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	10:30 AM	**ACCUMULATED YARDS:**	560	**AMBIENT TEMP:**	70 °F
SLUMP:	5.50"	**TRUCK NO.:**	11	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	3.7%	**TICKET NO.:**	507852	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232M
PDF ID: 0521.7232M-CON

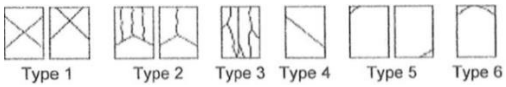
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East: 20' N and 45' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1271	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	44,300	3,530	AD
B	**MIX ID:**	3	10	5/31	4.00	12.57	53,290	4,240	DN
C	4,000 AEAC	3	14	6/4	4.00	12.57	53,520	4,260	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	62,270	4,960	SS
	Air								
	CYLINDER SIZE:						**28 Day Compressive Strength Average:**	**4,960**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	11:15 AM	**ACCUMULATED YARDS:**	610	**AMBIENT TEMP:**	72 °F
SLUMP:	5.00"	**TRUCK NO.:**	32	**CONCRETE TEMP:**	80 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	507857	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: R. Luna/E. Puentes

DATE ISSUED: June 22, 2022
REPORT NO.: 202047.0521.7232N
PDF ID: 0521.7232N-CON

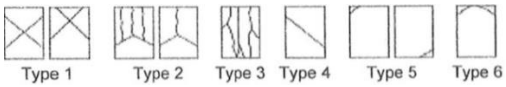
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: DP East; 25' N and 85' W from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-1272	**PRODUCER:**								
A	Lea County Ready Mix	3	3	5/24	4.00	12.57	39,520	3,140	SS
B	**MIX ID:**	3	10	5/31	4.00	12.57	50,770	4,040	DN
C	4,000 AEAC	2	14	6/4	4.00	12.57	51,370	4,090	VM
D	**ADMIXTURE:**	3	28	6/18	4.00	12.57	51,860	4,130	SS
	Air								
	CYLINDER SIZE:					**28 Day Compressive Strength Average:**		**4,130**	
	4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	5/21/2022	**WATER ADDED (gal):**	10	**WEATHER:**	Windy
TIME OF FIELD TEST:	12:30 PM	**ACCUMULATED YARDS:**	660	**AMBIENT TEMP:**	75 °F
SLUMP:	5.00"	**TRUCK NO.:**	23	**CONCRETE TEMP:**	82 °F
AIR CONTENT:	4.2%	**TICKET NO.:**	507862	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS: 1) Meets the 28 day compressive strength requirement

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Quality Review

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PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: M. Castillo

DATE: June 16, 2022
REPORT NO.: 202047.0616.6640A
PDF ID: 0616.6640A-CON

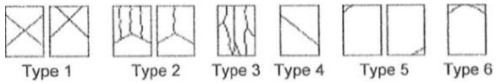
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Truck Wash Pad; 20' E and 20' N from SW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-187	**PRODUCER:**								
A	Lea County Concrete	3	3	6/19	4.00	12.57	53,040	4,220	AD
B	**MIX ID:**	4	7	6/23	4.00	12.57	52,030	4,140	MC
C	4,000 AEAC		14	6/30					
D	**ADMIXTURE:**		28	7/14					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	6/16/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:59 AM	**ACCUMULATED YARDS:**	210	**AMBIENT TEMP:**	78 °F
SLUMP:	4.00"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	86 °F
AIR CONTENT:	3.5%	**TICKET NO.:**	972880	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

Beyond Engineering and Testing, LLC

Quality Review

BEYOND Engineering & Testing

www.BeyondET.com
West Texas
3011-B South County Road 1260
Midland, Texas 79706
432.561.5780

TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: M. Castillo

DATE: June 16, 2022
REPORT NO.: 202047.0616.6640B
PDF ID: 0616.6640B-CON

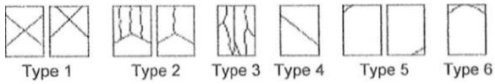
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Truck Wash Pad; 15' W and 15' N from SE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-186	**PRODUCER:**								
A	Lea County Concrete	3	3	6/19	4.00	12.57	44,500	3,540	AD
B	**MIX ID:**	3	7	6/23	4.00	12.57	47,130	3,750	MC
C	4,000 AEAC		14	6/30					
D	**ADMIXTURE:**		28	7/14					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	6/16/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Clear
TIME OF FIELD TEST:	7:00 AM	**ACCUMULATED YARDS:**	160	**AMBIENT TEMP:**	76 °F
SLUMP:	5.50"	**TRUCK NO.:**	15	**CONCRETE TEMP:**	87 °F
AIR CONTENT:	4.5%	**TICKET NO.:**	972880	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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TO: CQA Solutions
Attn: Brent Duganiero
723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: M. Castillo

DATE: June 16, 2022
REPORT NO.: 202047.0616.6640C
PDF ID: 0616.6640C-CON

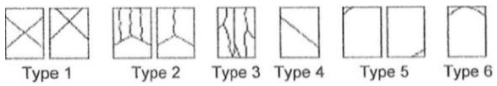
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Truck Wash Pad; 25' W and 25' S from NE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-185	**PRODUCER:**								
A	Lea County Concrete	3	3	6/19	4.00	12.57	48,680	3,870	AD
B	**MIX ID:**	4	7	6/23	4.00	12.57	53,120	4,230	MC
C	4,000 AEAC		14	6/30					
D	**ADMIXTURE:**		28	7/14					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	6/16/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Clear
TIME OF FIELD TEST:	6:30 AM	**ACCUMULATED YARDS:**	110	**AMBIENT TEMP:**	75 °F
SLUMP:	5.50"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	85 °F
AIR CONTENT:	4.4%	**TICKET NO.:**	508119	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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723 Phillips Ave. Bld. A, Suite 201
Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: M. Castillo

DATE: June 16, 2022
REPORT NO.: 202047.0616.6640D
PDF ID: 0616.6640D-CON

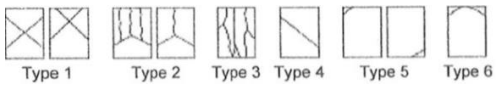
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Truck Wash Pad; 15' W and 15' S from NE Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-184	**PRODUCER:**								
A	Lea County Concrete	3	3	6/19	4.00	12.57	49,930	3,970	AD
B	**MIX ID:**	4	7	6/23	4.00	12.57	47,190	3,760	MC
C	4,000 AEAC		14	6/30					
D	**ADMIXTURE:**		28	7/14					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	6/16/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Clear
TIME OF FIELD TEST:	5:30 AM	**ACCUMULATED YARDS:**	60	**AMBIENT TEMP:**	75 °F
SLUMP:	6.00"	**TRUCK NO.:**	15	**CONCRETE TEMP:**	89 °F
AIR CONTENT:	4.9%	**TICKET NO.:**	508114	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

NOTES: (1.) COMPRESSIVE STRENGTHS DETERMINED IN ACCORDANCE WITH ASTM C39 (2.) CROSS-SECTIONAL AREA & LENGTH ARE STANDARD UNLESS OTHERWISE NOTED (3.) MIX DESIGN AND MIXTURE INFORMATION PROVIDED BY OTHERS (4.) CYLINDERS CURED IN LABORATORY IN ACCORDANCE PER ASTM C31, UNLESS OTHERWISE NOTED (5.) UNBONDED CAPS UTILIZED IN ACCORDANCE WITH ASTM C1231, UNLESS OTHERWISE NOTED. BECAUSE OF THE VIOLENT RELEASE OF ENERGY STORED IN PADS, THE BROKEN CYLINDER RARELY EXHIBITS CONICAL FRACTURE TYPICAL OF CAPPED CYLINDERS, THUS THE SKETCHES OF TYPES OF FRACTURE IN TEST METHOD C39 ARE NOT DESCRIPTIVE (6.) SAMPLES TAKEN IN ACCORDANCE WITH ASTM C172, UNLESS OTHERWISE NOTED. (7.) WHEN APPLICABLE, THE FOLLOWING TEST PROCEDURES WERE USED: SLUMP-ASTM C143, UNIT WEIGHT-ASTM C138, AIR CONTENT- ASTM C231, TEMPERATURE- ASTM C1064.

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Toledo, OH 43612

PROJECT: North Ranch
32.14000, -103.46000
Jal , NM 88252

PROJECT NO.: WT2202047

PROJECT MANAGER: Johnny Franks
FIELD TECHNICIAN: M. Castillo

DATE: June 16, 2022
REPORT NO.: 202047.0616.6640E
PDF ID: 0616.6640E-CON

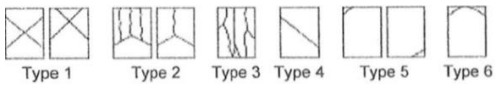
CONCRETE FIELD TESTING AND COMPRESSIVE STRENGTH

SAMPLE LOCATION: Truck Wash Pad; 15' E and 15' S from NW Corner

CYLINDER MARK	CONCRETE MIX INFORMATION	BREAK TYPE	AGE DAYS	DATE TESTED	DIA INCHES	AREA	TOTAL LOAD lbs.	COMPRESSIVE STRENGTH, psi	LAB TECH
C22-183	**PRODUCER:**								
A	Lea County Concrete	3	3	6/19	4.00	12.57	53,050	4,220	AD
B	**MIX ID:**	4	7	6/23	4.00	12.57	56,210	4,470	MC
C	4,000 AEAC		14	6/30					
D	**ADMIXTURE:**		28	7/14					
	CYLINDER SIZE: 4 **X** 8								

28 DAY COMPRESSIVE STRENGTH REQUIREMENT (psi): **4,000**

BREAK TYPES



FIELD TEST INFORMATION

DATE CASTED:	6/16/2022	**WATER ADDED (gal):**	0	**WEATHER:**	Clear
TIME OF FIELD TEST:	4:30 AM	**ACCUMULATED YARDS:**	10	**AMBIENT TEMP:**	88 °F
SLUMP:	5.00"	**TRUCK NO.:**	21	**CONCRETE TEMP:**	77 °F
AIR CONTENT:	4.6%	**TICKET NO.:**	508104	**CURING METHOD:**	Laboratory
UNIT WEIGHT:	---				

REMARKS:

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Beyond Engineering and Testing, LLC

Quality Review

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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 137712

CONDITIONS

Operator:	OGRID:
NGL Waste Services, LLC 1008 Southview Circle Center, TX 75935	329268
	Action Number: 137712
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
bjones	None	8/24/2022