DOCUMENT #2148884

FORM 4
Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109

DE | ET | DE | ES

RECEIVED
10/16/2012

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry Information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 96850
2. Name of Operator: WPX Energy Rocky Mountain LLC
3. Address: 1058 County Road 215
City: Parachute State: CO Zip: 81635
4. Contact Name: Karolina Blaney
Phone: 970 683 2295
Fax: 970 285 9573

Complete the Attachment Checklist

	OP	OGCC
Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	X	
Other	X	

5. API Number 05- NA
OGCC Facility ID Number 422267
6. Well/Facility Name:
7. Well/Facility Number STARKEY GULCH
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW SEC. 32, T6S, R96W, 6TH PM
9. County: Garfield
10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

General Notice

☐ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

	FNL/FSL		FEL/FWL	
Change of **Surface** Footage **from** Exterior Section Lines:				
Change of **Surface** Footage **to** Exterior Section Lines:				
Change of **Bottomhole** Footage **from** Exterior Section Lines:				
Change of **Bottomhole** Footage **to** Exterior Section Lines:				attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer
Latitude
Longitude
Ground Elevation
Distance to nearest property line
Distance to nearest lease line
Distance to nearest well same formation
Distance to nearest bldg, public rd, utility or RR
Is location in a High Density Area (rule 603b)? Yes/No
Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

☐ RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately
☐ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☒ Report of Work Done
Date Work Completed: 8/24/2011

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)
☐ Change Drilling Plans
☐ Gross Interval Changed?
☐ Casing/Cementing Program Change
☐ Request to Vent or Flare
☐ Repair Well
☐ Rule 502 variance requested
☒ Other: Liner upgrade
☐ E&P Waste Disposal
☐ Beneficial Reuse of E&P Waste
☐ Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Karolina Blaney
Date: 10/16/2012
Email: Karolina.Blaney@WPXEnergy.com
Print Name: Karolina Blaney
Title: Environmental Specialist

COGCC Approved: Stanley C. Spencer
Title: EPS Northwest
Date: 4/17/14
CONDITIONS OF APPROVAL, IF ANY:

Click here to reset form

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 96850 API Number:
2. Name of Operator: WPX Energy Rocky Mountain LLC OGCC Facility ID # 422267
3. Well/Facility Name: Well/Facility Number: STARKEY GUL
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW SEC. 32, T6S, R96W, 6TH PM

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

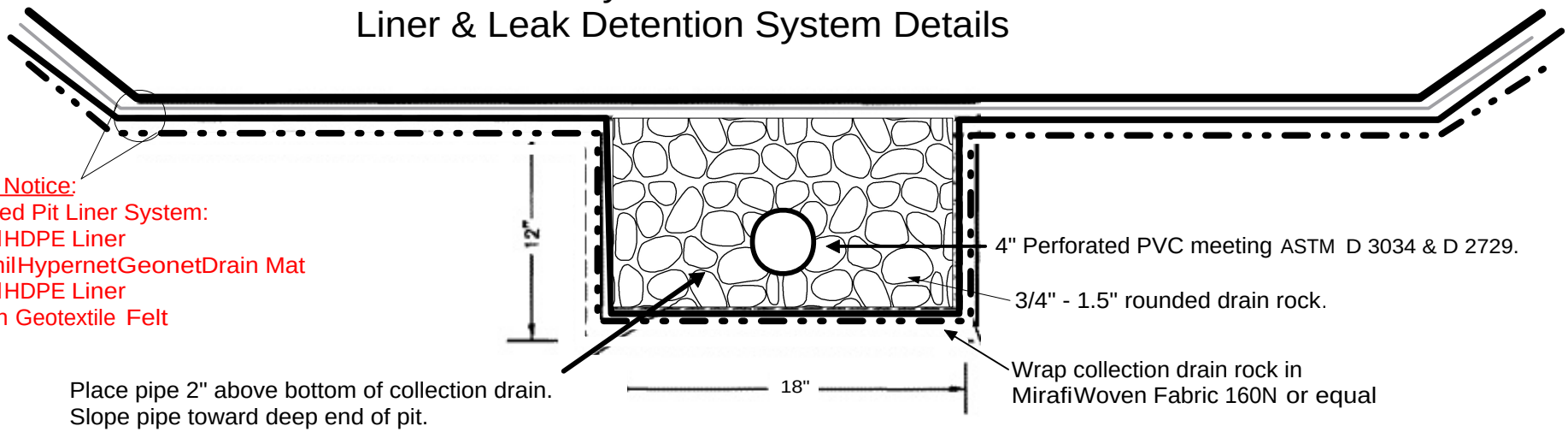
5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

The purpose of this Form 4 is to report modifications of liner specifications at the 33-1-795 multi-well pit.The liner system has been upgraded from the Form 15 permitted 45 mil polyethylene liner to the following specificaitons:

- 60 mil HDPE liner
- 200 mil Hypernet Geonet Drain Mat
- 40 mil HDPE liner
- leak detection system

Attached is the Liner and Leak Detection System cross-section and Lange Containment Systems Installation Report for the additional 60 and 40 mil HDPE liners.

Starkey Gulch Frac Pit
Liner & Leak Detention System Details



Sundry Notice:
Upgraded Pit Liner System:
* 60 mil HDPE Liner
* 200 mil HypernetGeonetDrain Mat
* 40 mil HDPE Liner
* Woven Geotextile Felt

4" Perforated PVC meeting ASTM D 3034 & D 2729.

3/4" - 1.5" rounded drain rock.

Wrap collection drain rock in MirafiWoven Fabric 160N or equal

Place pipe 2" above bottom of collection drain.
Slope pipe toward deep end of pit.

Monitoring Stand Pipe with 4" PVC Removeable Cap to be located at deep end of pit. Place steel fence posts for protection.

4 ft. min.

12 in.

Pad Grade

Install Pocket Vents per manufacturer's recommendations every 50 liner feet along perimeter at top of liner. Vent to perforate both HDPE liners.

Sundry Notice:
Upgraded Pit Liner System:
* 60 mil HDPE Liner
* 200 mil HypernetGeonetDrain Mat
* MirafiWoven Fabric 160N

12" deep minimum anchor trench per manufacturer's instructions.

4" PVC meeting ASTM D 3034 & D 2729.

3/4" - 1.5" round drain rock.
(No crushed gravel allowed.)

4" Perforated PVC meeting ASTM D 3034 & D 2729.

Sundry Notice:
Upgraded Pit Liner System:
* MirafiWoven Fabric 160N
* 40 mil HDPE Liner
* Woven Geotextile Felt

* Install HPDE Liners;
Geonetand Vent Pockets
per manufacturer's instructions.

Fox Engineering Solutions
Rev. 10-15-2012

STARKEY FRAC

LANGE CONTAINMENT SYSTEMS, INC.

AUGUST 2012

Trial Welds

Lange Containment Systems Inc.

Phone: (800) 446-4898 Fax: (303) 446-8798 LinerGeeks@LangeContainment.com www.LangeContainment.com

TRIAL WELDS

Project Name: Starkey Trac

Date	Time	Machine #	Operator	Machine Temp	Speed / Preheat Temp	Peel		Shear	
						#FTB	#FTB	#FTB	#FTB
8-23-12	6:45am	127	VC	850°	400°	130-136 138-135	133-139 136-140	166	163
8-23-12	6:50am	128	JA	850°	400°	136-139 133-135	135-140 141-134	164	164
8-23-12	12:40pm	127	VC	850°	400°	126-129 130-127	130-128 127-126	158	161
8-23-12	12:45pm	128	JA	850°	400°	130-128 124-129	131-136 135-130	160	157

QC Technician: Victor Casillas

Lange Containment Systems Inc.

Phone: (800) 446-4898 Fax: (303) 446-8798 LinerGeeks@LangeContainment.com www.LangeContainment.com

TRIAL WELDS

Project Name: Starkey Frac

Date	Time	Machine #	Operator	Machine Temp	Speed / Preheat Temp	Peel		Shear	
						#FTB	#FTB	#FTB	#FTB
8-24-12	6:38	128	JA	850°	350°	133-139	131-134	177	173
						130-136	135-138		
8-24-12	6:45	127	VC	850°	350°	136-138	133-129	174	176
						130-136	129-135		
8-24-12	9:30am	Extrusion 82	AS	525°	350°	136	140	170	169
						144	143		

QC Technician: Victor Casillas

Panel Logs

Lange Containment Systems Inc.

Page 1 of 4

Deployment Date 8-23-12

Project Name: Starkey Trail Job # _____ Supt: Victor Casillas

Material: 60 mil BLS Smooth Primary [x] Secondary [ ] Pond # _____ Cell # _____ Pad # _____ Other: _____

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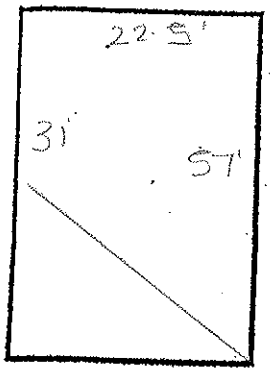		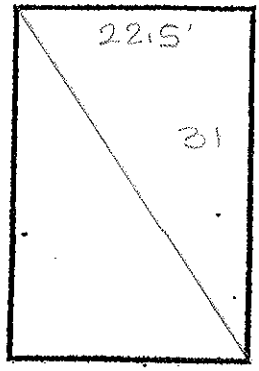		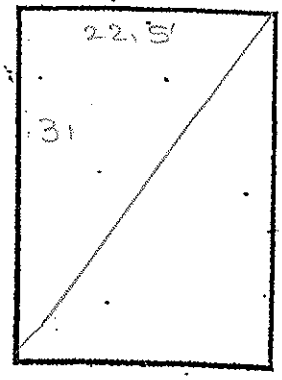	
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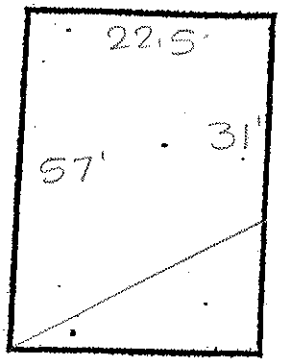		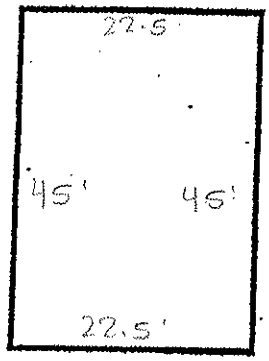		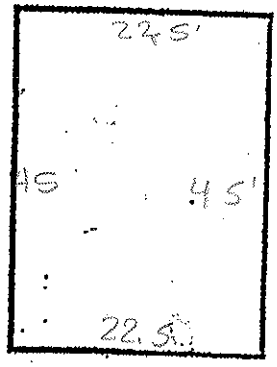	
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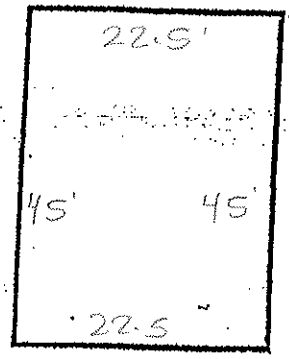		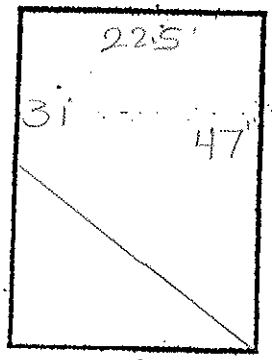	
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Total Initial SF This Page	SF
Total Final SF This Page	SF
Anchor Trench	
Total Linear feet trench	LF
X	
Depth and width allowed in trench	LF
= Total SF in Trench	SF
Total Pay Area This Page	SF
Total Previous Pages	SF
Total Pay Area to Date	SF

Deployment Date 8-23-2012

Lange Containment Systems Inc.

Project Name: Starkey Frac Job # _____ Supt: Victor Casillas

Material: 60mil DLS Smooth Primary [X] Secondary [ ] Pond # _____ Cell # _____ Pad # _____ Other: _____

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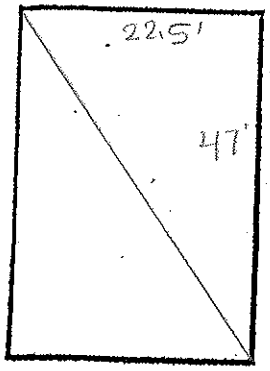		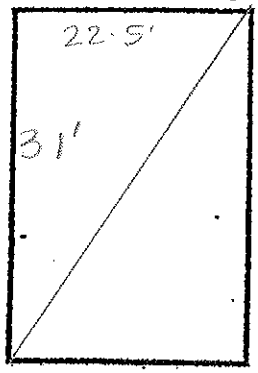		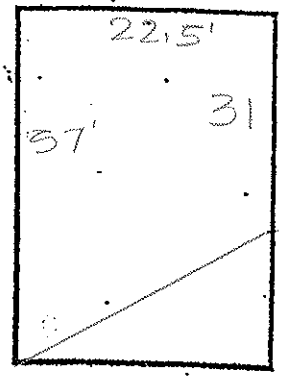	
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench

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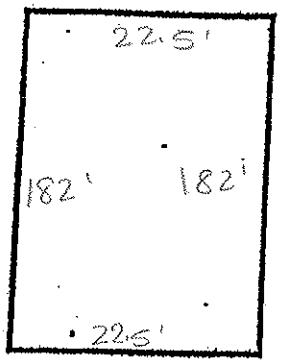		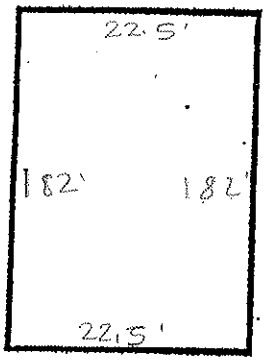		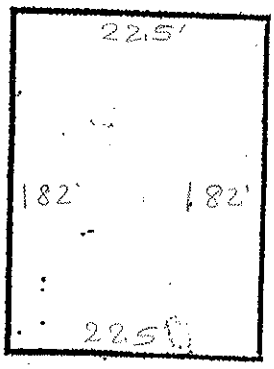	
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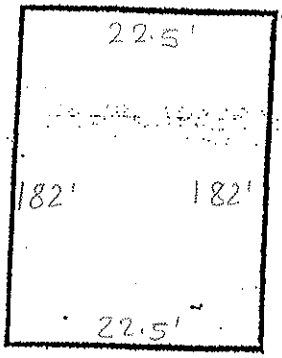		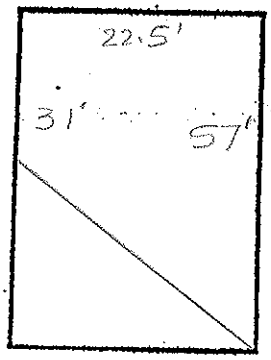	
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench

Total Initial SF This Page _____ SF

Total Final SF This Page _____ SF

Anchor Trench

Total Linear feet trench _____ LF

X

Depth and width allowed in trench _____ LF

= Total SF in Trench _____ SF

Total Pay Area This Page _____ SF

Total Previous Pages _____ SF

Total Pay Area to Date _____ SF

Deployment Date 8-23-12

Lange Containment Systems Inc.

Project Name: Starkey Inc Job # Supt: Victor Casillas

Material: 60mil DLS Smooth Primary [X] Secondary [ ] Pond # Cell # Pad # Other:

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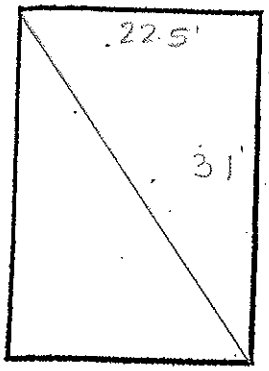		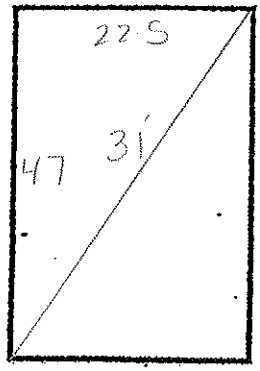		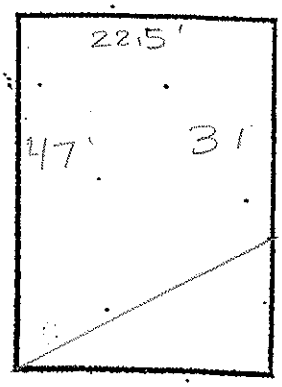	
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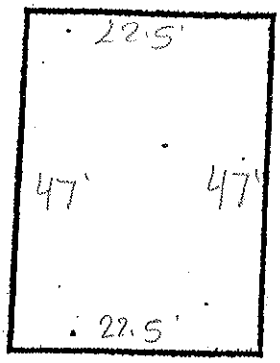		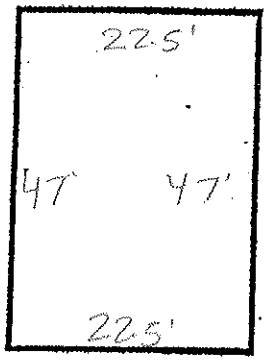		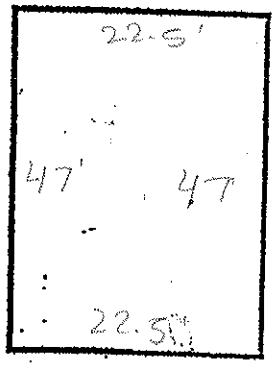	
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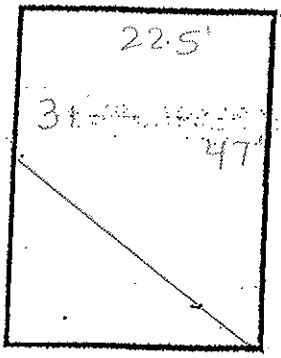		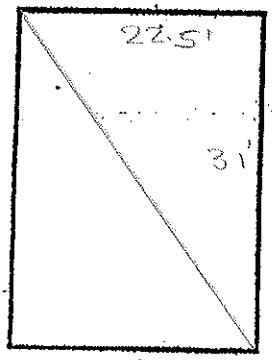	
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Total Final SF This Page	SF
Anchor Trench	
Total Linear feet trench	LF
X	
Depth and width allowed in trench	LF
= Total SF in Trench	SF
Total Pay Area This Page	SF
Total Previous Pages	SF
Total Pay Area to Date	SF

Lange Containment Systems Inc.

Page 4 of 4

Deployment Date 8-23-12

Project Name: Starks Frac Job # _____ Supt: Victor Casillas

Material: 60mil D/S Smooth Primary [X] Secondary [ ] Pond # _____ Cell # _____ Pad # _____ Other: _____

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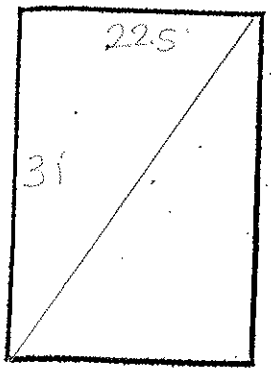		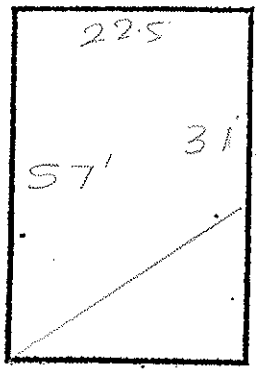		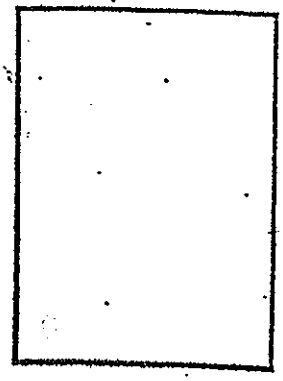	
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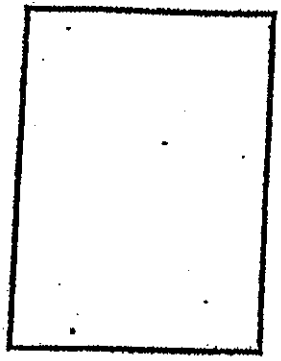		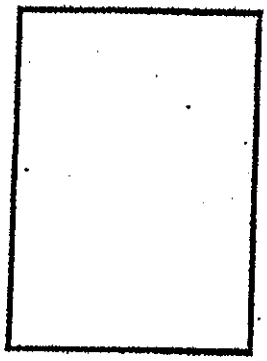		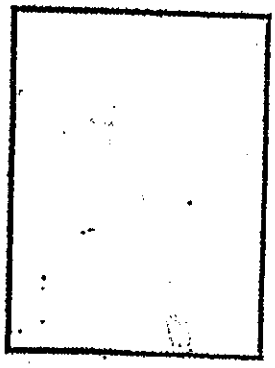	
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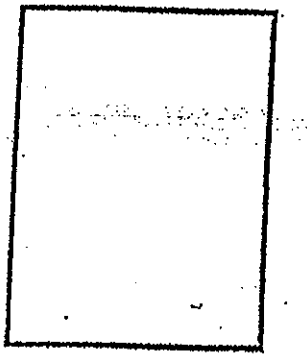		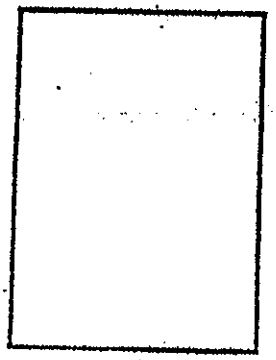			
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench		

Total Initial SF This Page	SF
Total Final SF This Page	SF
Anchor Trench	
Total Linear feet trench	LF
X	
Depth and width allowed in trench	LF
= Total SF in Trench	SF
Total Pay Area This Page	SF
Total Previous Pages	SF
Total Pay Area to Date	SF

Seaming & Air Pressure Test

Lange Containment Systems Inc.

Project Name: Starkey Trac
Project Manager:
Superintendent: Victor Casillas
Reported By: Victor Casillas
(Primary) Secondary **Other:** **Job#:**
Material: 60mil DLS Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp
8-23-12	1-2	31'	7:00 am 7:10 pm	VC	127	850°	400	
8-23-12	3-4	31'	7:14 am 7:24 pm	VC	127	850°	400	
8-23-12	4-5	45	7:10 am 7:25 pm	JA	128	850°	400	
8-23-12	5-6	45	7:28 am 7:43 pm	JA	128	850°	400	
8-23-12	6-7	45'	7:30 am 7:45 pm	VC	127	850°	400	
8-23-12	7-8	45'	7:45 am 8:00 pm	JA	128	850°	400	
8-23-12	8-9	31'	8:13 am 8:23 pm	JA	128	850°	400	
8-23-12	10-11	31'	7:50 am 8:00 pm	VC	127	850°	400	
8-23-12	1-12	57	8:30 am 8:50 pm	JA	128	850°	400	
8-23-12	11-12	57'	8:10 am 8:35 pm	VC	127	850°	400	
8-23-12	12-13	182'	9:00 am 10:10 pm	JA	128	850°	400	
8-23-12	13-14	182'	9:10 am 10:21 pm	VC	127	850°	400	
8-23-12	14-15	182'	10:30 am 11:42 pm	JA	128	850°	400	
8-23-12	15-16	57'	10:40 am 10:55 pm	VC	127	850°	400	
8-23-12	16-17	31'	11:00 am 11:13 pm	VC	127	850°	400	
8-23-12	18-19	31	11:20 am 11:37 pm	VC	127	850	400	
8-23-12	19-20	47'	1:00 am 1:15 pm	JA	128	850°	400	
8-23-12	20-21	47'	1:05 am 1:21 pm	VC	127	850°	400	
8-23-12	21-22	47'	1:20 am 1:36 pm	JA	128	850°	400	
8-23-12	22-23	47'	1:25 am 1:40 pm	VC	127	850°	400	
8-23-12	23-24	31	1:47 am 2:00 pm	JA	128	850°	400	
8-23-12	25-26	31	1:55 am 2:09 pm	VC	127	850°	400	
	Total =							

Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-23-12	AT	2:30	2:35	(P) F	
8-23-12	AT	2:31	2:36	(P) F	
8-23-12	AT	2:32	2:37	(P) F	
8-23-12	AT	2:37	2:38	(P) F	
8-23-12	AT	2:34	2:39	(P) F	
8-23-12	AT	2:35	2:40	(P) F	
8-23-12	AT	2:40	2:45	(P) F	
8-23-12	AT	2:41	2:46	(P) F	
8-23-12	AT	2:42	2:47	(P) F	DS-1
8-23-12	AT	2:43	2:48	(P) F	
8-23-12	AT	2:48	2:53	(P) F	
8-23-12	AT	2:49	2:54	(P) F	
8-23-12	AT	2:50	2:55	(P) F	DS-2
8-23-12	AT	2:51	2:56	(P) F	
8-23-12	AT	2:52	2:57	(P) F	
8-23-12	AT	3:10	3:15	(P) F	
8-23-12	AT	3:11	3:16	(P) F	
8-23-12	AT	3:12	3:17	(P) F	
8-23-12	AT	3:18	3:23	(P) F	
8-23-12	AT	3:19	3:29	(P) F	DS-3
8-23-12	AT	3:24	3:29	(P) F	
8-23-12	AT	3:25	3:25	(P) F	

Air Test: 40 psi for 5 minutes- 5 psi loss allowed. Tested By: Victor Casillas

Lange Containment Systems Inc.

Project Name: Starkey Frac

Project Manager:

Superintendent: Victor Casillas

Reported By: Victor Casillas

(Primary) Secondary Other:

Job#:

Material: 60mil D/S Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp	Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-23-12	15-16	57	2:13 am 2:30 (pm)	J.A	128	850°	400		8-23-12	AT	3:00	3:05	(P) F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
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			am pm										P F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
			am pm										P F	
	Total =													

Air Test: 40 psi for 5 minutes- 5 psi loss allowed.

Tested By: Victor Casillas

Lange Containment Systems Inc.

Project Name: Starkey Iron
Project Manager:
Superintendent: Victor Casillas (Primary) Secondary Other:
Reported By: Victor Casillas
Job#:
Material: 60 mil 01s Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp
8-24-12	2-3	37'	7:00 am 7:18 pm	J.A	128	856°	350	
8-24-12	1-4	37'	7:18 am 7:36 pm	JA	128	850°	350	
8-24-12	12-5	22.5'	7:36 am 7:42 pm	JA	128	850°	350	
8-24-12	12-6	22.5'	7:42 am 7:46 pm	JA	128	850°	350	
8-24-12	12-7	22.5'	7:46 am 7:52 pm	JA	128	850°	350	
8-24-12	8-11	38	7:52 am 8:10 pm	JA	128	850°	350	
8-24-12	9-10	38'	8:10 am 8:35 pm	JA	128	850°	350	
8-24-12	17-18	37'	6:55 am 7:20 pm	VC	127	850°	350	
8-24-12	16-19	37'	7:20 am 7:45 pm	VC	127	850°	350	
8-24-12	15-20	22.5'	7:45 am 7:50 pm	VC	127	850°	350	
8-24-12	15-21	22.5'	7:50 am 7:55 pm	VC	127	850°	350	
8-24-12	15-22	22.5'	7:55 am 8:00 pm	VC	127	850°	350	
8-24-12	23-26	37	8:00 am 8:25 pm	VC	127	850°	350	
8-24-12	24-25	37'	8:25 am 8:41 pm	VC	127	850°	350	
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
Total =								

Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-24-12	AT	9:00	9:05	(P) F	
8-24-12	AT	9:01	9:06	(P) F	
8-24-12	AT	9:02	9:07	(P) F	
8-24-12	AT	9:03	9:08	(P) F	
8-24-12	AT	9:04	9:09	(P) F	
8-24-12	AT	9:09	9:14	(P) F	
8-24-12	AT	9:10	9:15	(P) F	
8-24-12	AT	9:11	9:16	(P) F	
8-24-12	AT	9:18	9:23	(P) F	
8-24-12	AT	9:19	9:24	(P) F	
8-24-12	AT	9:20	9:25	(P) F	
8-24-12	AT	9:21	9:26	(P) F	
8-24-12	AT	9:24	9:29	(P) F	
8-24-12	AT	9:25	9:30	(P) F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	

Air Test: 40 psi for 5 minutes- 5 psi loss allowed.

Tested By: Victor Casillas

Repair Log

Lange Containment Systems Inc.

Project Name: Starky Frac
Project Manager:
Supintendent: Victor Casillas

	HDPE
	HDT
	PPR
40	Other: mil DLS Smooth

Date: 08-24-12
Job#:
Thickness:

Primary Secondary Other

VT=Vacum Test ST=Spark Test PT=Probe Test

Repair Number	Damage Code	Seam # or Panel #	Location	Date	Equip #	Operator	Repair Type	Approx. Size	Test Data		
									Test	Results	Date
1	DS-1	1-12	AT 50' W EOS	8-24-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-24-12
2	T	1-2-3-14	X	8-24-12	82	AS	P	2'X3'	(VT) ST PT	(P) F	8-24-12
3	T	1-4-5-12	X	8-24-12	82	AS	P	3'X4'	(VT) ST PT	(P) F	8-24-12
4	T	5-6-12	X	8-24-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-24-12
5	T	6-7-12	X	8-24-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-24-12
6	T	7-8-11-12	X	8-24-12	82	AS	P	3'X4'	(VT) ST PT	(P) F	8-24-12
7	T	8-9-10-11	X	8-24-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-24-12
8	DS-2	14-15	AT 45' E EOS	8-24-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-24-12
9	T	16-17-18-19	X	8-24-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-24-12
10	T	16-16-19-20	X	8-24-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-24-12
11	T	15-20-21	X	8-24-12	82	AS	P	2'X3'	(VT) ST PT	(P) F	8-24-12
12	T	15-21-22	X	8-24-12	82	AS	P	2'X3'	(VT) ST PT	(P) F	8-24-12
13	DS-3	22-23	AT 40' N EOS	8-24-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-24-12
14	T	15-22-23-26	X	8-24-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-24-12
15	T	23-24-25-26	X	8-24-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-24-12
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	

Vacum Test: PSI for Seconds. Probe Test: PSI.

Damage Codes:

Bo - Burn Out
CR - Crease
DS-# Destruct Sample
EE - Earthwork Equipment Damage
FM - Fish Mouth
ES- Exposed Scrim
SI - Subgrade Irregularity
RW- Roller Wrinkle in Seam
WR - Wrinkle
WS - Welder Restart
BL - Blister
T - Joint

Repair Types:

C - Cap Strip
P - Patch
B - Extrusion Bead

* TOS - Top of Slope
** BOS - Toe of Slope

Destruct Summary

Lange Containment Systems Inc.

Project Name: Starkey Trac
Project Manager:
Superintendent: Victor Casillas
Reported By: Victor Casillas

(Primary) Secondary Other: _____

Job#: _____

Material: 60mil DLS Smooth

☑ **Destructive Test**

						Peel Test(Extr.) min	ppi			Peel Test(Fusion)	ppi	Shear Test mim	ppi						
D.S. No.	Seam No.	Weld Time	Weld Date	Operator Name/ ID	Machine Number	Coupon 1 A / B	Coupon 2 A / B	Coupon 3 A / B	Coupon 4 A / B	Coupon 5 A / B	Coupon 1 Shear	Coupon 2 Shear	Coupon 3 Shear	Coupon 4 Shear	Coupon 5 Shear	Ambient Temp	Results	Machine Temp & Speed	NOTES
DS-1	1-12	Am	8-23-12	J.A	128	133/140	144/132	143/130	139/133	143/132	160	164	163	161	166		(P) F	850° / 400	
DS-2	14-15	Am	8-23-12	J A	128	128/136	130/139	129/141	143/129	140/130	166	159	162	164	162		(P) F	850° / 400	
DS-3	22-23	Am	8-23-12	VC	127	130/136	131/139	138/133	140/146	131/130	164	163	159	162	164		(P) F	850° / 400	
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
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						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		

Samples Sent Via: _____ Last Sample #: _____ On (Date): _____

Notes: _____

Trial Welds

Lange Containment Systems Inc.

Phone: (800) 446-4898 Fax: (303) 446-8798 LinerGeeks@LangeContainment.com www.LangeContainment.com

TRIAL WELDS

Project Name: Starky Trac

Date	Time	Machine #	Operator	Machine Temp	Speed / Preheat Temp	Peel		Shear	
						#FTB	#FTB	#FTB	#FTB
8-21-12	6:40am	128	J.A	800	700	80-84 83-82	81-79 86-82	133	136
8-21-12	6:45am	127	V D	800	700	79-86 82-85	80-84 84-81	135	132

QC Technician: Victor Casillas

Lange Containment Systems Inc.

Phone: (800) 446-4898 Fax: (303) 446-8798 LinerGeeks@LangeContainment.com www.LangeContainment.com

TRIAL WELDS

Project Name: Starky Frac

Date	Time	Machine #	Operator	Machine Temp	Speed / Preheat Temp	Peel		Shear	
						#FTB	#FTB	#FTB	#FTB
8-22-12	6:40am	128	JA	800°	700	90-88 91-90	86-89 89-85	139	136
8-27-12	8:30am	Extrusion 82	AS	500°	230°	99 104	101 97	144	139

QC Technician: Victor Casillas

Panel Logs

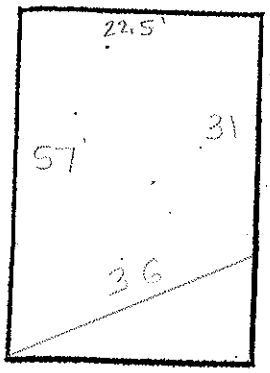
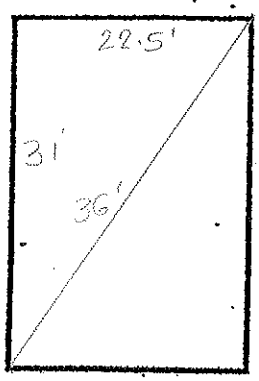
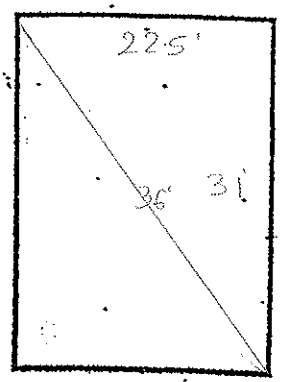
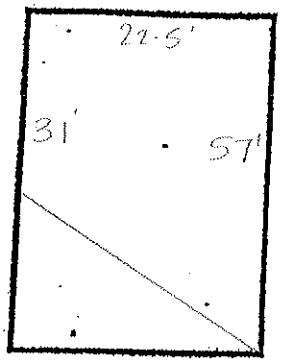
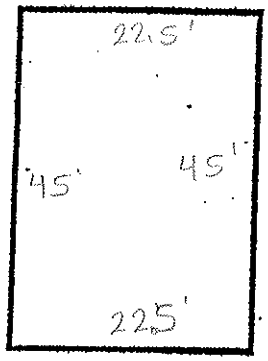
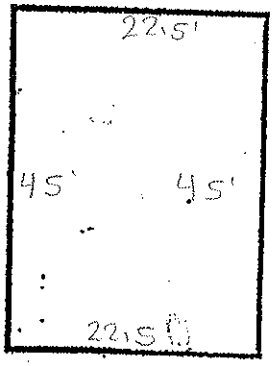
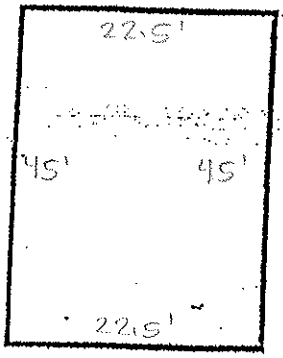
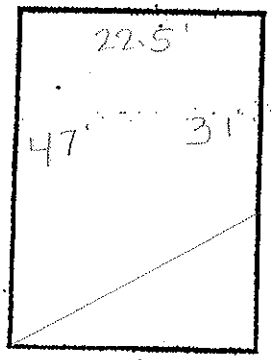
Deployment Date 08-21-12

Lange Containment Systems Inc.

Page 1 of 4

Project Name: Stanley Frac 2 Job # _____ Supt: Victor Casillas

Material: 40mil poly Smooth Primary [ ] Secondary [X] Pond # _____ Cell # _____ Pad # _____ Other: _____

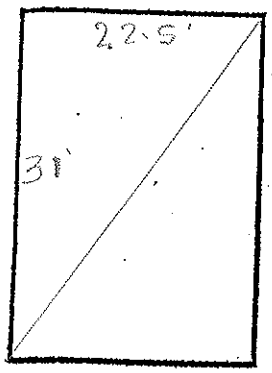
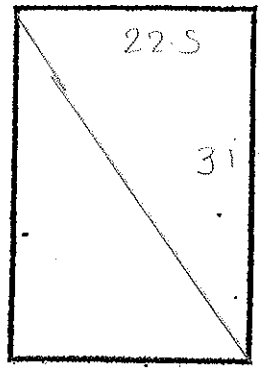
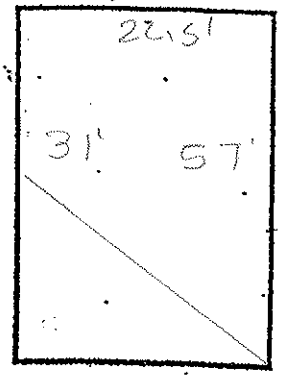
Panel # 1	Roll # 8572	Panel # 2	Roll # 8572	Panel # 3	Roll # 8572
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench
Panel # 4	Roll # 8572	Panel # 5	Roll # 8572	Panel # 6	Roll # 8572
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench
Panel # 7	Roll # 8572	Panel # 8	Roll # 8572	Total Initial SF This Page: SF Total Final SF This Page: SF Anchor Trench Total Linear feet trench: LF X Depth and width allowed in trench: LF Total SF in Trench: SF	
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Total Pay Area This Page: SF Total Previous Pages: SF Total Pay Area to Date: SF	

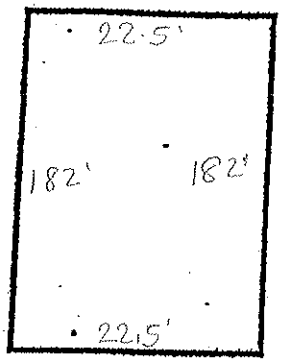
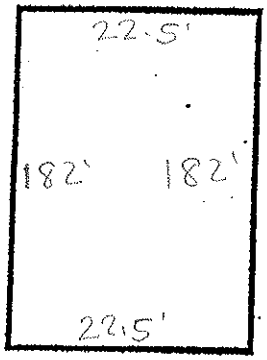
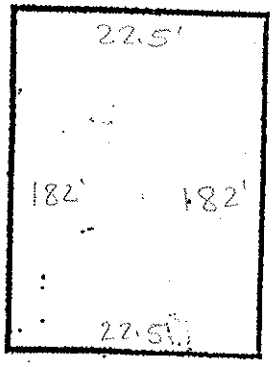
Deployment Date 08-21-12

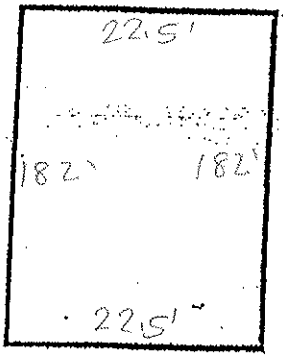
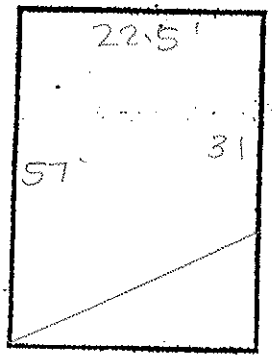
Lange Containment Systems Inc.

Project Name: Stinky Fuel Job # _____ Supt: Victor Casillas

Material: 40mil DLS Smooth Primary [ ] Secondary [x] Pond # _____ Cell # _____ Pad # _____ Other: _____

Panel # 9	Roll # 8572	Panel # 10	Roll # 8572	Panel # 11	Roll # 8572
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench

Panel # 12	Roll # 8572	Panel # 13	Roll # 8572	Panel # 14	Roll # 8571
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench

Panel # 15	Roll # 8571	Panel # 16	Roll # 8571
			
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench

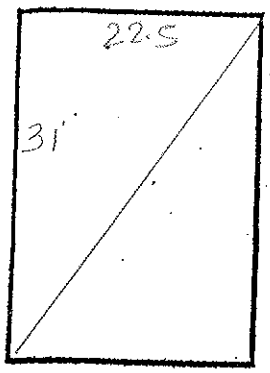
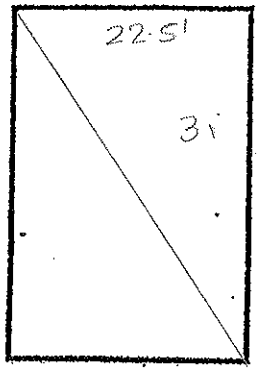
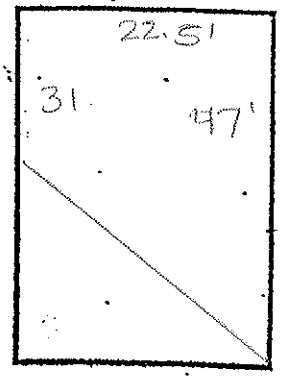
Total Initial SF This Page	SF
Total Final SF This Page	SF
Anchor Trench	
Total Linear feet trench	LF
X	
Depth and width allowed in trench	LF
= Total SF in Trench	SF
Total Pay Area This Page	SF
Total Previous Pages	SF
Total Pay Area to Date	SF

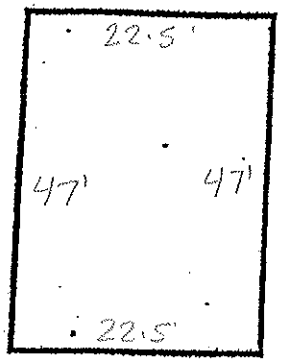
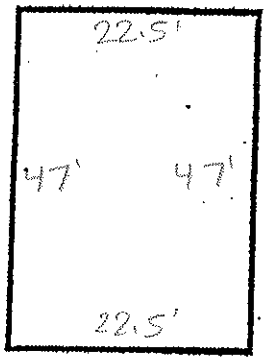
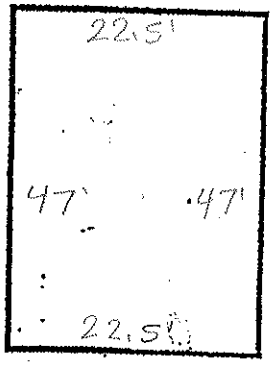
Deployment Date 8-21-12

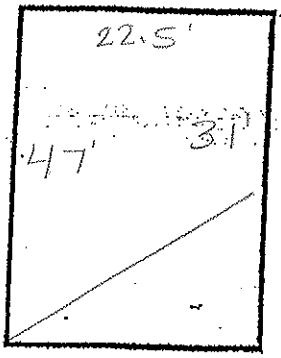
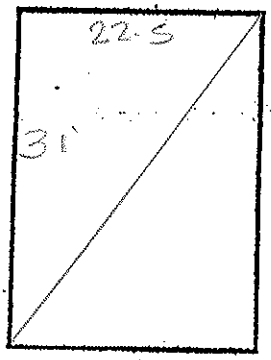
Lange Containment Systems Inc.

Project Name: Stinky Trans Job # _____ Supt: Victor Casillas

Material: 40mil pls Smooth Primary [ ] Secondary [ ] Pond # _____ Cell # _____ Pad # _____ Other: _____

Panel # 17	Roll # 8571	Panel # 18	Roll # 8571	Panel # 19	Roll # 8571
					
Initial SF	Lineal Feet Trench	Initial SF	Lineal Feet Trench	Initial SF	Lineal Feet Trench
Final SF		Final SF		Final SF	

Panel # 20	Roll # 8571	Panel # 21	Roll # 8571	Panel # 22	Roll # 8571
					
Initial SF	Lineal Feet Trench	Initial SF	Lineal Feet Trench	Initial SF	Lineal Feet Trench
Final SF		Final SF		Final SF	

Panel # 23	Roll # 8571	Panel # 24	Roll # 8571
			
Initial SF	Lineal Feet Trench	Initial SF	Lineal Feet Trench
Final SF		Final SF	

Total Initial SF This Page	SF
Total Final SF This Page	SF
Anchor Trench	
Total Linear feet trench	LF
X	
Depth and width allowed in trench	LF
= Total SF in Trench	SF
Total Pay Area This Page	SF
Total Previous Pages	SF
Total Pay Area to Date	SF

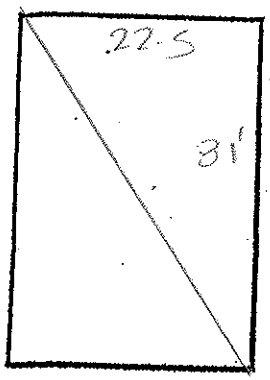
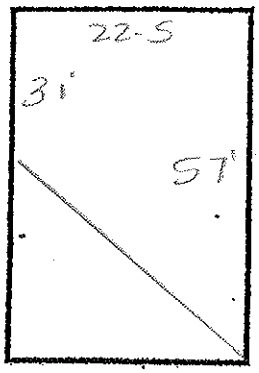
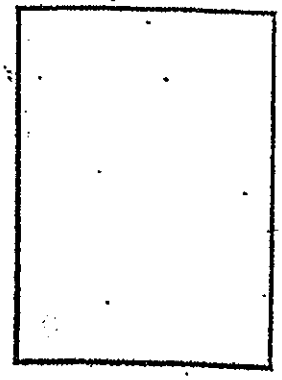
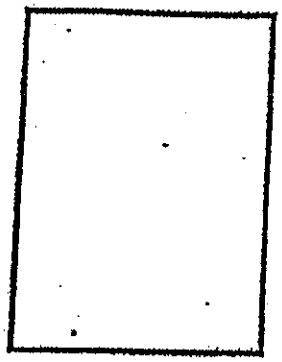
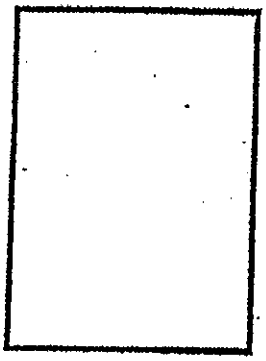
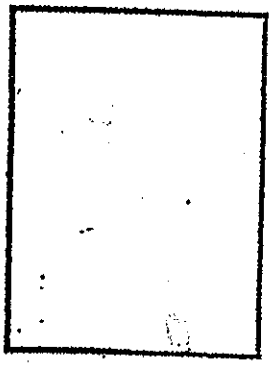
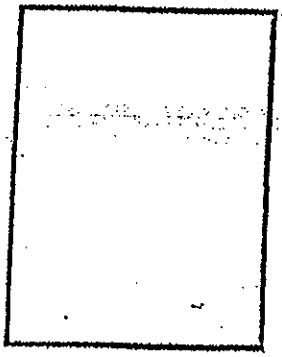
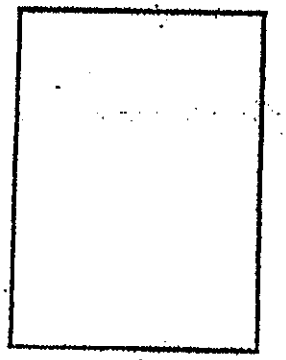
Lange Containment Systems Inc.

Page 4 of 4

Deployment Date 8-21-12

Project Name: Starky Tract Job # _____ Supt: Victor Casillas

Material: 40mil D/S Smooth Primary [ ] Secondary [ ] Pond # _____ Cell # _____ Pad # _____ Other: _____

Panel # 25	Roll # 8571	Panel # 26	Roll # 8571	Panel #	Roll #
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench
Panel #	Roll #	Panel #	Roll #	Panel #	Roll #
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench
Panel #	Roll #	Panel #	Roll #		
					
Initial SF / Final SF	Lineal Feet Trench	Initial SF / Final SF	Lineal Feet Trench		

Total Initial SF This Page _____ SF

Total Final SF This Page _____ SF

Anchor Trench

Total Linear feet trench _____ LF

X

Depth and width allowed in trench: _____ LF

= Total SF in Trench _____ SF

Total Pay Area This Page _____ SF

Total Previous Pages _____ SF

Total Pay Area to Date _____ SF

Seaming & Air Pressure Test

Lange Containment Systems Inc.

Project Name: Starky Frac
Project Manager:
Superintendent: Victor Casillas
Reported By: Victor Casillas

Primary (Secondary) Other:

Job#:

Material: 40 mil DLS Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp
8-21-12	1-2	31'	7:00 am 7:04 pm	J.A	128	800°	700	
8-21-12	2-3	36'	7:19 am 7:24 pm	J.A	128	800°	700	
8-21-12	3-4	31'	7:10 am 7:14 pm	J A	128	800°	700	
8-21-12	1-4	36'	7:25 am 7:30 pm	J A	128	800°	700	
8-21-12	4-5	45'	7:35 am 7:41 pm	J A	128	800°	700	
8-21-12	5-6	45'	7:43 am 7:49 pm	J A	128	800°	700	
8-21-12	6-7	45'	7:52 am 7:58 pm	J A	128	800°	700	
8-21-12	7-8	45'	8:00 am 8:06 pm	J A	128	800°	700	
8-21-12	8-9	31'	8:10 am 8:15 pm	J A	128	800°	700	
8-21-12	10-11	31'	8:23 am 8:28 pm	J A	128	800°	700	
8-21-12	1-12	57'	8:40 am 8:46 pm	V C	127	800°	700	
8-21-12	11-12	57'	8:50 am 8:56 pm	V C	127	800°	700	
8-21-12	12-13	182'	9:00 am 9:25 pm	V C	127	800°	700	
8-21-12	13-14	182'	9:05 am 9:30 pm	J A	128	800°	700	
8-21-12	14-15	182'	9:30 am 9:55 pm	V C	127	800°	700	
8-21-12	15-16	57'	9:35 am 9:40 pm	J A	128	800°	700	
8-21-12	16-17	31'	9:45 am 9:50 pm	J A	128	800°	700	
8-21-12	18-19	31'	10:00 am 10:05 pm	J A	128	800°	700	
8-21-12	19-20	47'	10:10 am 10:15 pm	J A	128	800°	700	
8-21-12	20-21	47'	10:00 am 10:05 pm	V C	127	800°	700	
8-21-12	21-22	47'	10:20 am 10:25 pm	J A	128	800°	700	
8-21-12	22-23	47'	10:10 am 10:15 pm	V C	127	800°	700	
	Total =							

Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-21-12	AT	1:00	1:05	(P) F	
8-21-12	AT	1:01	1:06	(P) F	
8-21-12	AT	1:02	1:07	(P) F	
8-21-12	AT	1:03	1:08	(P) F	
8-21-12	AT	1:09	1:09	(P) F	
8-21-12	AT	1:10	1:15	(P) F	
8-21-12	AT	1:11	1:16	(P) F	
8-21-12	AT	1:12	1:17	(P) F	
8-21-12	AT	1:13	1:18	(P) F	
8-21-12	AT	1:16	1:21	(P) F	
8-21-12	AT	1:20	1:25	(P) F	
8-21-12	AT	1:25	1:30	(P) F	
8-21-12	AT	1:33	1:30	(P) F	
8-21-12	AT	1:35	1:40	(P) F	
8-21-12	AT	1:37	1:42	(P) F	DS-2
8-21-12	AT	1:39	1:44	(P) F	
8-21-12	AT	1:44	1:49	(P) F	
8-21-12	AT	1:45	1:50	(P) F	
8-21-12	AT	1:49	1:54	(P) F	
8-21-12	AT	1:55	2:00	(P) F	
8-21-12	AT	2:03	2:08	(P) F	
8-21-12	AT	2:05	2:10	(P) F	DS-3

Air Test: 30 psi for 5 minutes- 5 psi loss allowed.

Tested By: Victor Casillas

Containment Systems Inc.

Project Name: Starkey Frac

Project Manager:

Superintendent: Victor Casillas

Reported By: Victor Casillas

Primary (Secondary) Other:

Job#:

Material: 40 mil DLS Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp
8-21-12	23-24	31'	10:40 (am) 10:45 pm	IA	128	800°	700	
8-21-12	25-26	31'	16:43 (am) 10:48 pm	VC	127	800°	700	
8-21-12	26-15	57'	10:50 (am) 10:55 pm	IA	128	800°	700	
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
			am pm					
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			am pm					
Total =								

Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-21-12	AT	2:13	2:18	(P) F	
8-21-12	AT	2:14	2:19	(P) F	
8-21-12	AT	2:15	2:20	(P) F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
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				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	

Air Test: 30 psi for 5 minutes- 5 psi loss allowed.

Tested By: Victor Casillas

Lange Containment Systems Inc.

Project Name: Stanley Iron
Project Manager:
Superintendent: Victor Casillas
Reported By: Victor Casillas

Primary (Secondary) Other: Job#:

Material: 40mil DLS Smooth

Weld Date	Seam No.	Seam Length	Time	Operator Name / ID#	Mach No.	Mach Temp	Mach Speed	Amb Temp
8-22-12	S-12	22.5'	6:50 6:53 (am) pm	IA	128	800°	700	Train
8-22-12	6-12	22.5'	6:53 6:56 (am) pm	IA	128	800°	700	
8-22-12	7-12	22.5'	6:56 6:59 (am) pm	IA	128	800°	700	
8-22-12	8-11	37'	6:59 7:05 (am) pm	IA	128	800°	700	
8-22-12	9-10	37'	7:05 7:11 (am) pm	IA	128	800°	700	
8-22-12	17-18	37'	7:30 7:36 (am) pm	IA	128	800°	700	
8-22-12	16-19	37'	7:36 7:41 (am) pm	IA	128	800°	700	
8-22-12	15-20	22.5'	7:41 7:44 (am) pm	IA	128	800°	700	
8-22-12	15-21	22.5'	7:44 7:47 (am) pm	IA	128	800°	700	
8-22-12	15-22	22.5'	7:47 7:50 (am) pm	IA	128	800°	700	
8-22-12	23-26	37'	7:50 7:55 (am) pm	IA	128	800°	700	
8-22-12	24-25	37'	7:55 8:00 (am) pm	IA	128	800°	700	
			am pm					
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			am pm					
			am pm					
			am pm					
			am pm					
Total =								

Test Date	Test Type	Time IN	Time Out	Test Results	D. S. Number (NOTES)
8-22-12	AT	8:10	8:15	(P) F	
8-22-12	AT	8:11	8:16	(P) F	
8-22-12	AT	8:12	8:17	(P) F	DS-1
8-22-12	AT	8:13	8:18	(P) F	
8-22-12	AT	8:14	8:19	(P) F	
8-22-12	AT	8:17	8:22	(P) F	
8-22-12	AT	8:18	8:23	(P) F	
8-22-12	AT	8:19	8:24	(P) F	
8-22-12	AT	8:20	8:25	(P) F	
8-22-12	AT	8:21	8:26	(P) F	
8-22-12	AT	8:28	8:33	(P) F	
8-22-12	AT	8:29	8:34	(P) F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	
				P F	

Air Test: 30 psi for 5 minutes- 5 psi loss allowed.

Tested By: Victor Casillas

Repair Log

Lange
Containment Systems Inc.

Project Name: Starky Frac
Project Manager:
Supintendent: Victor Casillas

	HDPE	Date: 08-22-12
	HDT	Job#:
	PPR	Thickness:
40	Other:	mil DLS Smooth

Primary **Secondary** **Other**

VT=Vacum Test ST=Spark Test PT=Probe Test

Repair Number	Damage Code	Seam # or Panel #	Location	Date	Equip #	Operator	Repair Type	Approx. Size	Test Data		
									Test	Results	Date
1	T	1-2-3-4	X	8-22-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-22-12
2	T	1-4-5-12	X	8-22-12	82	AS	P	2'X3'	(VT) ST PT	(P) F	8-22-12
3	T	5-6-12	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
4	T	6-7-12	X	8-22-12	82	AS	P	2'X3'	(VT) ST PT	(P) F	8-22-12
5	DS-1	7-12	AT 11 EE OS	8-22-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-22-12
6	T	7-8-11-12	X	8-22-12	82	AS	P	2'X4'	(VT) ST PT	(P) F	8-22-12
7	T	8-9-10-11	X	8-22-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-22-12
8	DS-2	14-15	AT 43 WE OS	8-22-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-22-12
9	T	16-17-18-19	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
10	T	15-16-19-20	X	8-22-12	82	AS	P	3'X3'	(VT) ST PT	(P) F	8-22-12
11	T	15-20-21	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
12	T	15-21-22	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
13	DS-3	22-23	AT 40 AE OS	8-22-12	82	AS	P	2'X5'	(VT) ST PT	(P) F	8-22-12
14	T	15-22-23-26	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
15	T	23-24-25-26	X	8-22-12	82	AS	P	2'X2'	(VT) ST PT	(P) F	8-22-12
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	
									VT ST PT	P F	

Vacum Test: PSI for Seconds. Probe Test: PSI.

Damage Codes:

Bo - Burn Out
CR - Crease
DS-# Destruct Sample
EE - Earthwork Equipment Damage
FM - Fish Mouth
ES- Exposed Scrim
SI - Subgrade Irregularity
RW- Roller Wrinkle in Seam
WR - Wrinkle
WS - Welder Restart
BL - Blister
T - Joint

Repair Types:

C - Cap Strip
P - Patch
B - Extrusion Bead

* TOS - Top of Slope
** BOS - Toe of Slope

Destruct Summary

Lange
Containment Systems inc.

Project Name: Starky Trac
Project Manager:
Superintendent: Victor Casillas
Reported By: Victor Casillas

Primary (Secondary) Other:

Job#:

Material: 40 mil DLS Smooth

Destructive Test

D.S. No.	Seam No.	Weld Time	Weld Date	Operator Name/ ID	Machine Number	Peel Test(Extr.) min ppi Coupon 1 A / B	Coupon 2 A / B	Coupon 3 A / B	Coupon 4 A / B	Coupon 5 A / B	Peel Test(Fusion) ppi Coupon 1 Shear	Coupon 2 Shear	Shear Test mim ppi Coupon 3 Shear	Coupon 4 Shear	Coupon 5 Shear	Ambient Temp	Results	Machine Temp & Speed	NOTES
DS-1	7-12	am	8-22-12	JN	128	100/104	101/102	107/101	99/100	100/99	129	133	130	132	135		(P) F	800° 700	
DS-2	14-15	am	8-21-12	VC	127	96/84	99/86	85/82	86/80	84/81	131	130	132	138	136		(P) F	800° 700	
DS-3	22-23	am	8-21-12	VC	127	91/80	82/90	90/96	94/90	93/97	130	131	134	125	134		(P) F	800° 700	
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
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						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		
						/	/	/	/	/							P F		

Samples Sent Via:

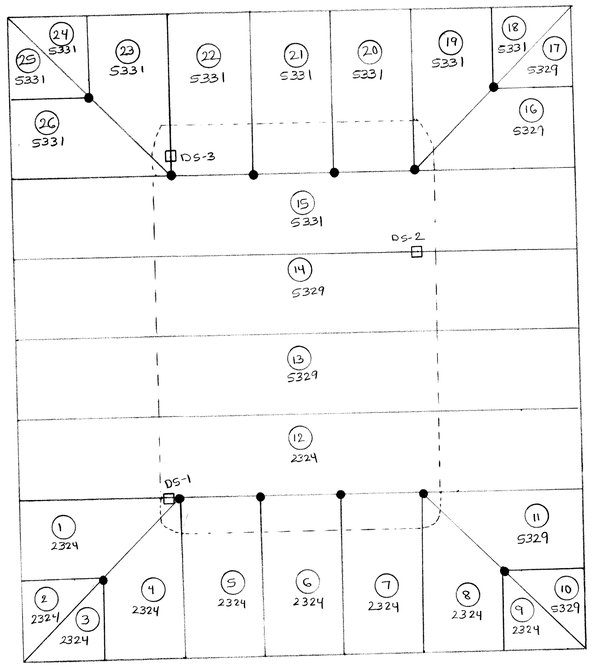
Last Sample #:

On (Date):

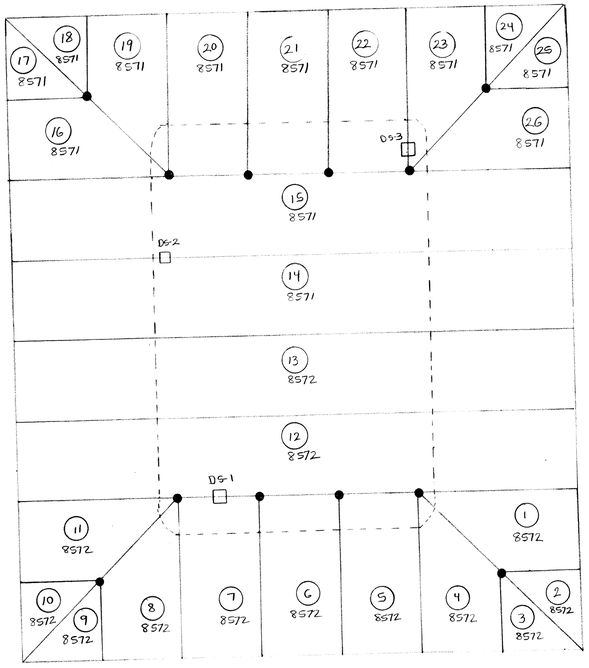
Notes:

STARKEY FRAC

PRIMARY



SECONDARY



▫ = DESTRUCTIVES

⊛ = PANEL NUMBERS

• = PATCHES

0-1-2-3-4-5-6-7-8-9 = ROLL NUMBERS

LANGE

SCALE: 1" = 20'

APPROVED BY:

DRAWN BY: Victor

DATE: 8-25-12

REVISED

60 MIL D/SMOOTH

40 MIL D/SMOOTH

DRAWING NUMBER 1-1