

*Mine Unit 1 Document
Volume 2 of 2
(Petrotek Pump Test Report)
Replacement Pages*

List of Completion Logs for Wells Monitored during the MU1 Pump Tests ⁽⁴⁾				
<i>DE Horizon</i>		<i>HJ Horizon</i>		<i>HJ Horizon (cont'd)</i>
	Previously Submitted ⁽¹⁾		New Completions ⁽²⁾	New Completions ⁽²⁾
	HJT-106		M-101	(cont'd)
	HJT-107		M-102	MP-101
	LC-29M		M-103	MP-109
			M-104	MP-110
<i>FG Horizon</i>				<i>KM Horizon</i>
	New Completions ⁽²⁾		M-105	MP-111
	MO-101		M-106	MP-112
	MO-109		M-107	MP-113
	MO-110		M-108	PW-101
	MO-111		M-109	PW-102
	MO-112		M-110	Previously Submitted ⁽¹⁾
	MO-113		M-111	HJMP-101
	Previously Submitted ⁽¹⁾		M-112	HJMP-104
	HJMO-101		M-113	HJMP-105
	HJMO-104		M-114	HJMP-108
	HJMO-105		M-115	HJMP-109
	HJMO-108		M-116	HJMP-110
	HJMO-109		M-117	HJMP-113
	HJMO-110		M-118	HJT-101
	HJMO-113		M-119	HJT-102
	LC15M		M-120	HJT-103
	LC18M		M-120A	HJT-104
	LC25M		M-121	HJT-105
	MO-102 (HJMO-114)		M-122	LC-16M
	MO-103 (HJMO-112)		M-123	LC-19M
	MO-104 (HJMO-107)		M-124	UKMO-101
	MO-105 (HJMO-111)		M-125	UKMO-102
	MO-106 (HJMO-106)		M-126	UKMO-103
	MO-107 (HJMO-103)		M-127	Recompletes ⁽³⁾
	MO-108 (HJMO-102)		M-128	MP-102 (HJMP-114)
	Recompletes ⁽³⁾			MP-103 (HJMP-112)
	MO-114 (UKMU-101)			MP-104 (HJMP-107)
	MO-115 (UKMU-102)			MP-105 (HJMP-111)
				MP-106 (HJMP-106)
				UKMU-103

(1) Completion Logs (paper copies) submitted in Attachement D6-3 of Appendix D-6 of the main permit document.

(2) Completion Logs (paper copies) submitted in this Attachement.

(3) Completion Logs (paper copies) submitted in this Attachment detailing the recompletion of these wells.

(4) See the attached CD in Appendix A-1 for digital copies of all Completion Logs of wells monitored during the MU1 Pump Tests.

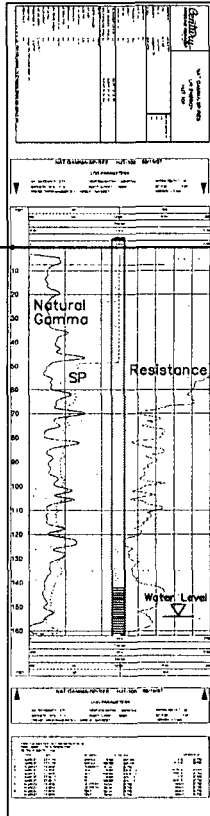
List of Completion Logs for Wells Monitored during the MU1 Pump Tests				
DE Horizon		HJ Horizon		HJ Horizon (cont'd)
	Previously Submitted ⁽¹⁾		New Completions ⁽²⁾	New Completions ⁽²⁾
	HJT-106		M-101	(cont'd)
	HJT-107		M-102	MP-101
	LC-29M		M-103	MP-109
			M-104	MP-110
			M-105	MP-111
			M-106	MP-112
			M-107	MP-113
			M-108	PW-101
			M-109	PW-102
			M-110	Previously Submitted ⁽¹⁾
			M-111	HJMP-101
			M-112	HJMP-104
			M-113	HJMP-105
			M-114	HJMP-108
			M-115	HJMP-109
			M-116	HJMP-110
			M-117	HJMP-113
			M-118	HJT-101
			M-119	HJT-102
			M-120	HJT-103
			M-120A	HJT-104
			M-121	HJT-105
			M-122	LC-16M
			M-123	LC-19M
			M-124	UKMO-101
			M-125	UKMO-102
			M-126	UKMO-103
			M-127	Recompletes ⁽³⁾
			M-128	MP-102 (HJMP-114)
				MP-103 (HJMP-112)
				MP-104 (HJMP-107)
				MP-105 (HJMP-111)
				MP-106 (HJMP-106)
				UKMU-101
				UKMU-102
				UKMU-103

(1) Completion Logs (paper copies) submitted in Attachement D6-3 of Appendix D-6 of the main permit document.

(2) Completion Logs (paper copies) submitted in this Attachement.

(3) Completion Logs (paper copies) submitted in this Attachment detailing the recompletion of these wells.

HJT-106



Vertical Scale: 1"=50'

HJT-106

Ground Level		
No lithology data		
SANDSTONE, shaley		BC
SANDSTONE		
MUDSTONE		
MUDSTONE, sandy		
SANDSTONE		DE

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJT-106 SEO # 179861 Date Drilled: 8-15-07

Location: E 744,221 / N 534,573 (NAD 27)

Ground Elev: 6933.14' Measure Point Elev: 6935.14'

TD: 162' Hole Dia.: 7-7/8"

CASED to: 162' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru tremie pipe set at 142'

COMPLETION Aquifer: DE Sand

Static Water Level: Depth 154' Elev: 6781' (avg.)

UNDERREAM: Blade Dia: N/A

Intervals: from _____ to _____ / length _____
from _____ to _____ / length _____

SLOTTED CASING

Description	Depth From - To	Elev. / From - To	Length
<u>Slotted Casing</u>	<u>142'</u> <u>162'</u>	<u>6793'</u> <u>6773'</u>	<u>20'</u>

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

FILTER PACKING:

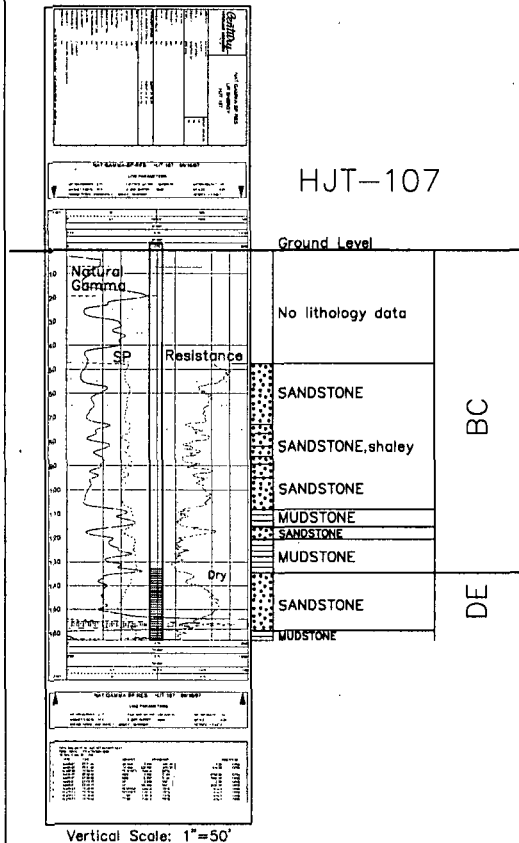
Volume: 6 bags Sand Specs. _____
Method: tremie 142'-162'

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor / None

HJT-106

HJT-107



HJT-107

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJT-107 SEO # 179862 Date Drilled: 9-6-07

Location: E 745,230 / N 534,833 (NAD 27)

Ground Elev: 6942.69 Measure Point Elev: 6944.34

TD: 163 ft. Hole Dia.: 7-7/8"

CASED to: 163' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru tremie pipe set at 133'

COMPLETION Aquifer: DE Sand

Static Water Level: Depth dry Elev: N/A

UNDERREAM: Blade Dia: N/A

Intervals: from _____ to _____ /length _____
from _____ to _____ /length _____

SLOTTED CASING

Description	Depth From - To	Elev. / From - To	Length
<u>Slotted Casing</u>	<u>133' - 163'</u>	<u>6811' - 6781'</u>	<u>30'</u>

SCREEN SPECIFICATIONS:

Slot: N/A Composition N/A

FILTER PACKING:

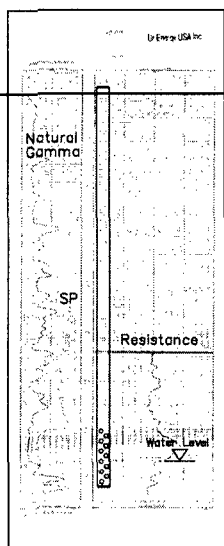
Volume: 15 bags ³ Sand Specs. _____
Method: tremie 133'-163'

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor None

HJT-107

LC29M



Vertical Scale: 1"=50'

LC29M

Ground Level

No lithology data

BC
DE
EF

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC29M SEO # 175260 Date Drilled: 8-30-06

Location: E 744,547 / N 534,837 (NAD 27)

Ground Elev: 6935.11 Measure Point Elev: 6936.86

TD: 171 ft. Hole Dia.: 7-7/8"

CASED to: 140' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: DE Sand

Static Water Level: Depth 155' Elev: 6782' (avg.)

UNDERREAM: Blade Dia: N/A

Intervals: from to / length
from to / length

PERFORATED CASING COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
Perf. Casing	140'	164'	6797'	6773'	24'

SCREEN SPECIFICATIONS:

Slot: Composition N/A

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.

Method: N/A

WELL STIMULATION: Method N/A

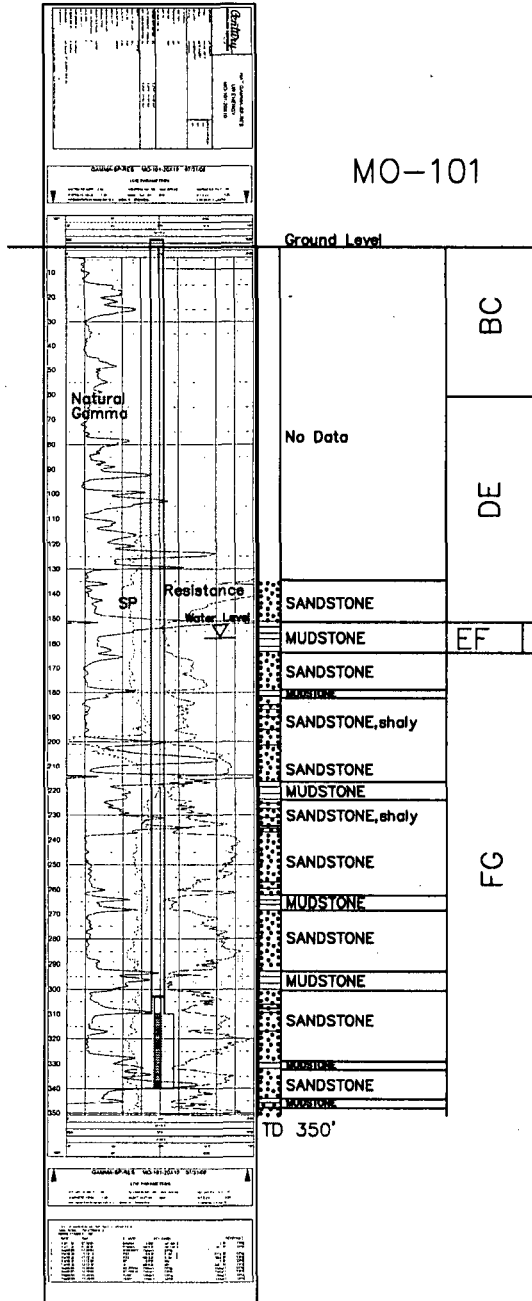
Yield: Good / Moderate / Poor

LC29M

MO-101

MO-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT



MO-101

WELL # MO-101 SEO # 187661 Date Drilled: 7/31/08

Location: E 2,213,870 / N 595,207 (NAD 83)

Ground Elev: 6938.5' Measure Point Elev: 6940.24'

TD: 350' ft. Hole Dia.: 7-7/8"

CASED to: 310' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth 158' Elev: 6781' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 310' to 340' /length 30'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	303'		6636'		
Screen	310'	340'	6629'	6599'	30'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

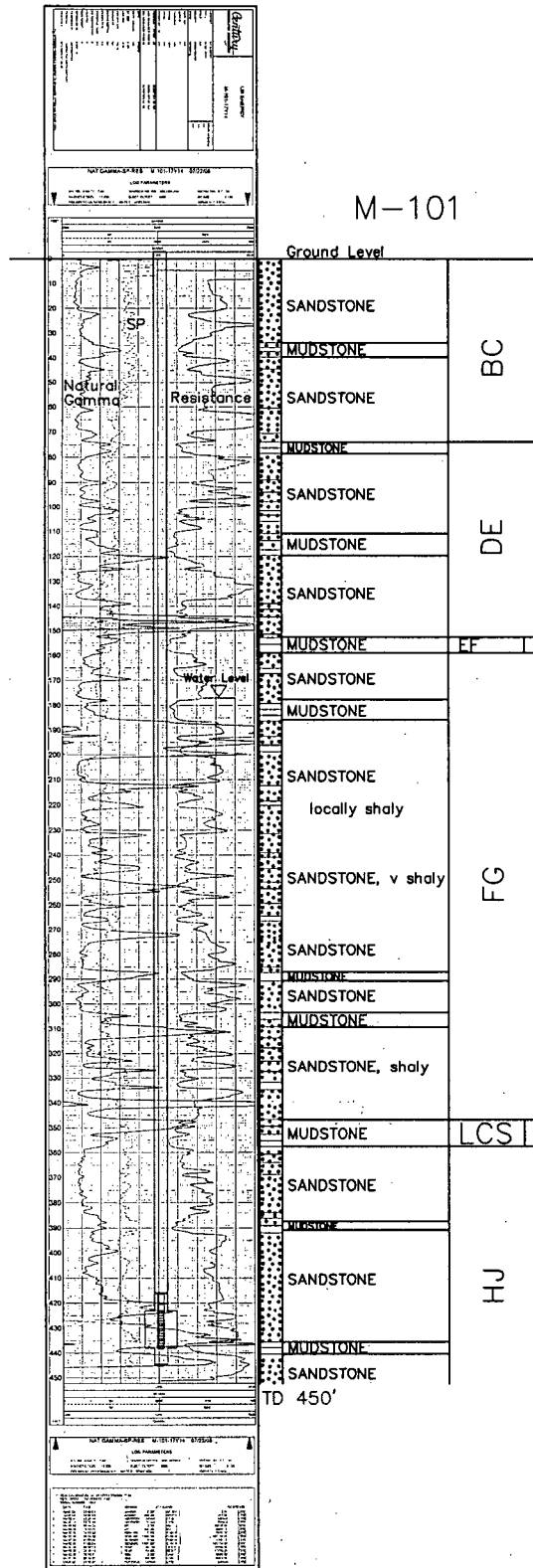
WELL STIMULATION: Method Airlift

Yield: Good / Moderate Poor

M-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-101



M-101

WELL # M-101 SEO # 187651 Date Drilled: 7/22/08

Location: E 2,214,619 / N 595,288' (NAD 83)

Ground Elev: 6948.8' Measure Point Elev: 6949.24

TD: 450' Hole Dia.: 7-7/8"

CASED to: 445' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 177' Elev: 6772' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 423' to 438' / length 15'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	416'		6533'		
Screen	423'	438'	6526'	6511'	15'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

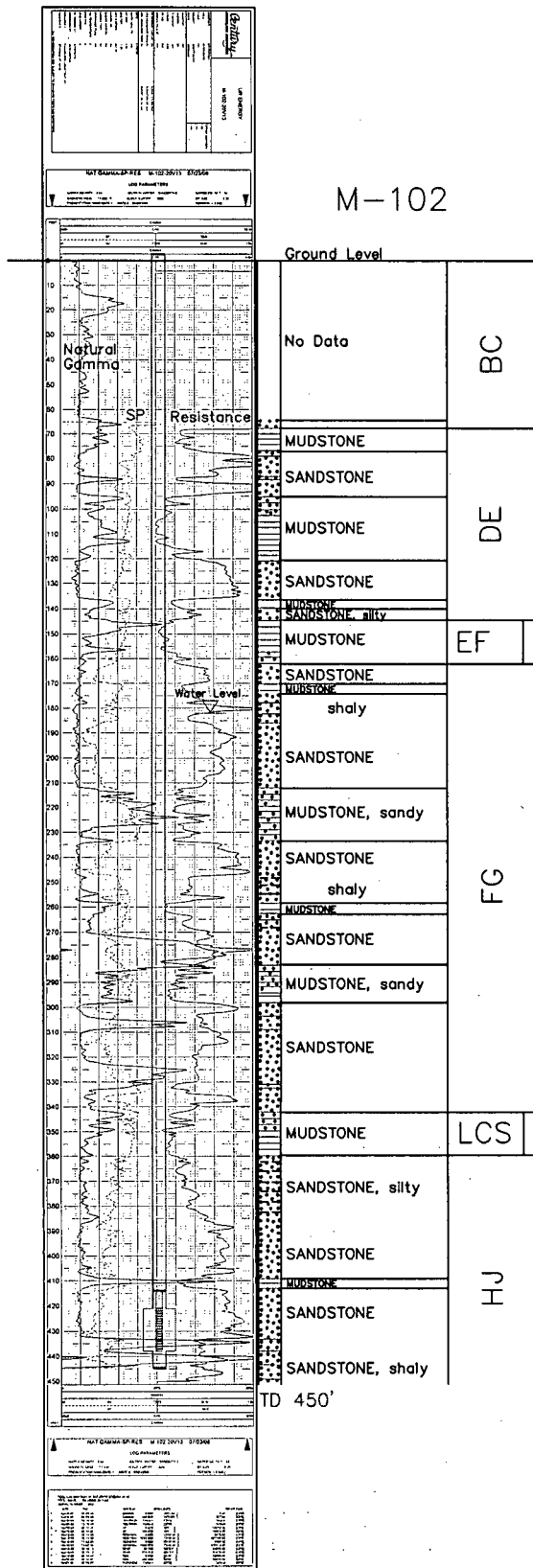
WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

M-102

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-102



WELL # M-102 SEO # 187651 Date Drilled: 7/23/08

Location: E 2,214,476 / N 594,822 (NAD 83)

Ground Elev: 6951.4' Measure Point Elev: 6952.73'

TD: 450 Hole Dia.: 7-7/8"

CASED to: 445 Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 182' Elev: 6769' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 421' to 438' / length 17'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	414'		6537'		
Screen	421'	438'	6530'	6513'	17'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

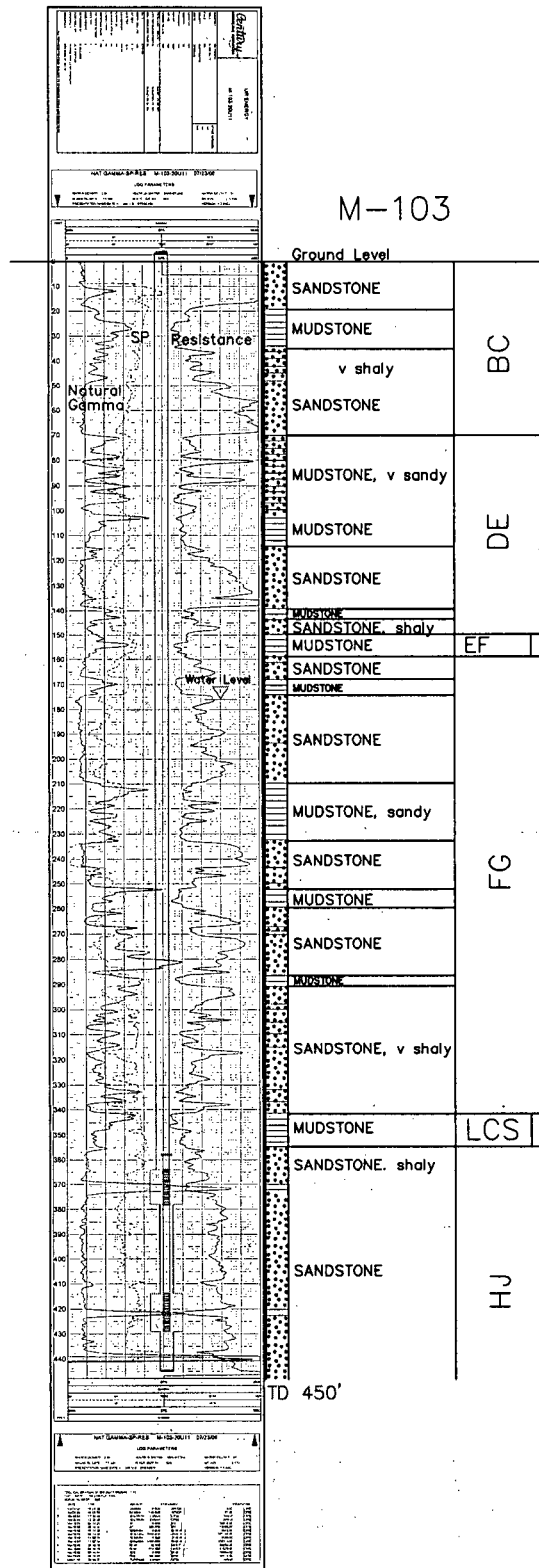
M-102

M-103

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-103



WELL # M-103 SEO # 187651 Date Drilled: 7/23/08

Location: E 2,214,019 / N 594,644 (NAD 83)

Ground Elev: 6945.2' Measure Point Elev: 6946.20'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 445 Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ MHJ Sands

Static Water Level: Depth 176' Elev: 6769' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 364' to 378' / length 14'
from 414' to 434' / length 20'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	358'		6587'		14'
Screen	364'	378'	6581'	6567'	14'
Screen	414'	434'	6531'	6511'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

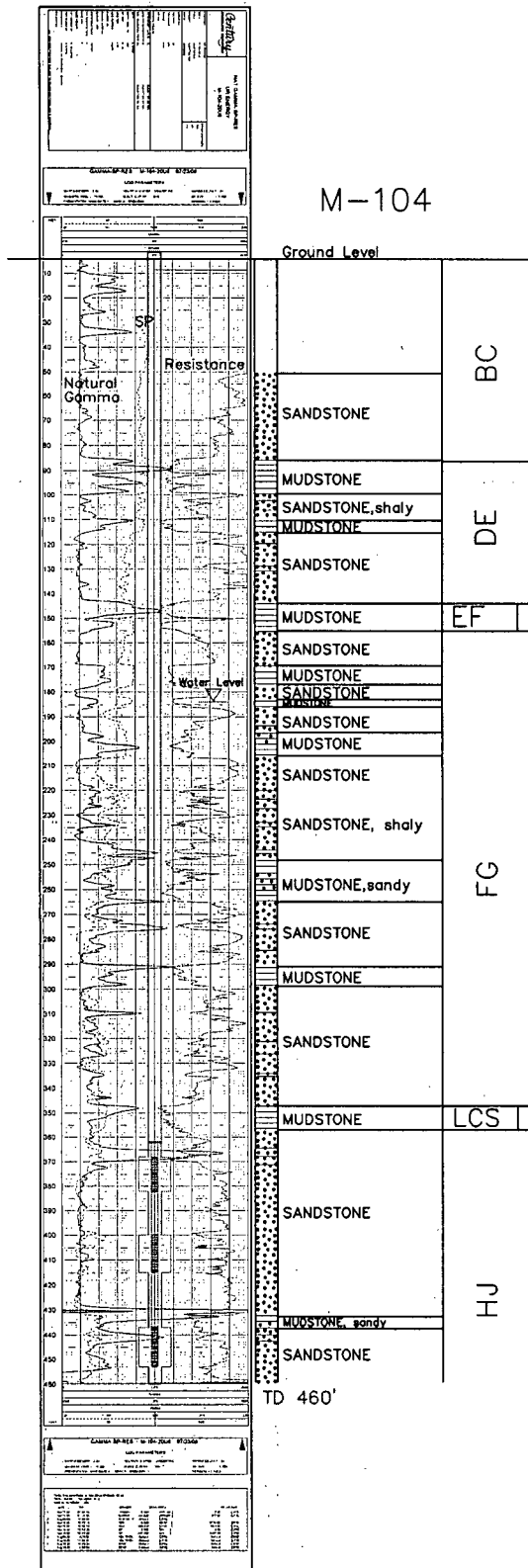
M-103

M-104

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-104



WELL # M-104 SEO # 187651 Date Drilled: 7/23/08

Location: E 2.213.543 / N 594.565 (NAD 83)

Ground Elev: 6941.7' Measure Point Elev: 6942.11'

TD: 460' Hole Dia.: 7-7/8"

CASED to: 460' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ, MHJ, LHJ Sands

Static Water Level: Depth 184' Elev: 6758' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 368' to 382' / length 14'

from 400' to 415' / length 15'

from 437' to 453' / length 16'

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
From - To	From - To		
K-packer	362' - 6580'		
Screen	368' - 382' / 6574' - 6560'		14'
Screen	400' - 415' / 6542' - 6527'		15'
Screen	437' - 453' / 6505' - 6489'		16'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition: 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.

Method: N/A

WELL STIMULATION: Method Airlift

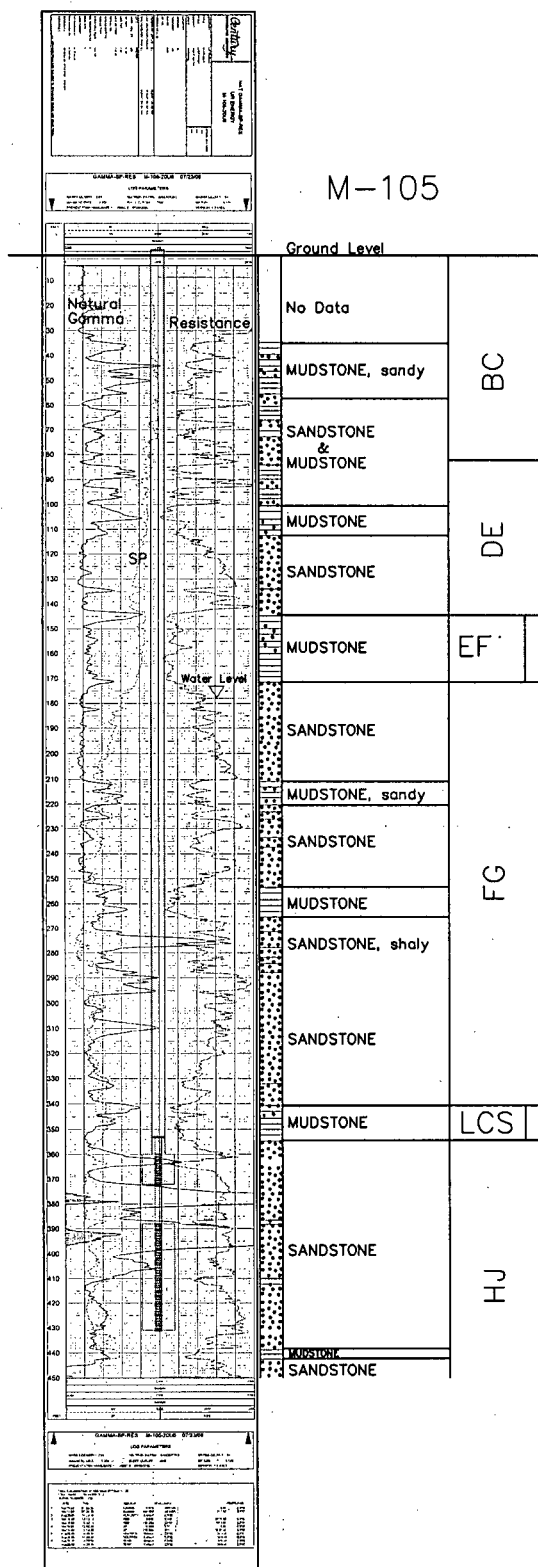
Yield: Good / Moderate / Poor

M-104

M-105

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-105



M-105

WELL # M-105 SEO # 187652 Date Drilled: 7/23/08Location: E 2,213,052 / N 594,631 (NAD 83)Ground Elev: 6933.2' Measure Point Elev: 6933.45'TD: 450' Hole Dia.: 7-7/8"CASED to: 360' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UHJ, MHJ SandsStatic Water Level: Depth 178' Elev: 6755' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 360' to 372' / length 12'
from 388' to 431' / length 43'**SCREEN LINER ASSEMBLY**

Description	Depth	Elev.	Length
	From - To	From - To	
K-packer	353'	6580'	
Screen	360' 372'	6573' 6561'	12'
Screen	388' 431'	6545' 6502'	43'

SCREEN SPECIFICATIONS:Slot: 0.020" Composition 3" PVC**FILTER PACKING:**Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-106

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-106

WELL # M-106 SEO # 187652 Date Drilled: 7/24/08

Location: E 2,212,578 / N 594,746 (NAD 83)

Ground Elev: 6922.6' Measure Point Elev: 6922.85'

TD: 440' Hole Dia.: 7-7/8"

CASED to: 356' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ, MHJ Sands

Static Water Level: Depth 169' Elev: 6954' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 356' to 401' / length 45'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-packer	349'		6574'		
Screen	356'	401'	6567'	6522'	45'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

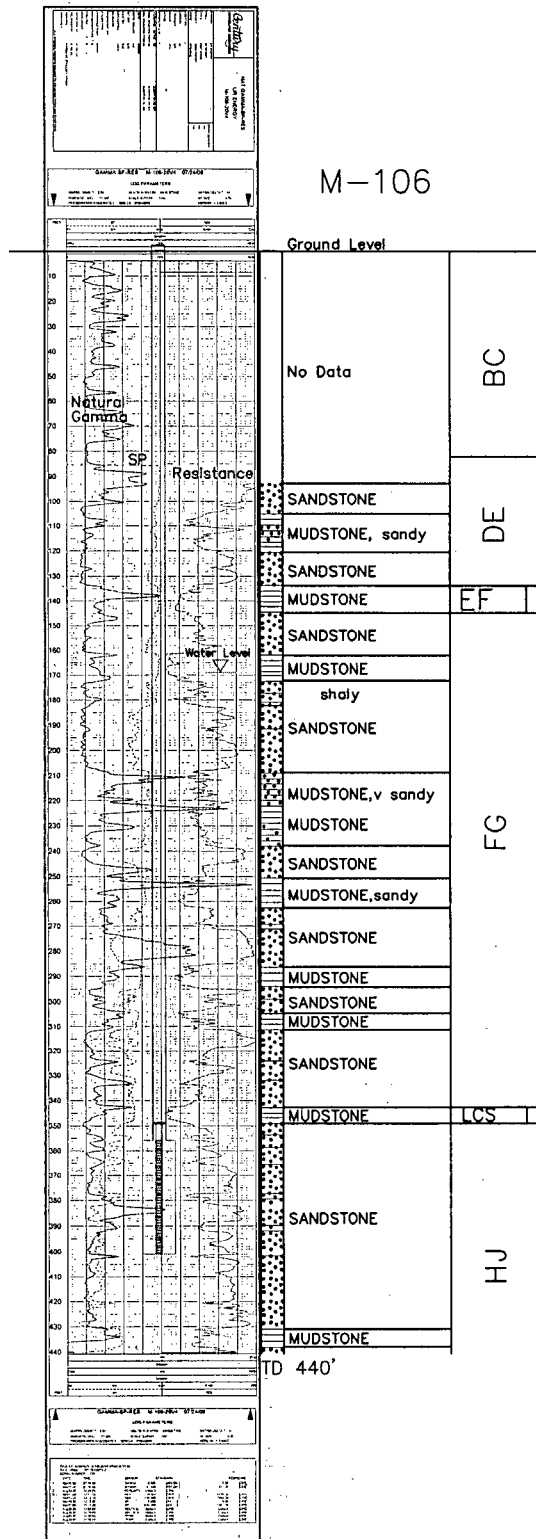
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield Good / Moderate / Poor

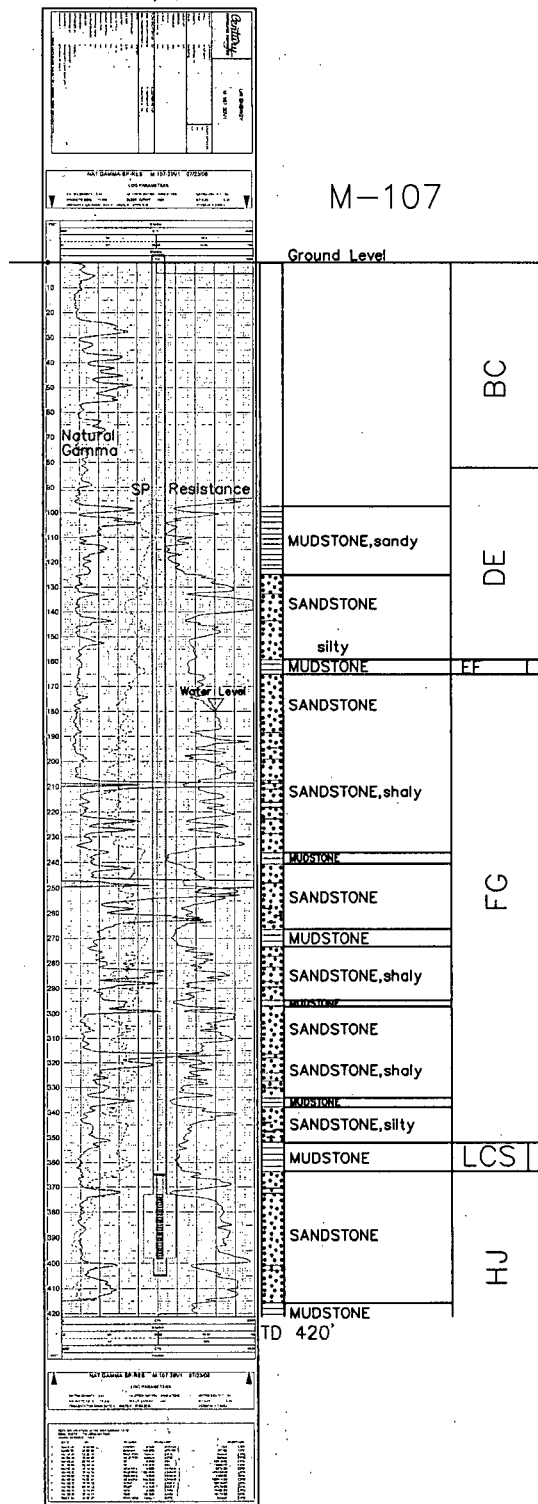


M-106

M-107

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-107



WELL # M-107 SEO # 187652 Date Drilled: 7/24/08

Location: E 2,212,095 / N 594,681 (NAD 83)

Ground Elev: 6927.6' Measure Point Elev: 6927.93'

TD: 420 Hole Dia.: 7-7/8"

CASED to: 405' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ Sand

Static Water Level: Depth 180' Elev: 6748' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 373' to 398' / length 25'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	365'		6563'		
Screen	373	398'	6555'	6530'	25'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

M-107

MO-101

WELL # MO-101 SEO # 187661 Date Drilled: 7/31/08

Ground Elev: 6938.5' Measure Point Elev: 6940.24'

TD: 350' ft. Hole Dia.: 7-7/8"

CASED to: 310' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth 158' Elev: 6781' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 310' to 340' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	303'		6636'		
Screen	310'	340'	6629'	6599'	30'

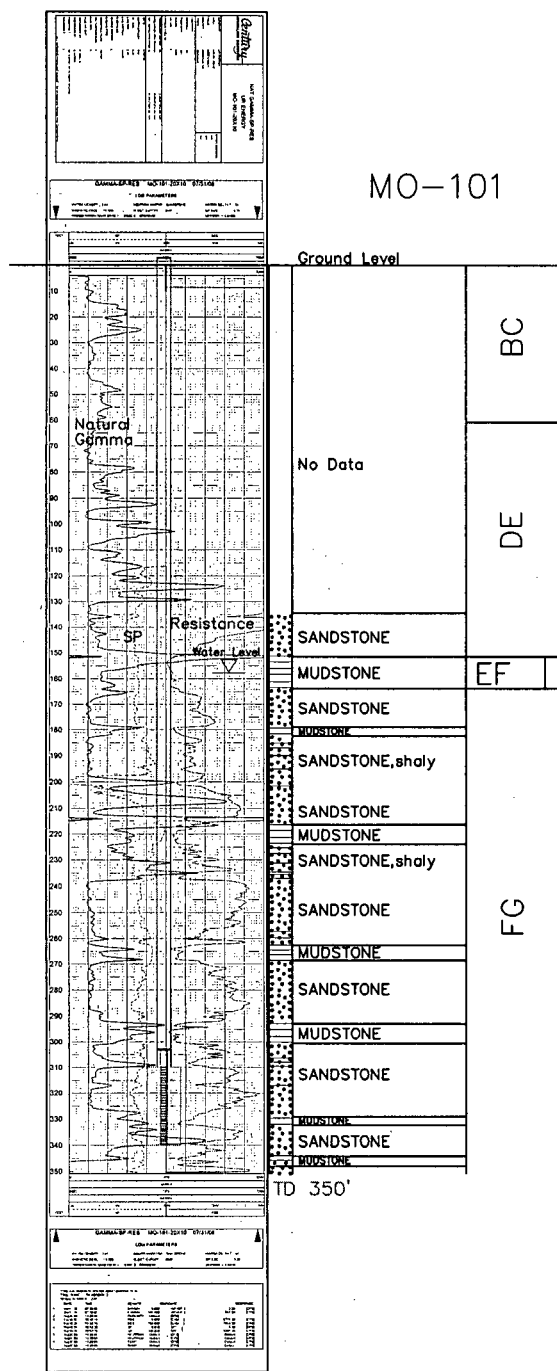
SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

MO-101

MO-109

MO-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MO-109 SEO # 187658 Date Drilled: 7/23/08

Location: E 2,210.957 / N 595.223 (NAD 83)

Ground Elev: 6931.7' Measure Point Elev: 6932.18'

TD: 360' Hole Dia.: 7-7/8"

CASED to: 330' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth 168' Elev: 6764' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 330' to 355' / length 25'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packers	323'		6609'		
Screen	330'	355'	6602'	6577'	25'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

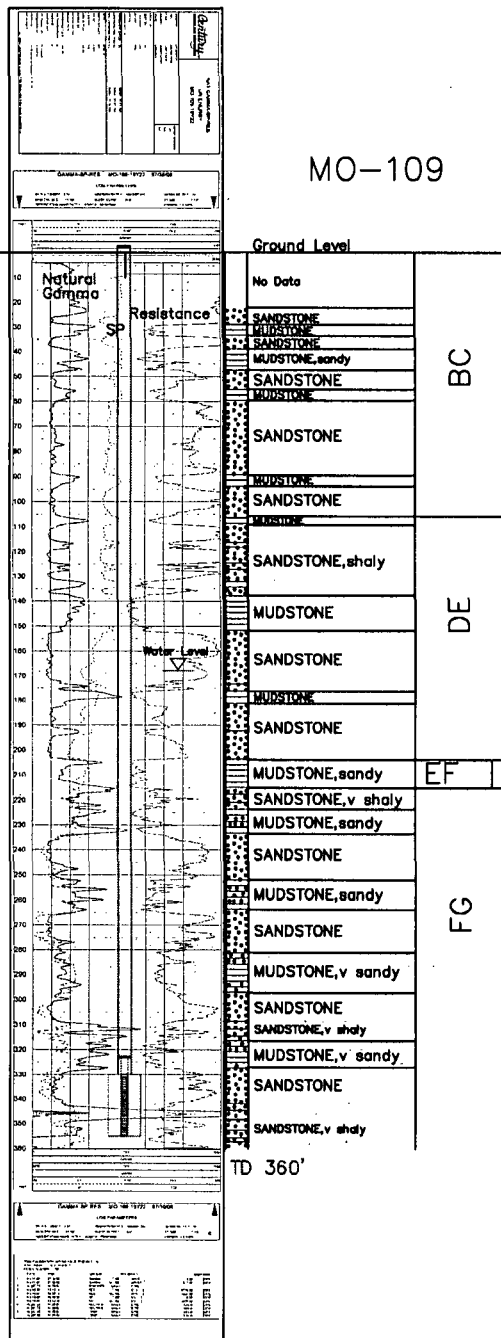
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



MO-109

MO-110

MO-110

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MO-110 SEO # 187658 Date Drilled: 7/30/08

Location: E 2,210,183 / N 595,637 (NAD 83)

Ground Elev: 6937.4' Measure Point Elev: 6938.39'

TD: 340' Hole Dia.: 7-7/8"

CASED to: 315' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth 169' Elev: 6768' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 315' to 340' / length 25'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-pack	308'		6629'		
Screen	315'	340'	6622'	6597'	25'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

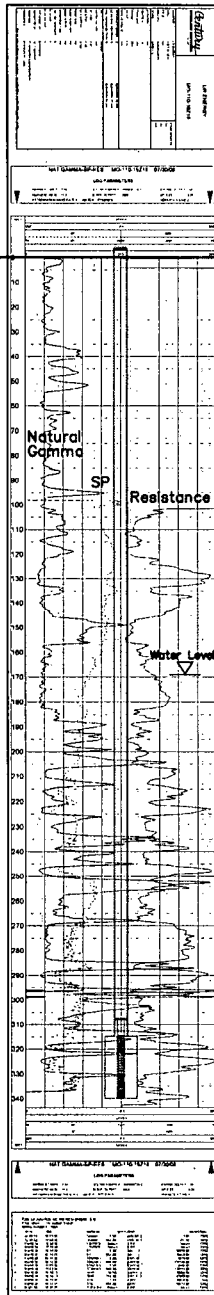
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

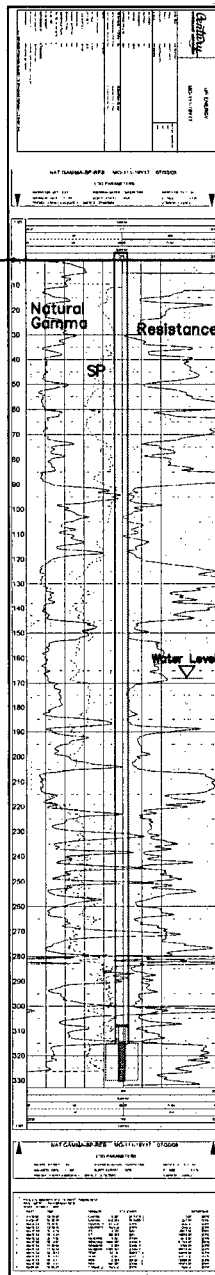
Yield: Good / Moderate / Poor



MO-110

MO-111

MO-111



MO-111

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MO-111 SEO # 187658 Date Drilled: 7/30/08Location: E 2,209,938 / N 595,367 (NAD 83)Ground Elev: 6936.0 Measure Point Elev: 6936.70'TD: 330' Hole Dia.: 7-7/8"CASED to: 315' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: LFG SandStatic Water Level: Depth 168' Elev: 6768' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 315' to 330' / length 15'
from _____ to _____ / length _____**SCREEN LINER ASSEMBLY**

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	308'		6628'		
Screen	315'	330'	6621'	6606'	15'

SCREEN SPECIFICATIONS:Slot: 0.020" Composition 3" PVC**FILTER PACKING:**Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate Poor

MO-112

MO-112

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MO-112 SEO # 187658 Date Drilled: 7/29/08Location: E 2,209,577 / N 595,528 (NAD 83)Ground Elev: 6935.4' Measure Point Elev: 6936.66'TD: 350' ft. Hole Dia.: 7-7/8"CASED to: 315' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: LFG SandStatic Water Level: Depth 169' Elev: 6766' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 315' to 335' / length 20'
from _____ to _____ / length _____

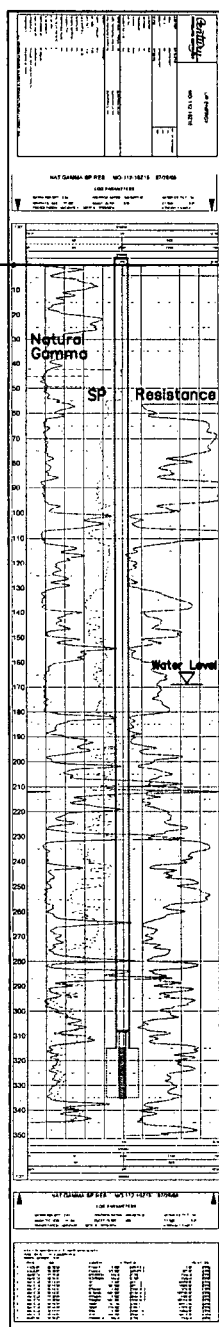
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	<u>308'</u>		<u>6627'</u>		
Screen	<u>315'</u>	<u>335'</u>	<u>6620'</u>	<u>6600'</u>	<u>20'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate Poor

MO-112

MO-113

MO-113

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # MO-113 SEO # 187658 Date Drilled: 7/29/09Location: E 2,209,855 / N 594,940 (NAD 83)Ground Elev: 6921.6' Measure Point Elev: 6922.29'TD: 365' Hole Dia.: 7-7/8"CASED to: 346' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: LFG SandStatic Water Level: Depth 162' Elev: 6760' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 346' to 366' / length 20'

from _____ to _____ / length _____

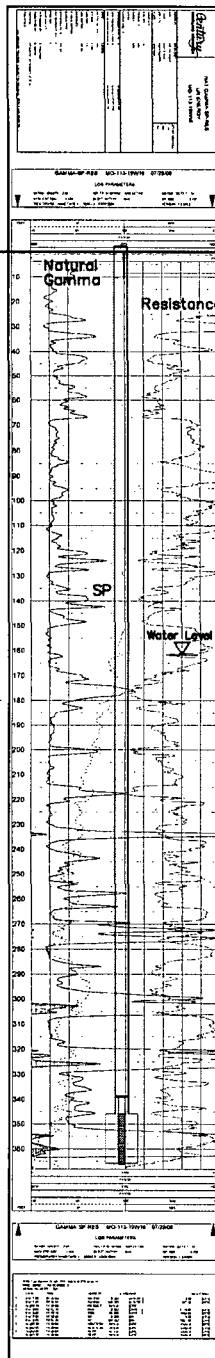
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	<u>339'</u>		<u>6583'</u>		
Screen	<u>346'</u>	<u>366'</u>	<u>6576'</u>	<u>6556'</u>	<u>20'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate Poor

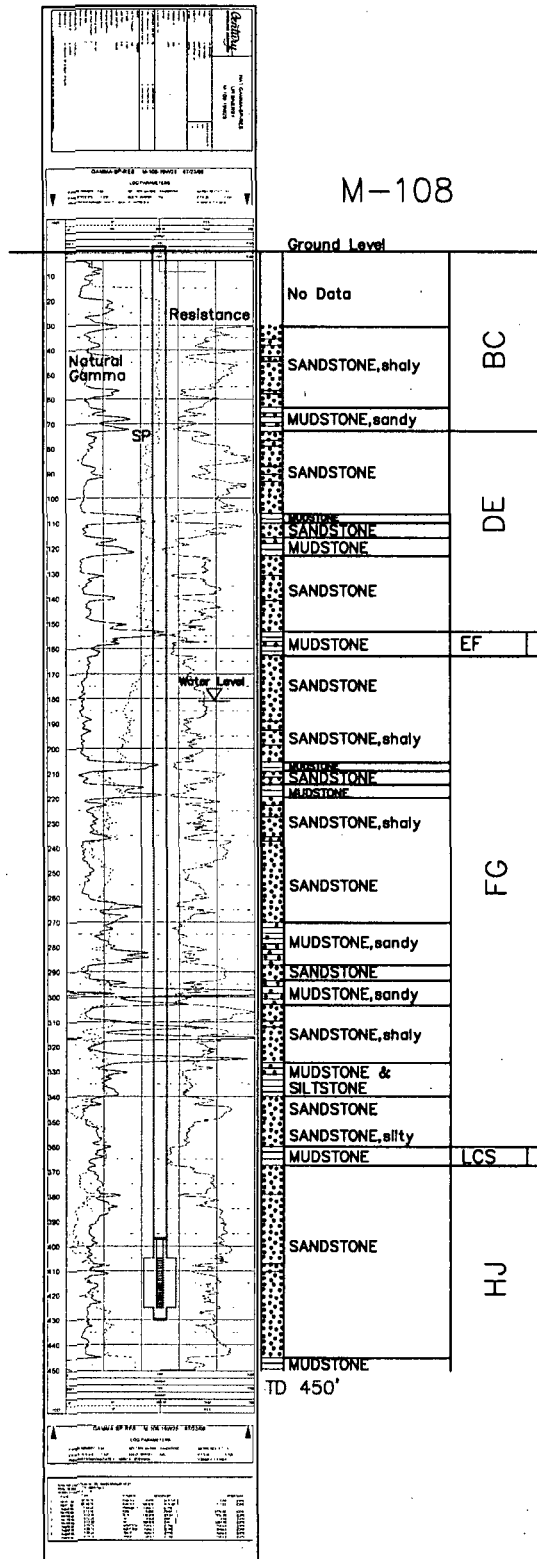
MO-113

M-108

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-108



M-108

WELL # M-108 SEO # 187653 Date Drilled: 7/23/08Location: E 2,211,634 / N 594,854 (NAD 83)Ground Elev: 6926.7' Measure Point Elev: 6927.87'TD: 450' Hole Dia.: 7-7/8"CASED to: 430' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 181' Elev: 6746' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 405' to 425' / length 20'from to / length

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	397'		6530'		
Screen	405'	425'	6522'	6502'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

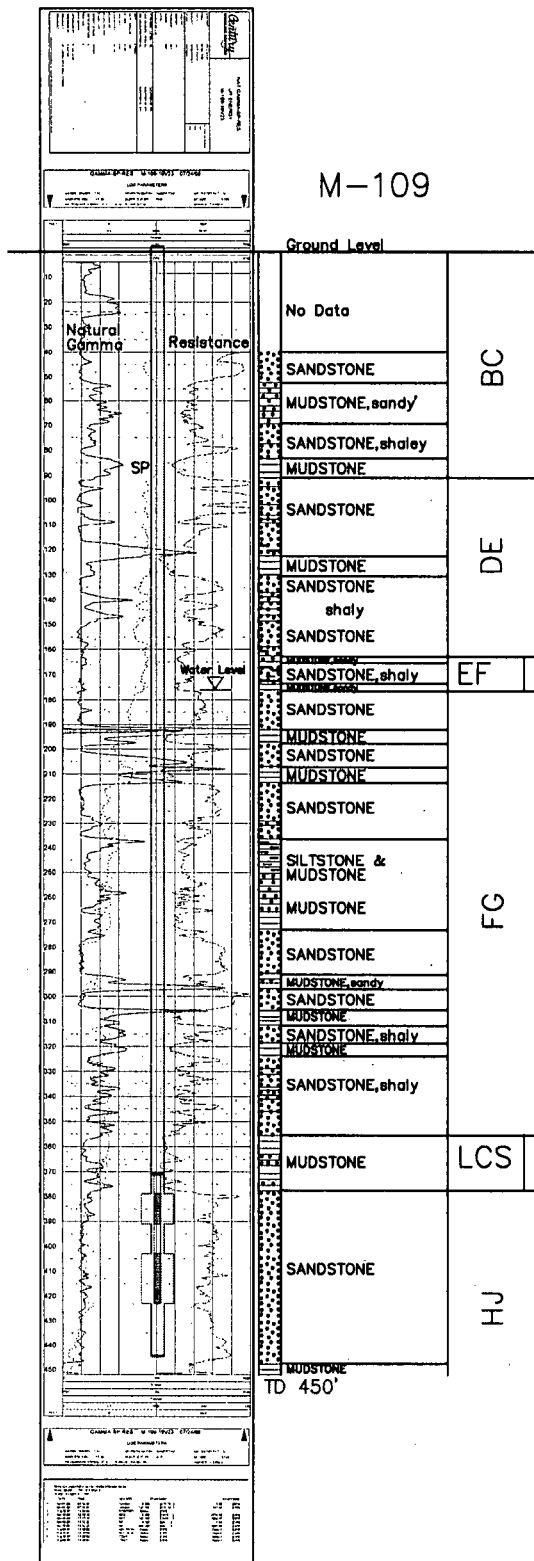
FILTER PACKING:

Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-109



WELL # M-109 SEO # 187653 Date Drilled: 7/24/08

Location: E 2,211,180 / N 594,671 (NAD 83)

Ground Elev: 6920.8' Measure Point Elev: 6921.72'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 445' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ, MHJ Sands

Static Water Level: Depth 176' Elev: 6745' (avg.)

UNDERREAM: Blade Dia: 10'

Intervals: from 379' to 391' / length 12'

from 403' to 423' / length 20'

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
From - To	From - To		
K-packer	371'	6550'	
Screen	379' 391'	6542' 6530'	12'
Screen	403' 423'	6518' 6498'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

M-109

M-110

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-110

WELL # M-110 SEO # 187653 Date Drilled: 7/24/08Location: E 2,210,691 / N 594,699 (NAD 83)Ground Elev: 6922.1' Measure Point Elev: 6922.41'TD: 430' Hole Dia.: 7-7/8"CASED to: 381' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UHJ, MHJ SandsStatic Water Level: Depth 180' Elev: 6742' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 381' to 392' / length 11'from 408' to 427' / length 19'

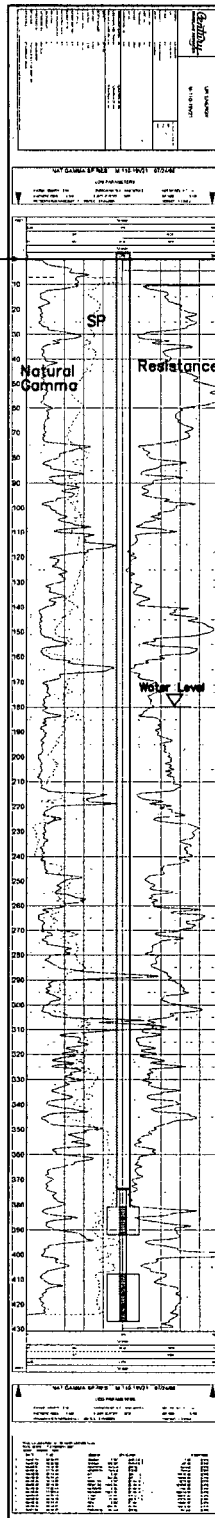
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	374'		6548'		
Screen	381'	392'	6541'	6530'	11'
Screen	408'	427'	6514'	6495'	19'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-110

M-112

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-112

WELL # M-112 SEO # 187655 Date Drilled: 7/25/08Location: E 2,209,790 / N 594,358 (NAD 83)Ground Elev. 6917.2' Measure Point Elev. 6917.97'TD: 490' Hole Dia.: 7-7/8"CASED to: 388' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UHJ, MHJ, LHJ SandsStatic Water Level: Depth 181' Elev. 3736' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 388' to 400' / length 12'
from 420' to 488' / length 68'

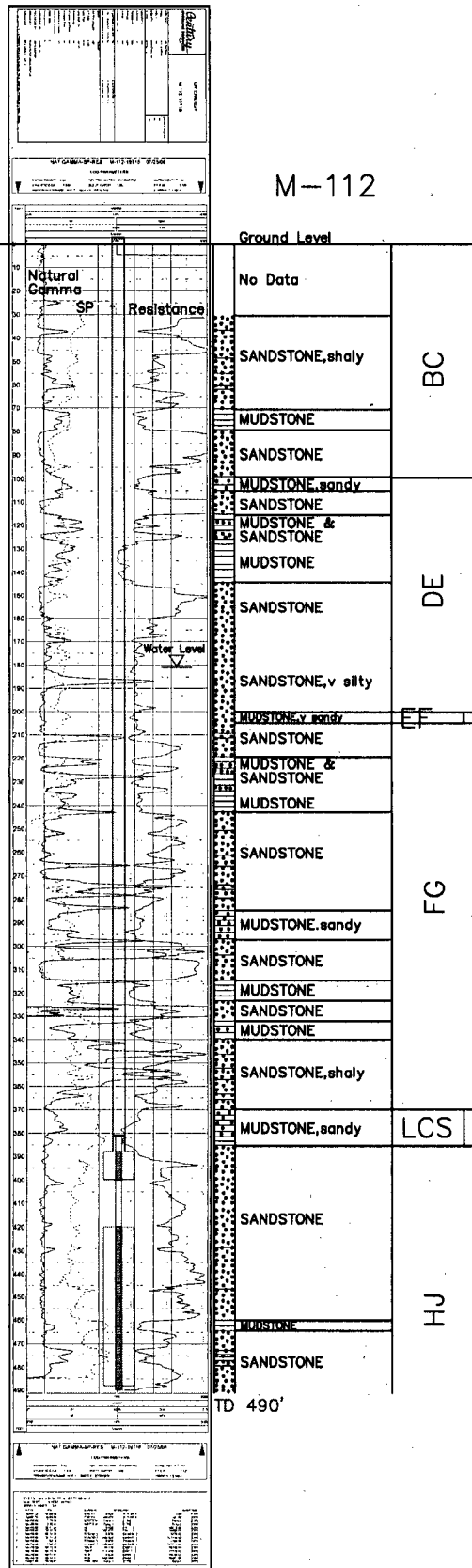
SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-packer	381'	6536'	
Screen	388' 400'	6529' 6517'	12'
	420' 488'	6497' 6429'	68'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-112

M-113

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-113

WELL # M-113 SEO # 187656 Date Drilled: 7/25/08Location: E 2,209.310 / N 594.510 (NAD 83)Ground Elev: 6927.1' Measure Point Elev: 6928.01'TD: 500' Hole Dia.: 7-7/8"CASED to: 396' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UHH, MHJ, LHJ SandsStatic Water Level: Depth 192' Elev: 6735' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 396' to 406' / length 10'from 417' to 439' / length 22'from 447' to 463' / length 16'from 472' to 480' / length 8'

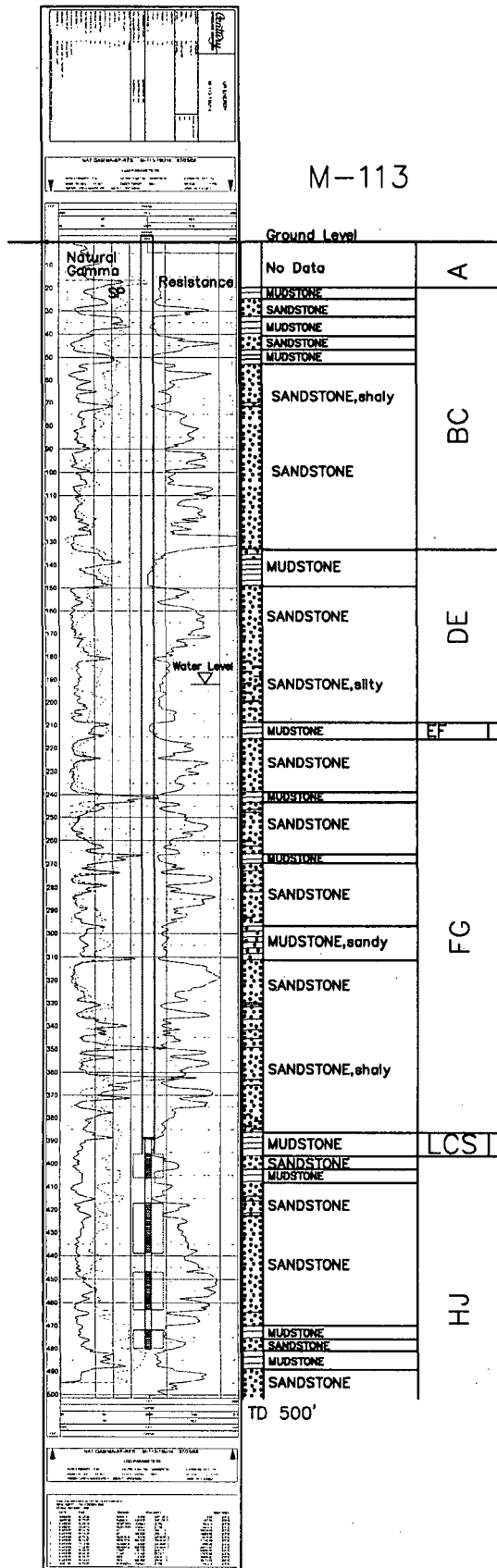
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	389'		6538'		
Screen	396'	406'	6531'	6521'	10'
Screen	417'	439'	6510'	6488'	22'
Screen	447'	463'	6480'	6464'	16'
Screen	472'	480'	6455'	6447'	8'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

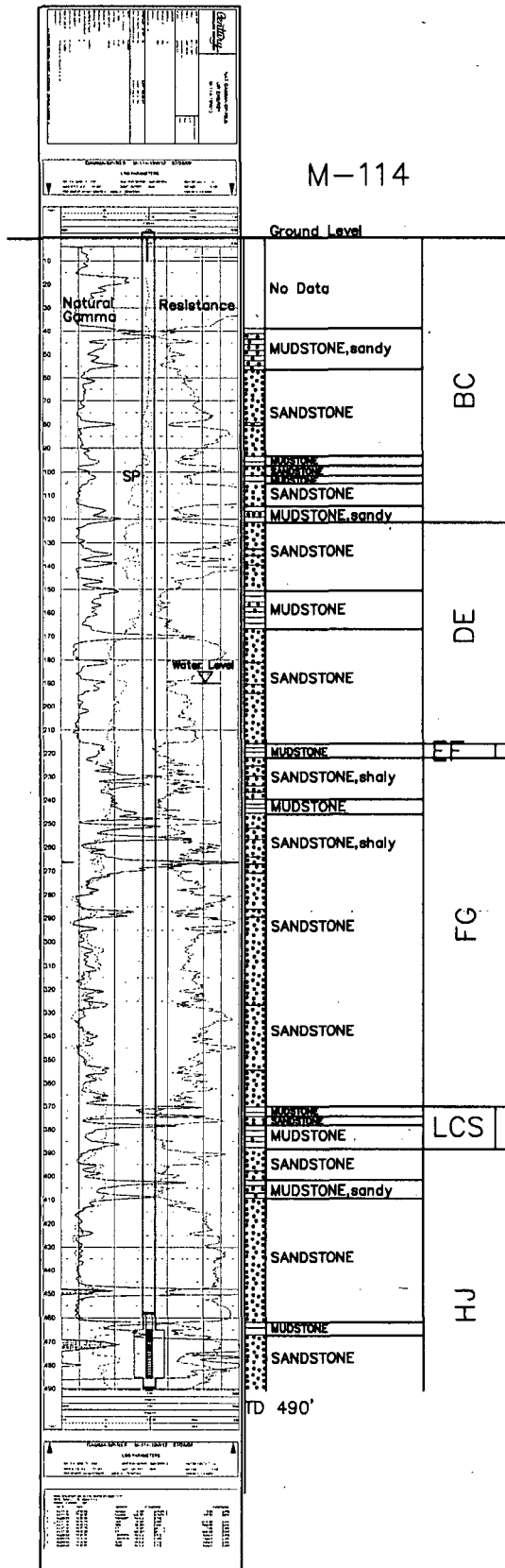
Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-113

M-114

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-114



WELL # M-114 SEO # 187656 Date Drilled: 7/28/08

Location: E 2,208,942 / N 594,834 (NAD 83)

Ground Elev: 6929.4' Measure Point Elev: 6930.75'

TD: 490' Hole Dia.: 7-7/8"

CASED to: 490' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 190' Elev: 6739' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 465' to 485' / length 20'

from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	458'		6471'		
Screen	465'	485'	6464'	6444'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

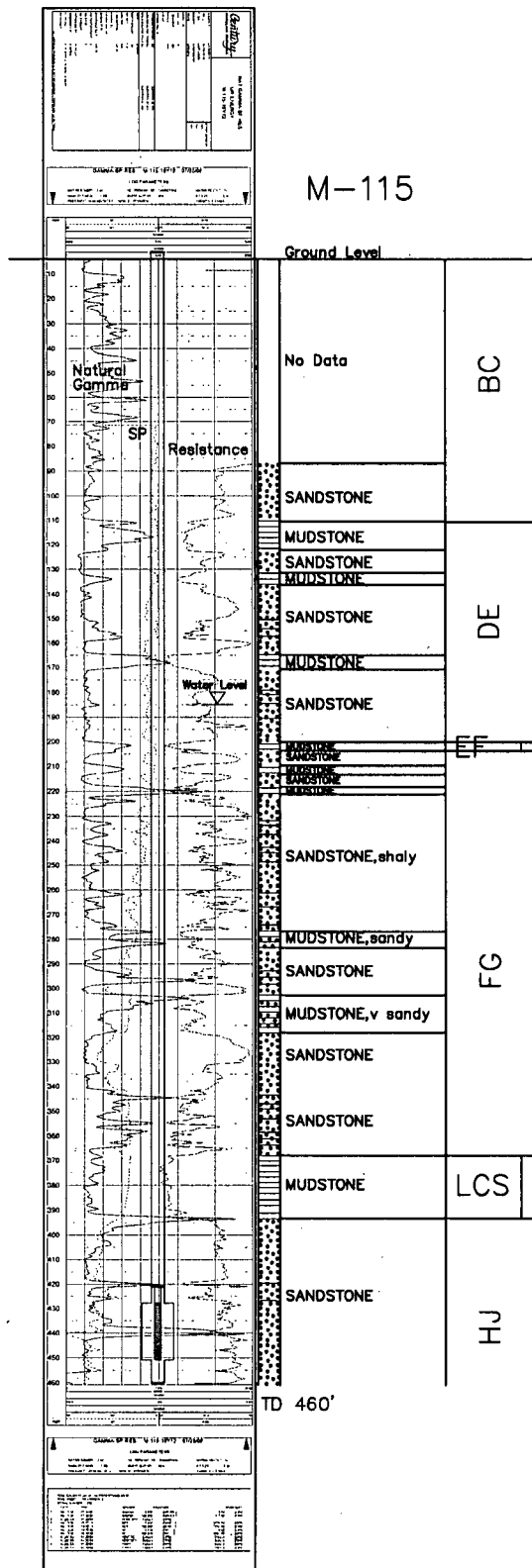
Yield: Good / Moderate / Poor

M-114

M-115

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-115



WELL # M-115 SEO # 187656 Date Drilled: 7/25/08

Location: E 2,208,879 / N 595,321 (NAD 83)

Ground Elev: 6937.5' Measure Point Elev: 6939.10'

TD: 460' Hole Dia.: 7-7/8"

CASED to: 460' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 185' Elev: 6753' (avg.)

UNDERREAM: Blade Dia: 11"

Intervals: from 428' to 451' / length 23'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	421'		6517'		
Screen	428'	451'	6510'	6487'	23'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

M-115

M-116

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-116

WELL # M-116 SEO # 187646 Date Drilled: 7/28/08Location: E 2,208,959 / N 595,808 (NAD 83)Ground Elev: 6933.1' Measure Point Elev: 6934.00'TD: 464' ft. Hole Dia.: 7-7/8"CASED to: 460' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 179' Elev: 6754' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 430' to 445' / length 15'
from _____ to _____ / length _____

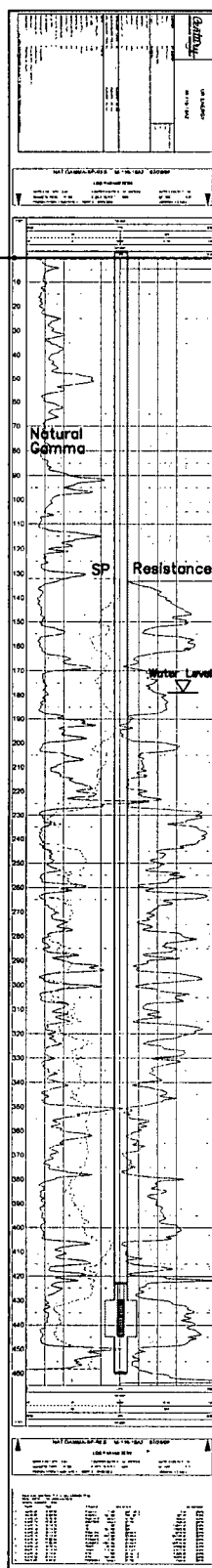
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	423'		6510'		
Screen	430'	445'	6503'	6488'	15'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-116

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # M-117 SEO # 187647 Date Drilled: 7/28/08

Location: E 2,209,308 / N 596,148 (NAD 83)

Ground Elev: 6943.00' Measure Point Elev: 6944.80

TD: 465' Hole Dia.: 7-7/8"

CASED to: 465' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 186' Elev: 6757' (avg.)

UNDERREAM: Blade Dig: 10"

Intervals: from 435' to 453' / length 18'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	428'		6515'		
Screen	435'	453'	6508'	6490'	18'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

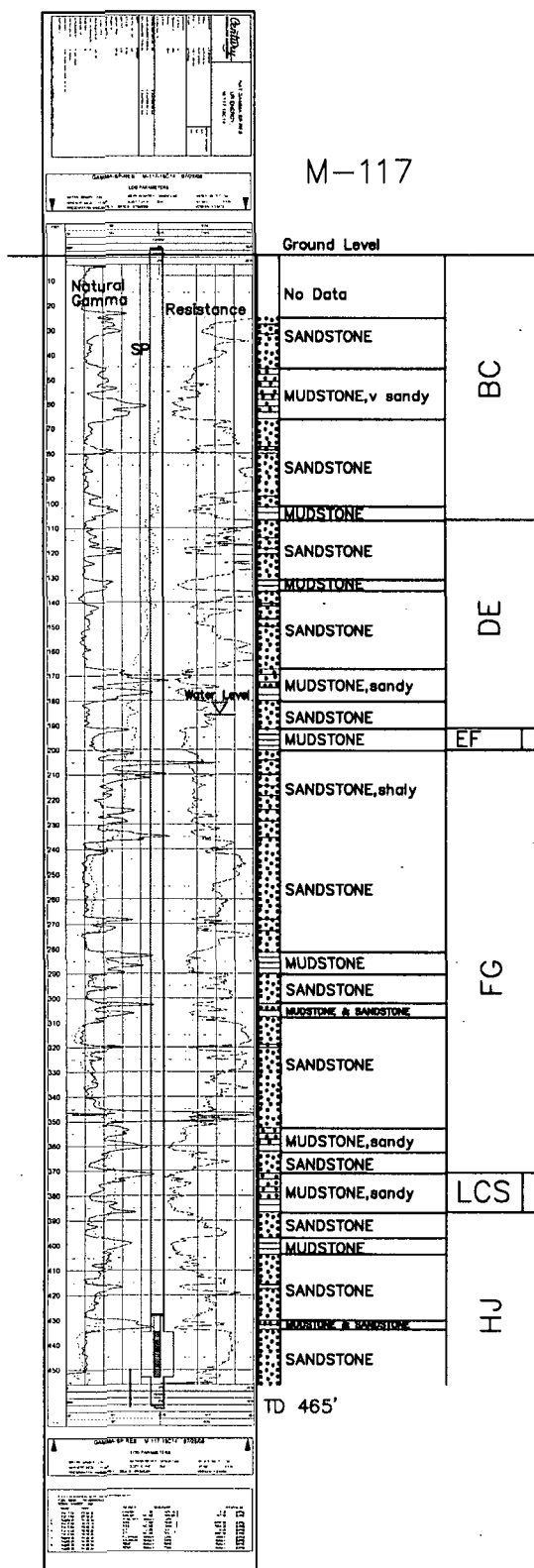
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



M-117

M-118

M-118

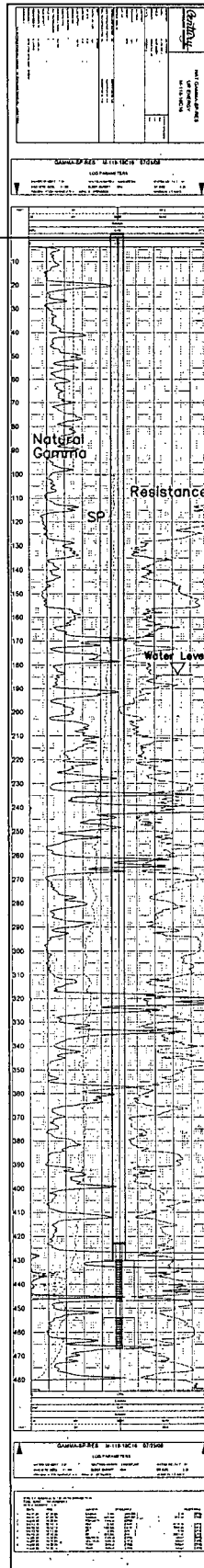
Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # M-118 SEO # 187647 Date Drilled: 7/25/08Location: E 2,209,797 / N 596,146 (NAD 83)Ground Elev: 6944.6' Measure Point Elev: 6945.16'TD: 484' Hole Dia.: 7-7/8"CASED to: 430' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ, LHJ Sands

Static Water Level: Depth 184' Elev: 6761' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 430' to 447' / length 17'from 454' to 467' / length 13'**SCREEN LINER ASSEMBLY**

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	423'	6522'	
Screen	430' 447'	6515' 6498'	17'
Screen	454' 467'	6491' 6478'	13'

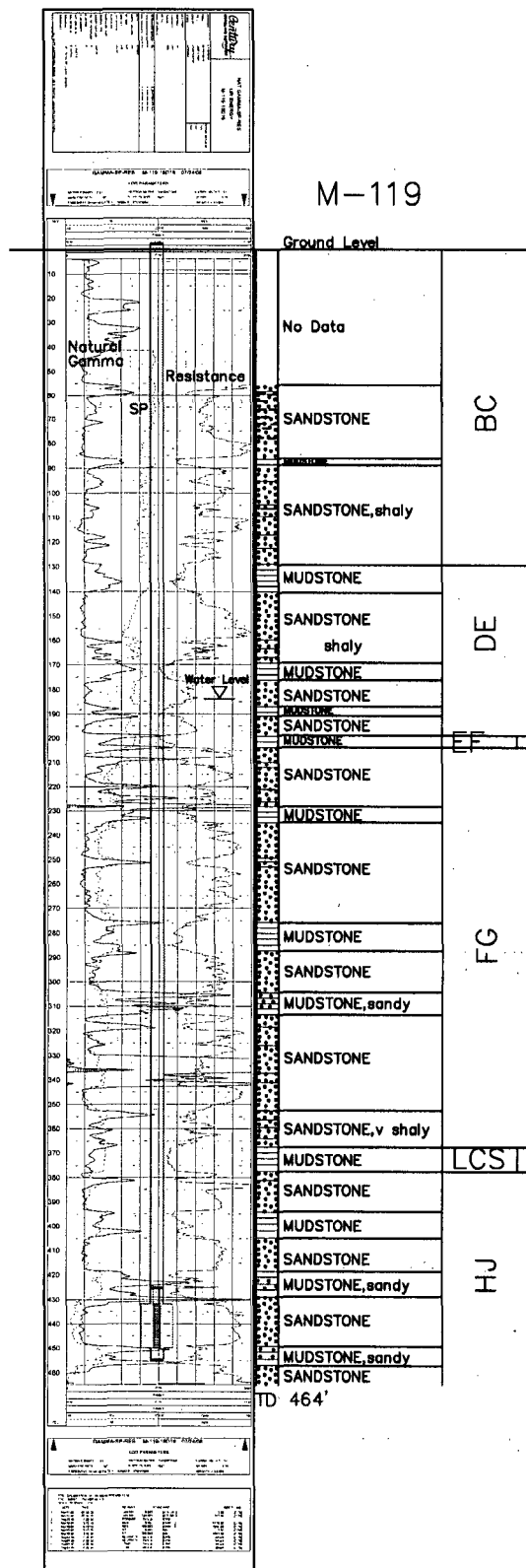
SCREEN SPECIFICATIONS:Slot: 0.020" Composition 3" PVC**FILTER PACKING:**Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-118

M-119

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-119

WELL # M-119 SEO # 187647 Date Drilled: 7/24/08Location: E 2,210,266 / N 596,303 (NAD 83)Ground Elev: 6947.9' Measure Point Elev: 6948.65'TD: 464' Hole Dia.: 7-7/8"CASED to: 455' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 184' Elev: 6764' (avg.)UNDERREAM: Blade Dia: 10"
Intervals: from 432' to 450' / length 18'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY				
Description	Depth		Elev.	Length
	From - To		From - To	
K-packer	425'		6523'	
Screen	432' 450'		6516' 6498'	18'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

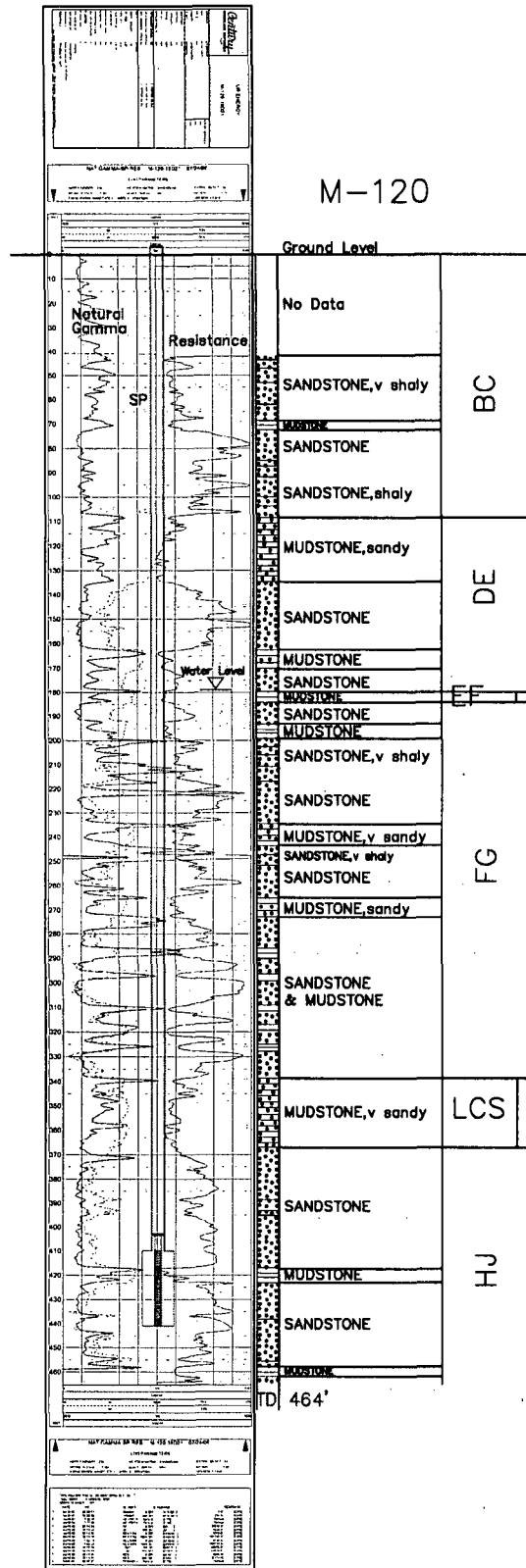
Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method Airlift 6765'Yield: Good / Moderate / Poor

M-119

M-120

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-120



M-120

WELL # M-120 SEO # 187648 Date Drilled: 7/24/08

Location: E 2,210,744 / N 596,449 (NAD 83)

Ground Elev: 6945.3' Measure Point Elev: 6946.52'

TD: 464' Hole Dia.: 7-7/8"

CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 179' Elev: 6766' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 410' to 441' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From - To		From - To	
K-packer	403'		6542'	
Screen	410'	441'	6535'	6504' 31'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield Good / Moderate / Poor

Note: Well failed Mechanical Integrity Test (MIT)
Plugged and Abandoned w/Thermal Grout 2-11-09
Replaced by M-120A

M-120A

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-120A
(log from M-120)

WELL # M-120A SEO # 187648 Date Drilled: 3-20-09

Location: E 2,210.727 / N 596.442 (NAD 83)

Ground Elev: 6946.3' Measure Point Elev: 6948.63'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 179' Elev: 6770' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 410' to 441' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From - To		From - To	
K-packer	403'		6543'	
Screen	410'	441'	6536'	6505' 31'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

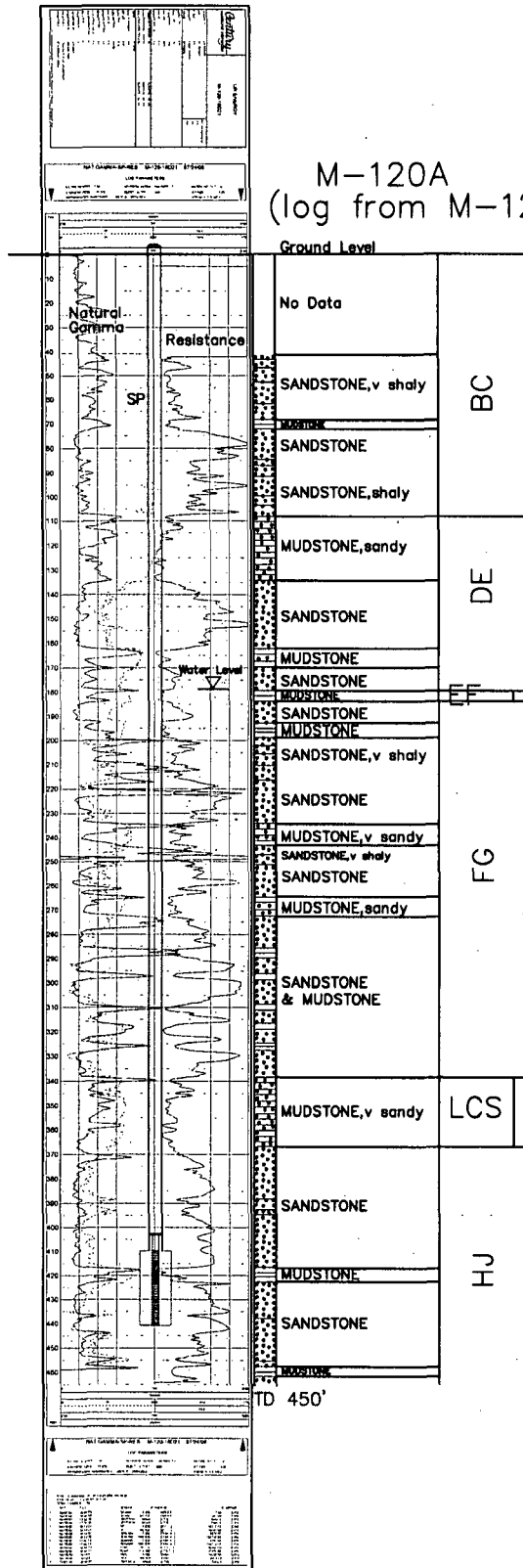
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

M-120A Replaces M-120. Offset 18' to SW.

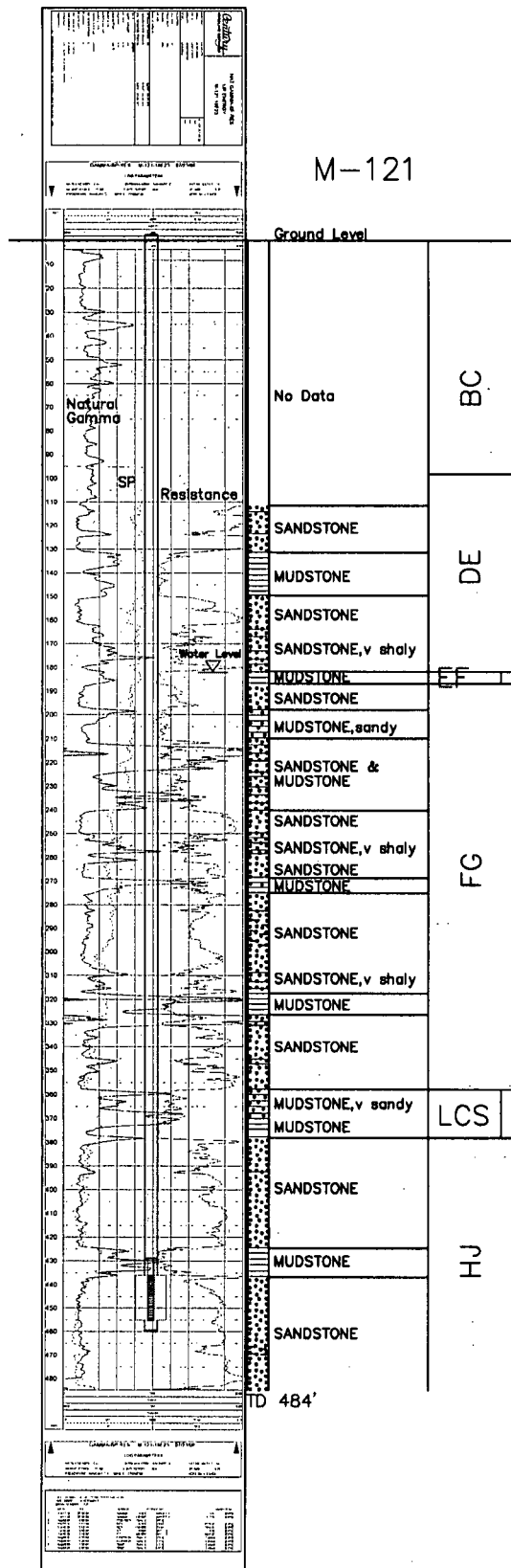
M-120A Not Logged. Log for M-120 used here for reference.



M-120A
(log from M-120)

M-121

M-121



M-121

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # M-121 SEO # 187648 Date Drilled: 7/23/08Location: E 2,211,199 / N 596,595 (NAD 83)Ground Elev: 6950.6' Measure Point Elev: 6951.71'TD: 484' Hole Dia.: 7-7/8"CASED to: 460' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 182' Elev: 6769' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 436' to 455' / length 19'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	429'	6522'	
Screen	436' 455'	6515' 6496'	19'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

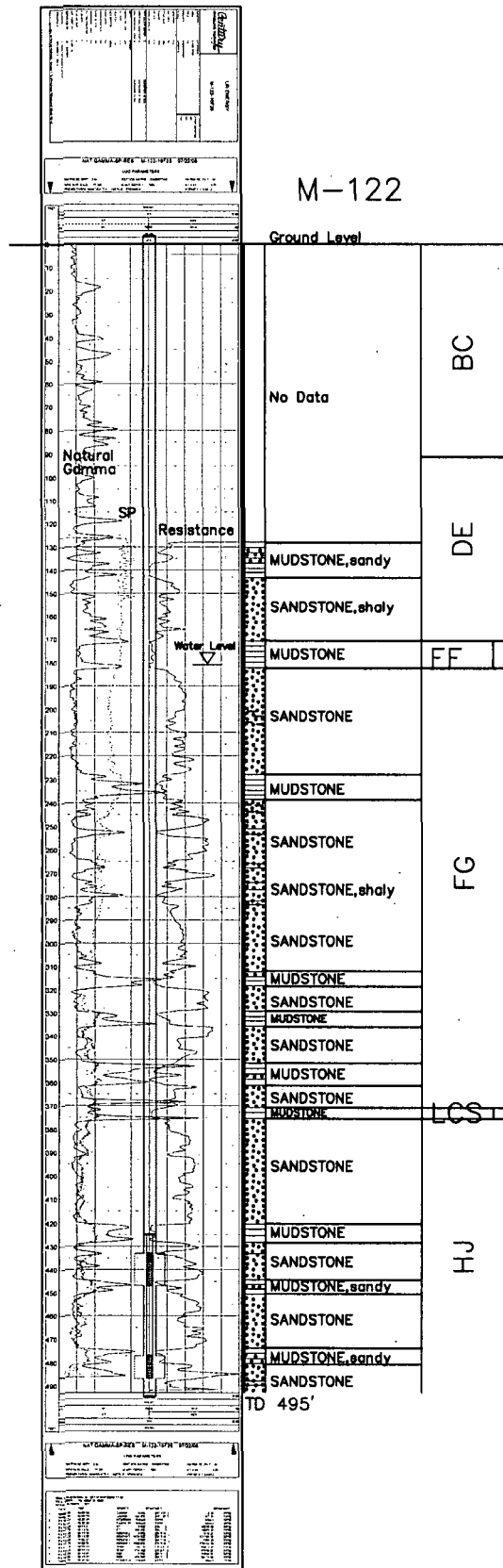
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-122

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-122



WELL # M-122 SEO # 187649 Date Drilled: 7/22/08

Location: E 2,211,677 / N 596,693 (NAD 83)

Ground Elev: 6951.4' Measure Point Elev: 6952.39'

TD: 495' Hole Dia.: 7-7/8"

CASED to: 495' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ, LHJ Sands

Static Water Level: Depth 181' Elev: 6770' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 433' to 447' / length 14'

from 477' to 487' / length 10'

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-packer	425'	6526'	
Screen	433' 447'	6518' 6504'	14'
Screen	477' 487'	6474' 6464'	10'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:Volume: (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield Good / Moderate / Poor

M-122

M-125

M-125

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # M-125 SEO # 187650 Date Drilled: 7/21/08Location: E 2,212,970 / N 596,111 (NAD 83)Ground Elev: 6947.5' Measure Point Elev: 6947.76TD: 450' Hole Dia.: 7-7/8"CASED to: 366' Casing: PVC SDR17 ID: 4.5" OD: 5"

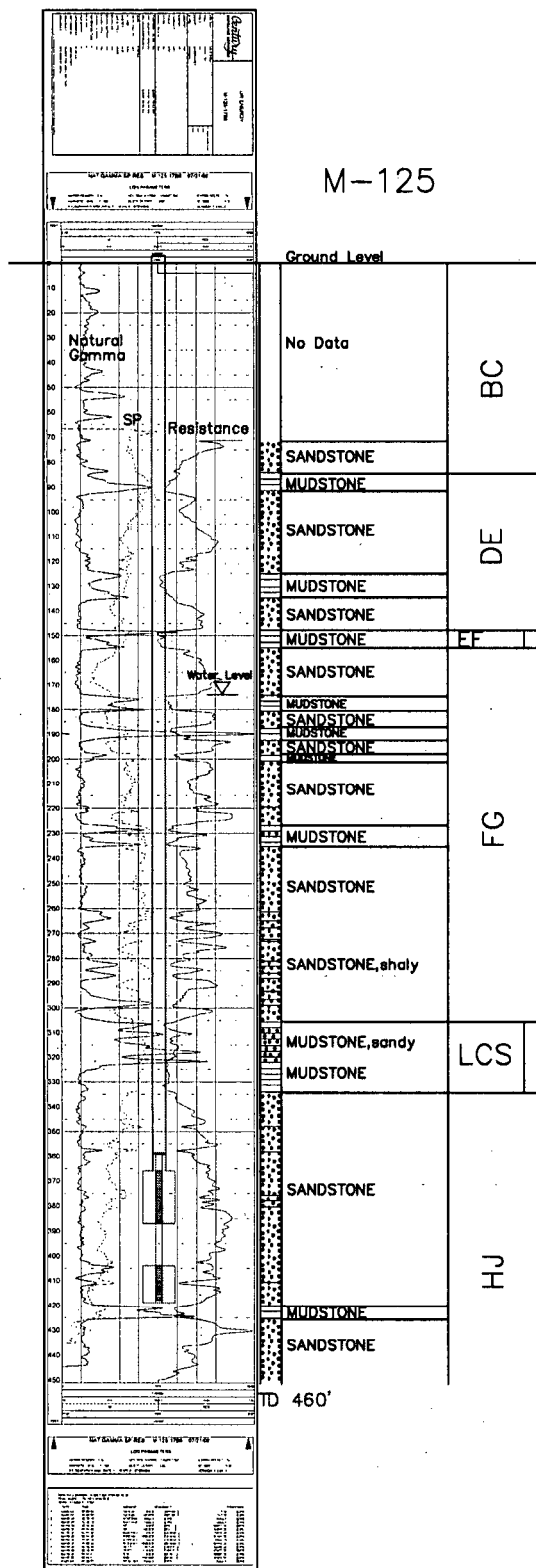
GROUT: Portland Cement - Type I/II
 Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ, LHJ SandsStatic Water Level: Depth 174' Elev: 6774' (avg.)UNDERREAM: Blade Dia: 10"

Intervals: from 366' to 397' / length 31'
 from 404' to 419' / length 15'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	359'		6589'		
Screen	366'	397'	6582'	6551'	31'
Screen	404'	419'	6544'	6529'	15'

SCREEN SPECIFICATIONS:Slot: 0.020" Composition: 3" PVC**FILTER PACKING:**Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-125

M-126

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-126

WELL # M-126 SEO # 187650 Date Drilled: 7/22/08

Location: E 2,213,464 / N 596,087 (NAD 83)

Ground Elev: 6948.7' Measure Point Elev: 6949.67'

TD: 420' Hole Dia.: 7-7/8"

CASED to: 331' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UHJ, MHJ Sands

Static Water Level: Depth 175' Elev: 6774' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 331' to 348' / length 17'
from 365' to 401' / length 36'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	324'		6625'		
Screen	331'	348'	6618'	6601"	17'
Screen	365'	401'	6584'	6548'	36'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

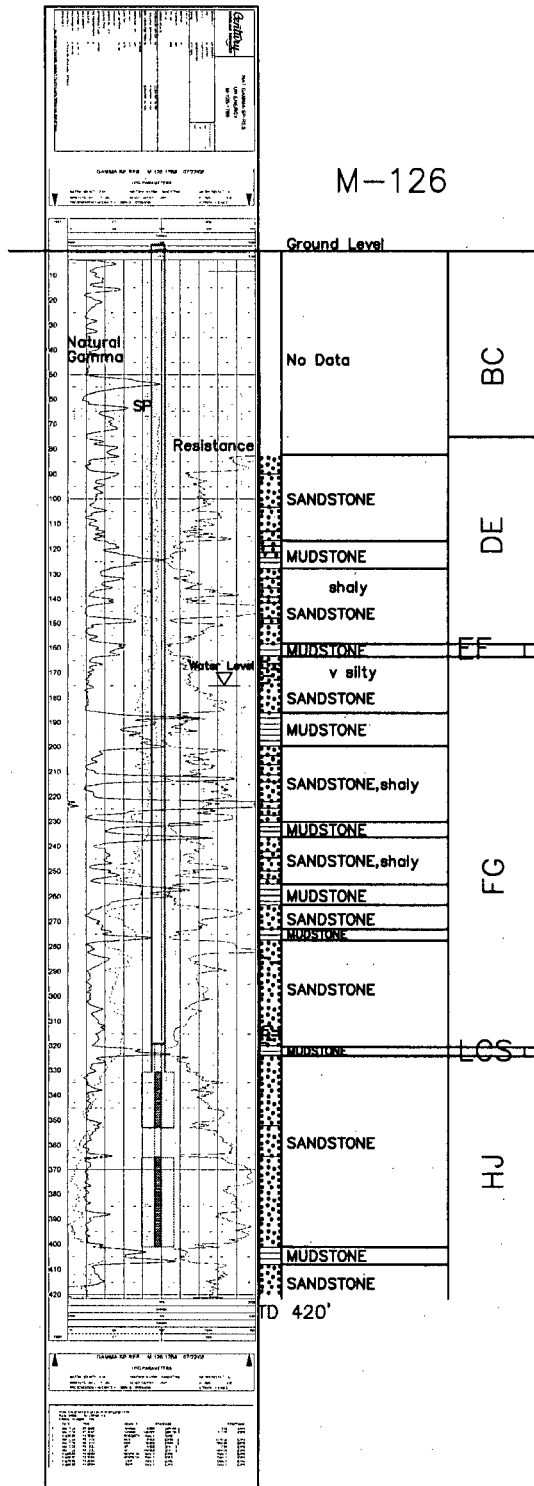
FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



M-126

M-127

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-127

WELL # M-127 SEO # 187651 Date Drilled: 7/22/08Location: E 2,213.932 / N 595.954 (NAD 83)Ground Elev: 6946.5' Measure Point Elev: 6947.66'TD: 480' Hole Dia.: 7-7/8"CASED to: 480' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UHJ, MHJ SandsStatic Water Level: Depth 174' Elev: 6773' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 408' to 418' / length 10'
from 450' to 471' / length 21'

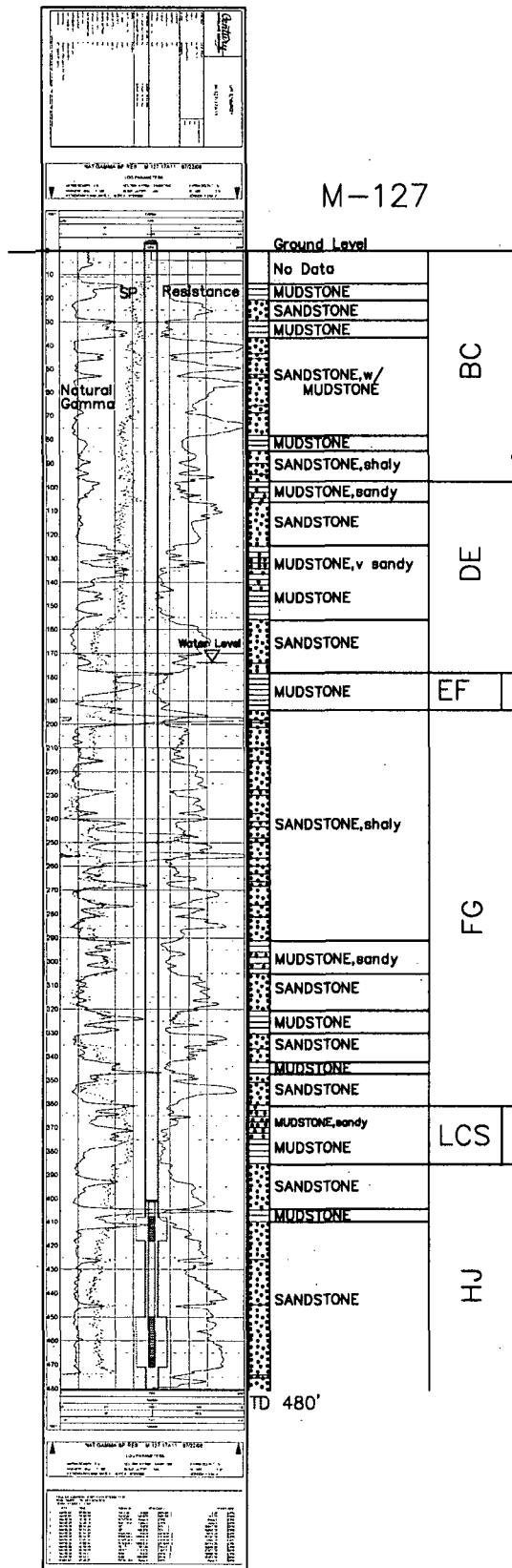
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	401'		6546'		
Screen	408'	418'	6539'	6529'	10'
Screen	450'	471'	6497'	6476'	21'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs. Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-127

M-128

M-128

Lost Creek ISR, LLC

WELL COMPLETION REPORTWELL # M-128 SEO # 187651 Date Drilled: 7/21/08Location: E 2,214,350 / N 595,698 (NAD 83)Ground Elev: 6947.3' Measure Point Elev: 6948.55'TD: 460' Hole Dia.: 7-7/8"CASED to: 455' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 175' Elev: 6772' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 427' to 446' / length 19'
from _____ to _____ / length _____

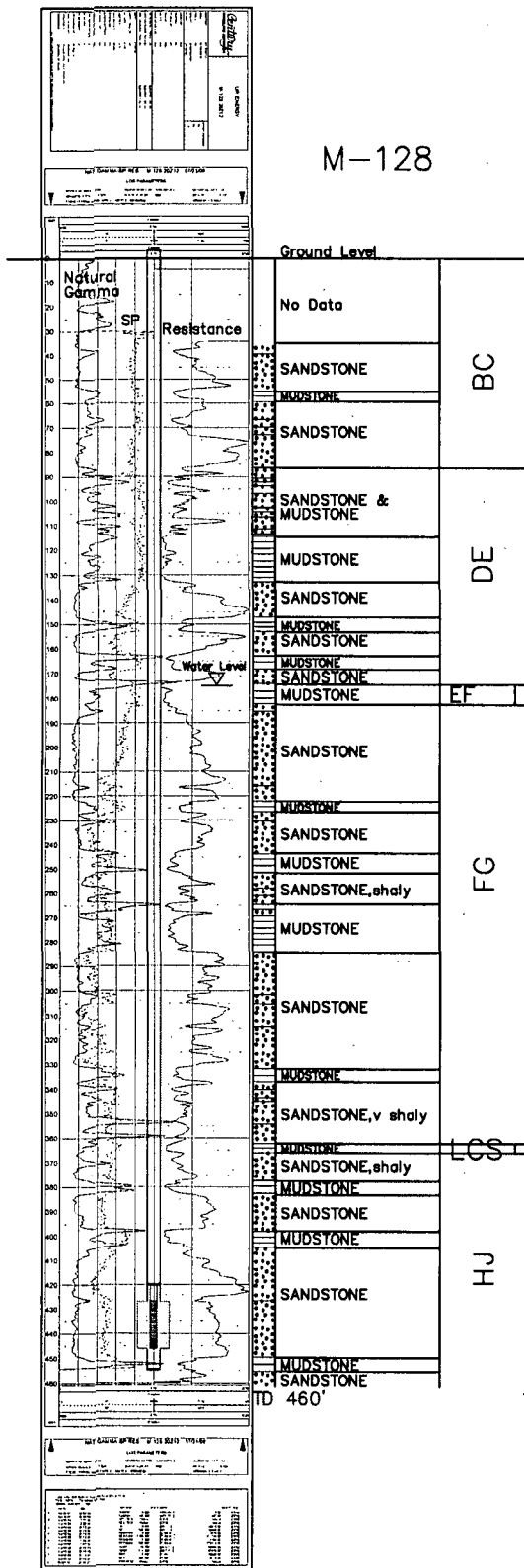
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-pack	420'		6527'		
Screen	427'	446'	6520'	6501'	19'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

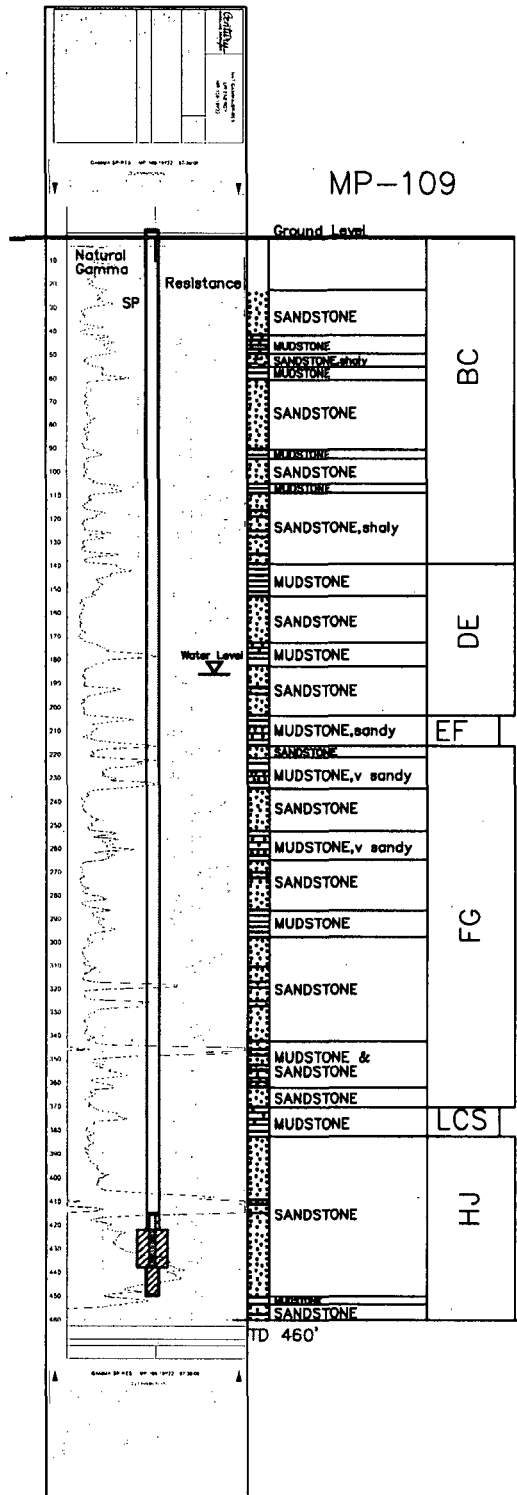
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-128

MP-109

MP-109



MP-109

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # MP-109 SEO # 187659 Date Drilled: 7/30/08

Location: E 2,210,955 / N 595,235 (NAD 83)

Ground Elev: 6932.1' Measure Point Elev: 6932.71'

TD: 460' Hole Dia.: 7-7/8"

CASED to: 450' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 186' Elev: 6747' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 422' to 438' / length 16'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	415'		6517'		
Screen	422'	438'	6510'	6494'	16'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: 17 (bags) Sand Specs. 10/20

Method: Pumped via tremie thru check valve

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

MP-110

MP-110

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MP-110 SEO # 187659 Date Drilled: 7/30/08Location: E 2,210,185 / N 595,648 (NAD 83)Ground Elev: 6937.6' Measure Point Elev: 6938.69'TD: 460' ft. Hole Dia.: 7-7/8"CASED to: 445' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 178' Elev: 6760' (avg.)UNDERREAM: Blade Dia: 10"
Intervals: from 419' to 438' / length 19'
from _____ to _____ / length _____

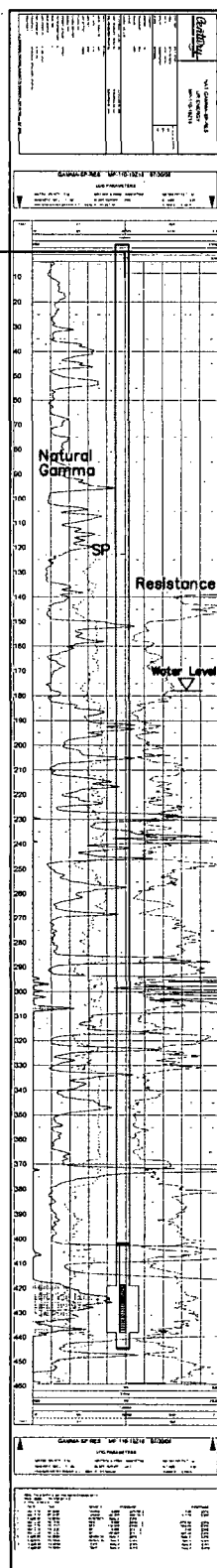
SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
From - To	From - To		
K-packer	<u>412'</u>	<u>6526'</u>	
Screen	<u>419'</u> <u>438'</u>	<u>6519'</u> <u>6500'</u>	<u>19'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

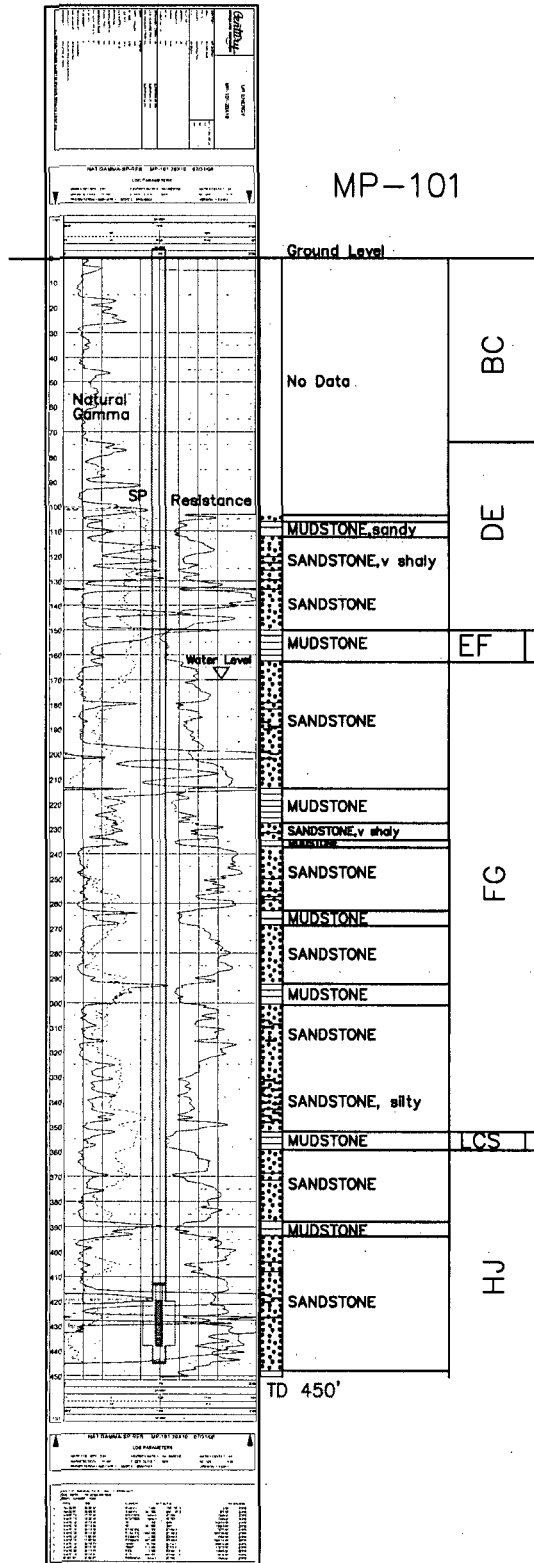
MP-110

MP-101

Lost Creek ISR, LLC

WELL COMPLETION REPORT

MP-101

WELL # MP-101 SEO # 187662 Date Drilled: 7/31/08Location: E 2,213,875 / N 595,194 (NAD 83)Ground Elev: 6938.6' Measure Point Elev: 6940.30'TD: 450' Hole Dia.: 7-7/8"CASED to: 445' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 170' Elev: 6769' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 420' to 438' / length 18'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	413'		6526'		
Screen	420'	438'	6519'	6501'	18'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

MP-101

MP-111

MP-111

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MP-111 SEO # 187659 Date Drilled: 7/30/08

Location: E 2,209.951 / N 595.361 (NAD 83)

Ground Elev: 6935.6' Measure Point Elev: 6936.28'

TD: 440' Hole Dia.: 7-7/8"

CASED to: 425' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 177' Elev: 6759' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 391' to 410' / length 19'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	<u>384'</u>		<u>6552'</u>		
Screen	<u>391'</u>	<u>410'</u>	<u>6545'</u>	<u>6526'</u>	<u>19'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

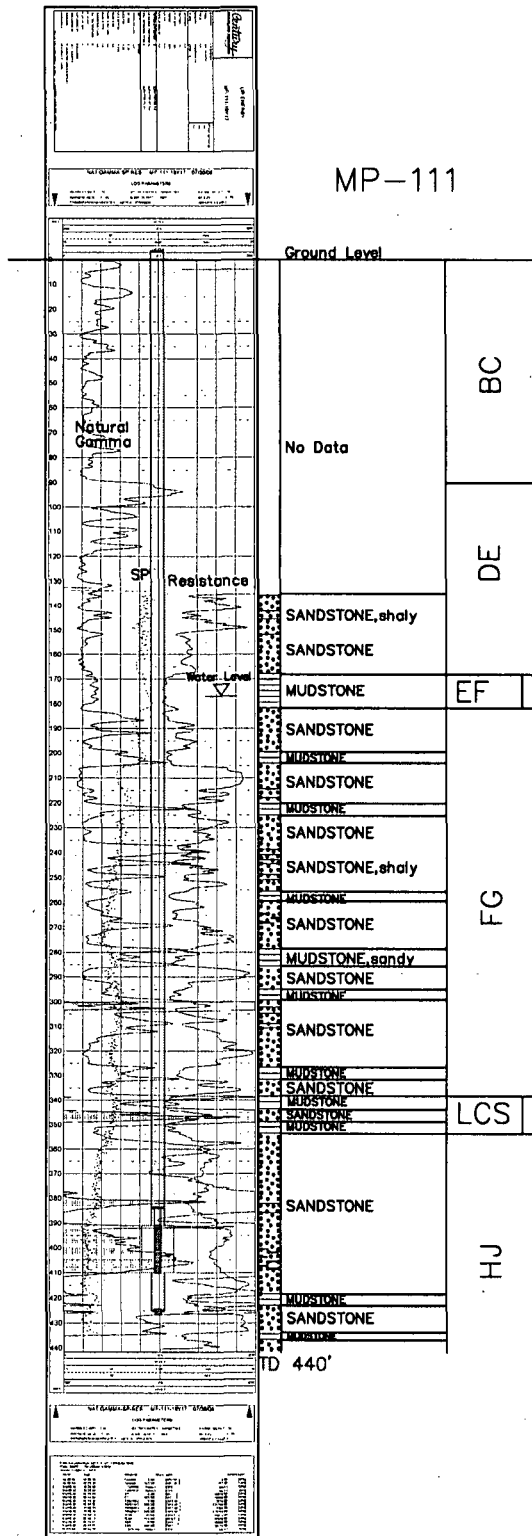
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

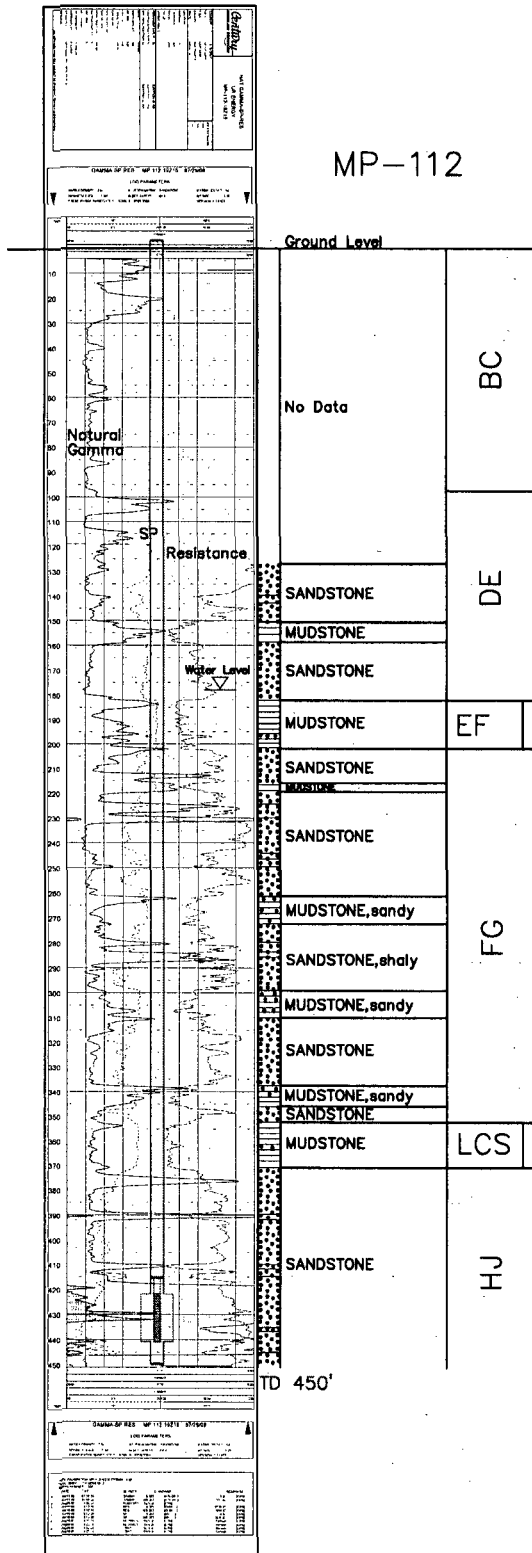


MP-111

MP-112

MP-112

Lost Creek ISR, LLC
WELL COMPLETION REPORT



WELL # MP-112 SEO # 187659 Date Drilled: 7/28/08

Location: E 2,209,586 / N 595,535 (NAD 83)

Ground Elev: 6936.6' Measure Point Elev: 6936.64'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 450' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 178' Elev: 6759' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 422' to 441' / length 19'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	415'		6522'		
Screen	422'	441'	6515'	6496'	19'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

MP-112

MP-113

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-113

WELL # MP-113 SEO # 187659 Date Drilled: 7/28/08Location: E 2,209,861 / N 594,950 (NAD 83)Ground Elev: 6922.2' Measure Point Elev: 6923.19'TD: 475' Hole Dia.: 7-7/8"CASED to: 475' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ SandStatic Water Level: Depth 185' Elev: 6737' (avg.)UNDERREAM: Blade Dia: 10"

Intervals: from 447' to 466' / length 19'
from _____ to _____ / length _____

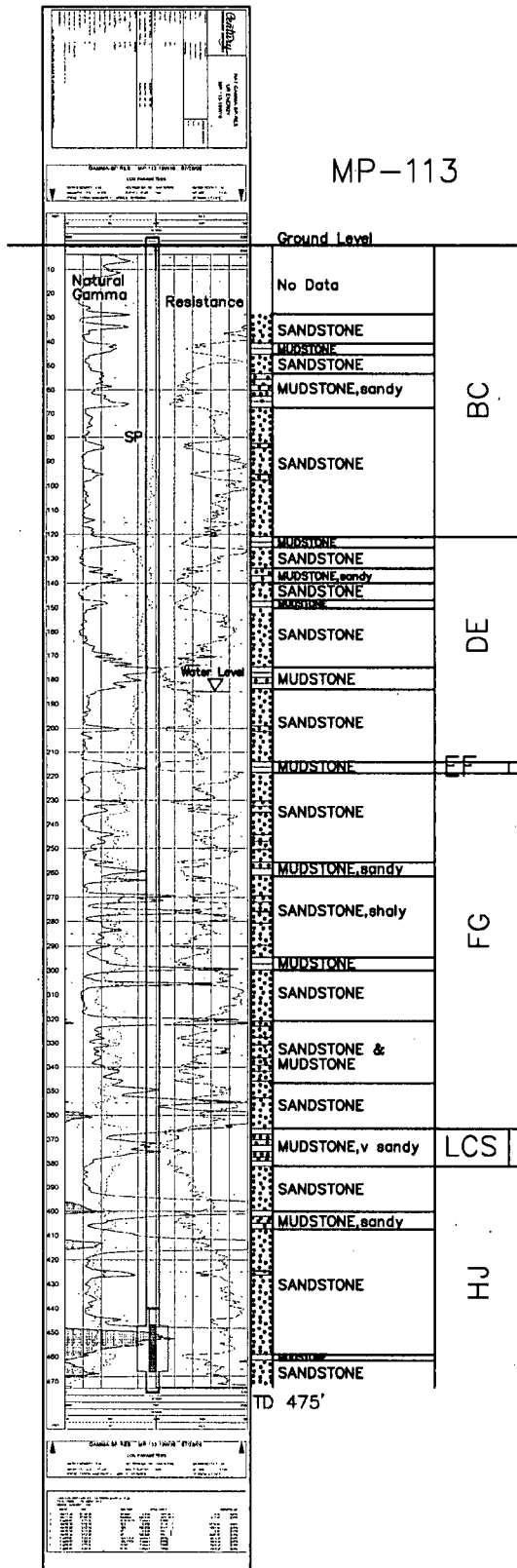
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	<u>440'</u>		<u>6482'</u>		
Screen	<u>447'</u>	<u>466'</u>	<u>6475'</u>	<u>6456'</u>	<u>19'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

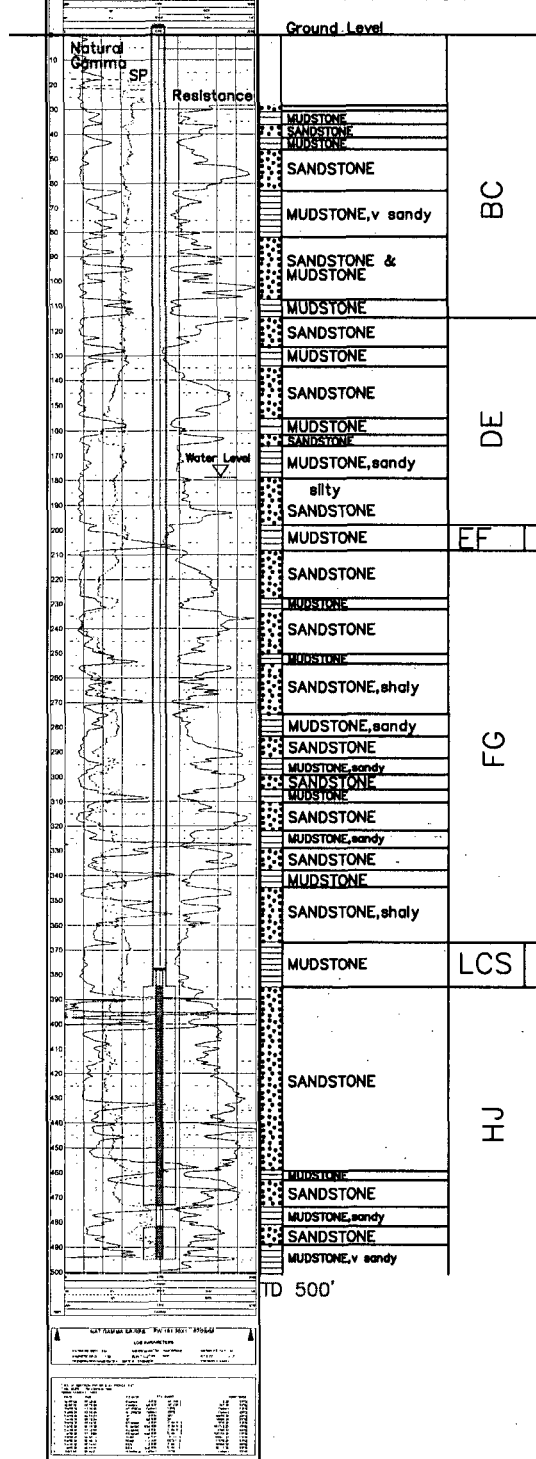
Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

MP-113

PW-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

PW-101



PW-101

WELL # PW-101 SEO # 187664 Date Drilled: 7/28/08

Location: E 2,212,158 / N 595,259 (NAD 83)

Ground Elev: 6937.4' Measure Point Elev: 6938.06'

TD: 500' Hole Dia.: 9-1/2"

CASED to: 385" Casing: PVC SDR17 ID: 6" OD: 6-5/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 179' Elev: 6758' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 385' to 473' / length 88'
from 482' to 495' / length 13'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	378'		6559'		
Screen	385'	473'	6552'	6464'	88'
Screen	482'	495'	6455'	6442'	13'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

PW-102

Lost Creek ISR, LLC

WELL COMPLETION REPORT

PW-102

WELL # PW-102 SEO # 187663 Date Drilled: 7/30/08

Location: E 2,210,906 / N 595,846 (NAD 83)

Ground Elev: 6938.0' Measure Point Elev: 6938.58'

TD: 470' Hole Dia.: 9-1/2"

CASED to: 360' Casing: PVC SDR17 ID: 6" OD: 6-5/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 169' Elev: 6769' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 360' to 382' /length 22'
from 387' to 393' /length 6'
from 397' to 467' /length 70'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	353'		6585'		
Screen	360'	382'	6578'	6556'	22'
Screen	387'	393'	6551'	6545'	6'
Screen	397'	467'	6541'	6471'	70'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

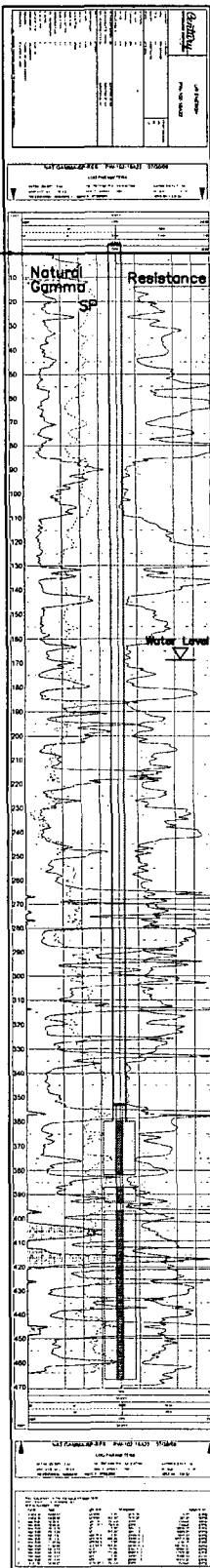
FILTER PACKING:

Volume: (bags)(ft³) Sand Specs.

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

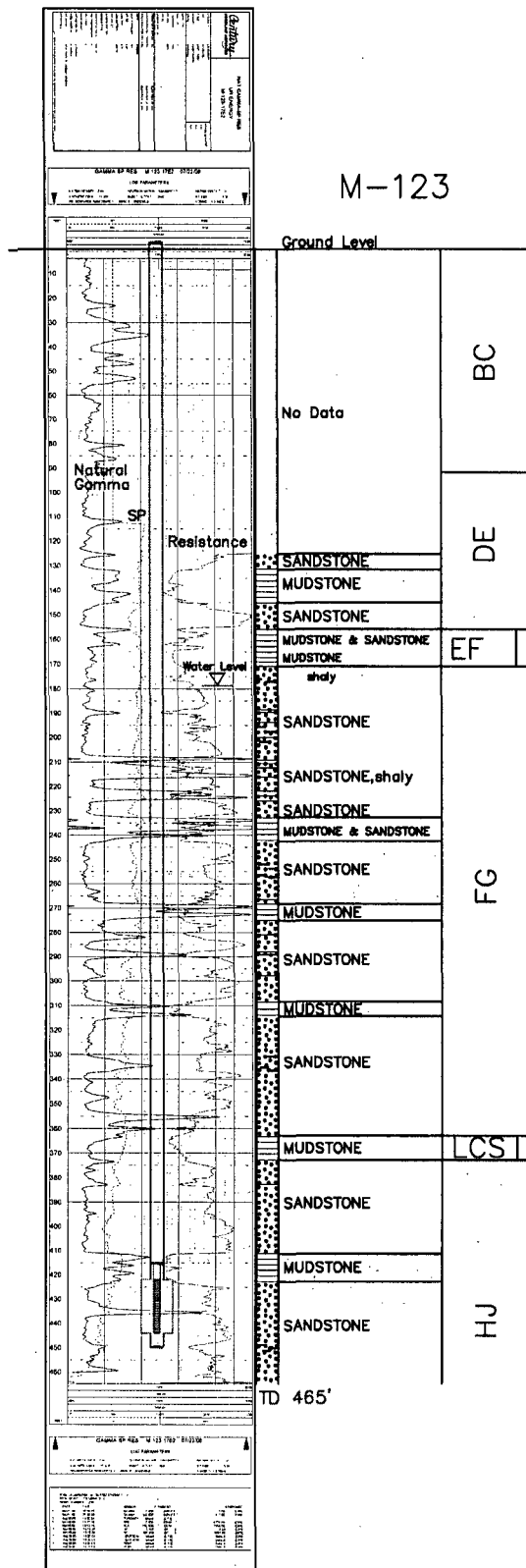


PW-102

M-123

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-123

WELL # M-123 SEO # 187649 Date Drilled: 7/22/08Location: E 2,212,166 / N 596,647 (NAD 83)Ground Elev: 6951.2' Measure Point Elev: 6951.85'TD: 465' Hole Dia.: 7-7/8"CASED to: 450' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: MHJ SandStatic Water Level: Depth 179' Elev: 6772' (avg.)UNDERREAM: Blade Dia: 10"Intervals: from 422' to 444' / length 22'
from _____ to _____ / length _____**SCREEN LINER ASSEMBLY**

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	415'		6536'		
Screen	422'	444'	6529'	6507'	22'

SCREEN SPECIFICATIONS:Slot: 0.020" Composition 3" PVC**FILTER PACKING:**Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

M-123

M-124

WELL COMPLETION REPORT

Location: E 2,212,604 / N 596,425 (NAD 83)

TD: 463' Hole Dia.: 7-7/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

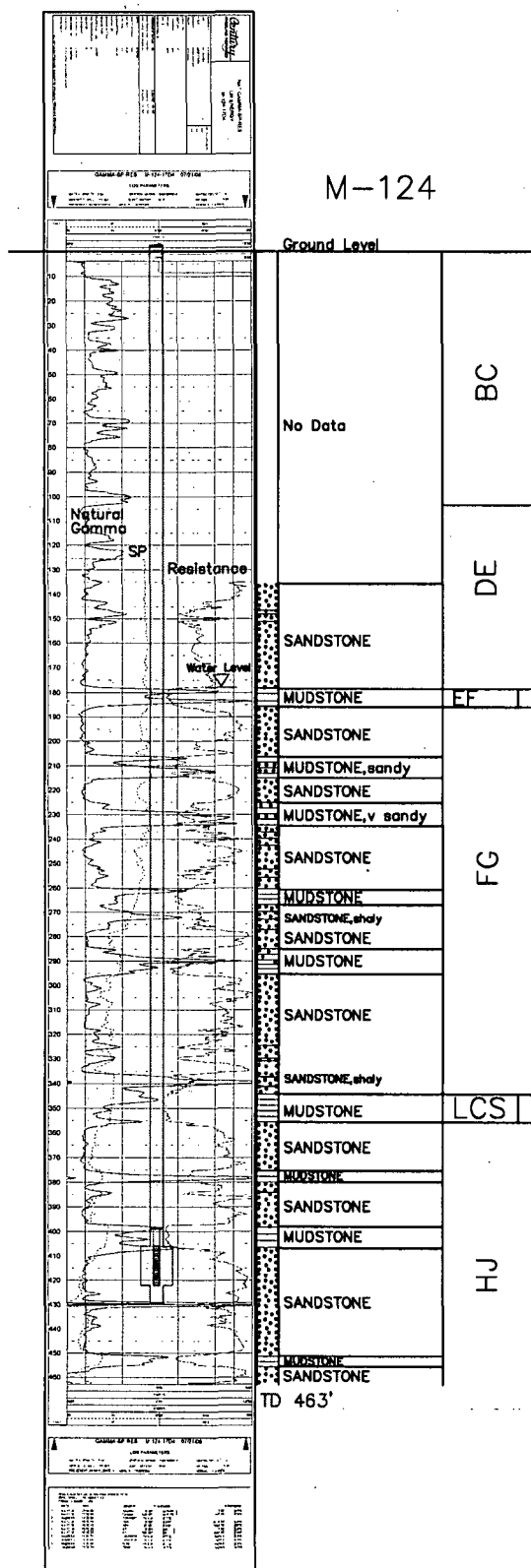
Static Water Level: Depth 183' Elev: 6773' (avg.)

Intervals: from 406' to 422' / length 16'
from _____ to _____ / length _____

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	399'		6557'		
Screen	406'	422'	6550'	6534'	16'

Slot: 0.020" Composition 3" PVC

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

Yield: Good / Moderate / Poor

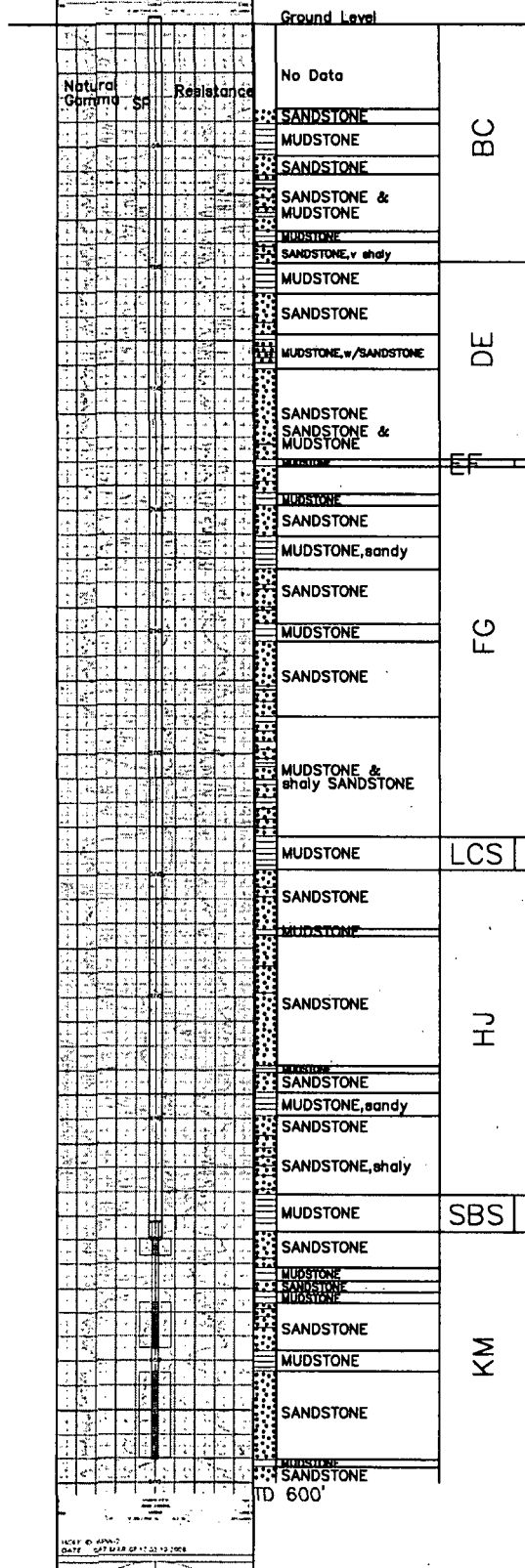
M-124

KPW-2

Lost Creek ISR, LLC

WELL COMPLETION REPORT

KPW-2



WELL # KPW-2 SEO # Pending Date Drilled: 3/7/09

Location: E 2,210,882 / N 999,999 (NAD 83)

Ground Elev: 6934.2' Measure Point Elev: 6935.35'

TD: 600' Hole Dia.: 9-1/2"

CASED to: 500' Casing: PVC SDR17 ID: 6" OD: 6-5/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: KM Sand

Static Water Level: Depth No Record Elev: _____ (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 500' to 507' /length 7'

from 526' to 545' /length 19'

from 555' to 590' /length 35'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-pack	493'		6441'		
Screen	500'	507'	6434'	6427'	7'
Screen	526'	545'	6408'	6389'	19'
Screen	555'	590'	6379'	6344'	35'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

KPW-2

MU-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-101

WELL # MU-101 SEO # 187660 Date Drilled: 7/30/08

Location: E 2,213,858 / N 595,192 (NAD 83)

Ground Elev: 6938.6' Measure Point Elev: 6940.37'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 545' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand.

Static Water Level: Depth 188' Elev: 6751' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 520' to 540' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	513'		6426'		
Screen	520'	540'	6419'	6399'	20'

SCREEN SPECIFICATIONS:

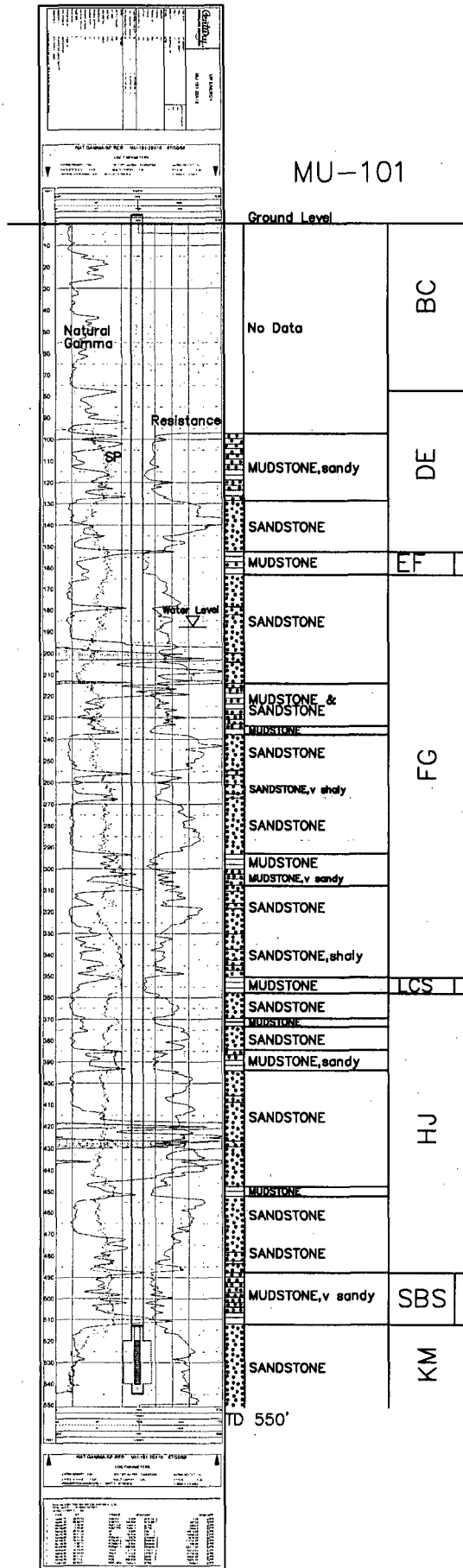
Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

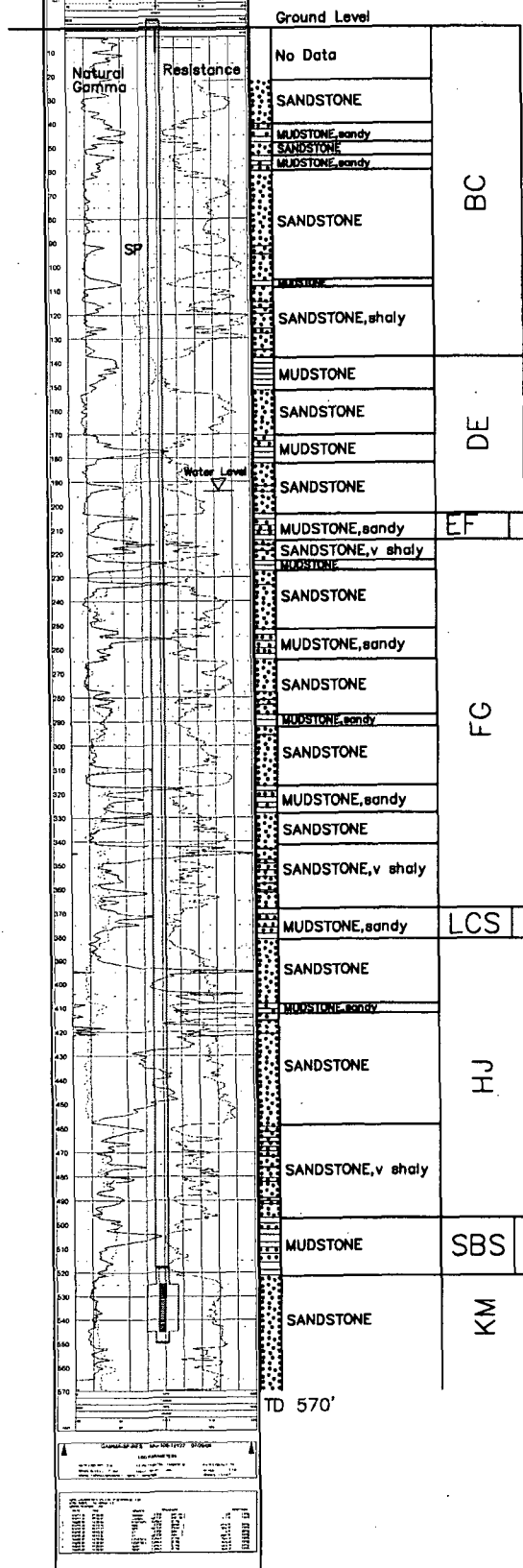


MU-101

MU-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-109



WELL # MU-109 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,210,944 / N 595,230 (NAD 83)

Ground Elev: 6932.0' Measure Point Elev: 6932.78'

TD: 570' Hole Dia.: 7-7/8"

CASED to: 550' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 194' Elev: 6738' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 525' to 545' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-packer	518'	6414'	
Screen	525' 545'	6407' 6487'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

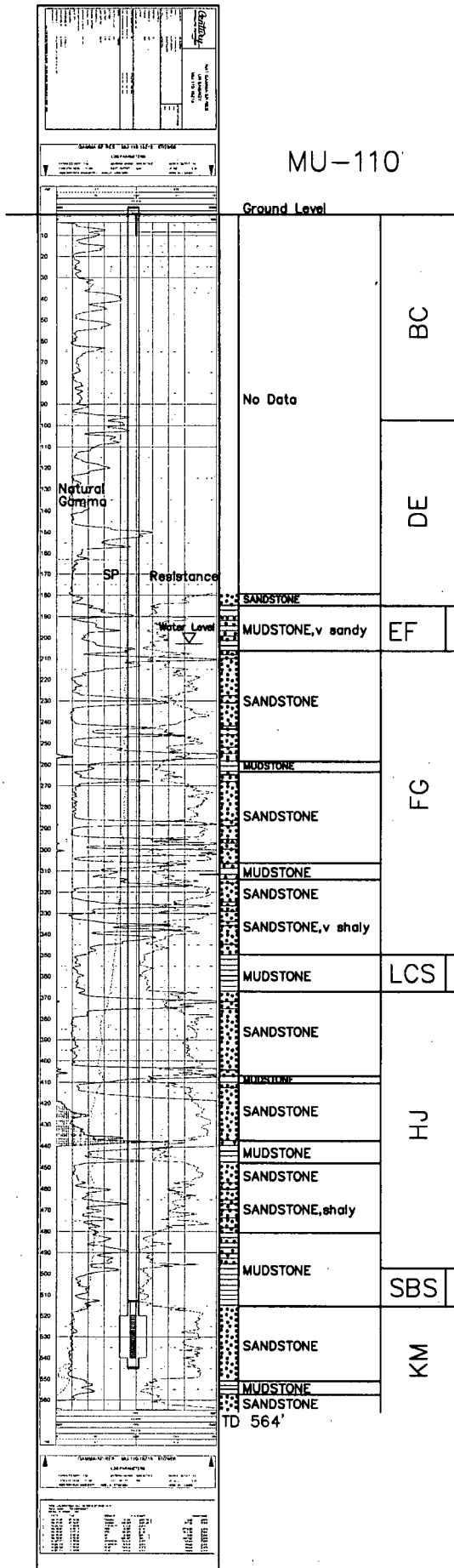
Yield: Good / Moderate / Poor

MU-109

MU-110

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-110



WELL # MU-110 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,210,165. / N 595,647 (NAD 83)

Ground Elev: 6937.9' Measure Point Elev: 6939.23'

TD: 564' Hole Dia.: 7-7/8"

CASED to: 545' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 203' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 520' to 540' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	513'		6425'		
Screen	520'	540'	6418'	6398'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

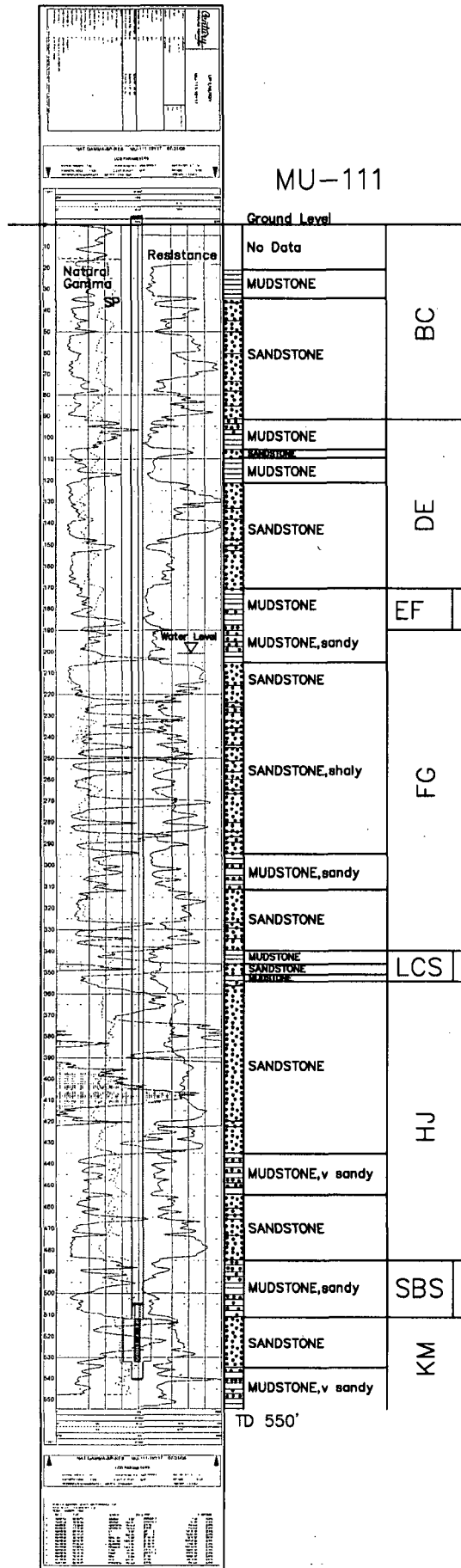
Yield: Good / Moderate / Poor

MU-110

MU-111

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-111



WELL # MU-111 SEO # 187657 Date Drilled: 7/31/08

Location: E 2,209,930 / N 595,358 (NAD 83)

Ground Elev: 6936.1' Measure Point Elev: 6937.05'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 540' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 512' to 532' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	505'		6431'		
Screen	512'	532'	6424'	6404'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

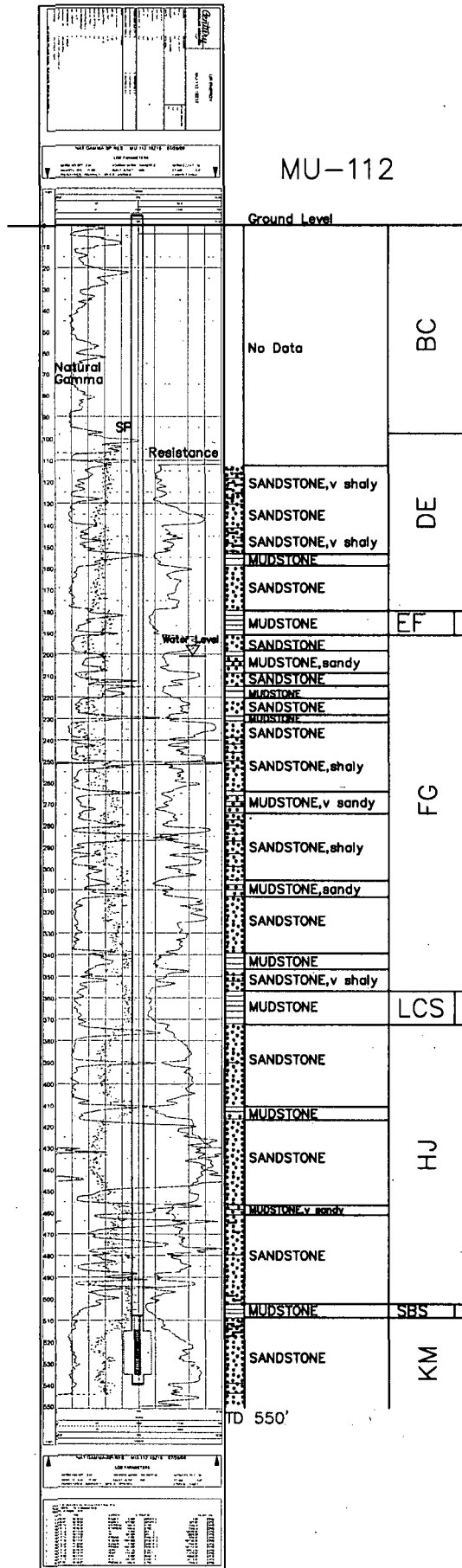
Yield: Good / Moderate / Poor

MU-111

MU-112

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-112



WELL # MU-112 SEO # 187657 Date Drilled: 7/28/08

Location: E 2,209,567 / N 595,538 (NAD 83)

Ground Elev: 6935.8' Measure Point Elev: 6936.75'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 540' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 515' to 535' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY				
Description	Depth		Elev.	
	From - To		From - To	Length
K-packer	508'		6428'	
Screen	515' 535'		6421' 6401'	20'

SCREEN SPECIFICATIONS:
Slot: 0.020" Composition 3" PVC

FILTER PACKING:
Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift
Yield: Good / Moderate / Poor

MU-112

MU-113

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-113

WELL # MU-113 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,209,842 / N 594,951 (NAD 83)

Ground Elev: 6922.1' Measure Point Elev: 6923.75'

TD: 580' Hole Dia.: 7-7/8"

CASED to: 555' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 189' Elev: 6733' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 530' to 550' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	523'		6399'		
Screen	530'	550'	6392'	6372'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

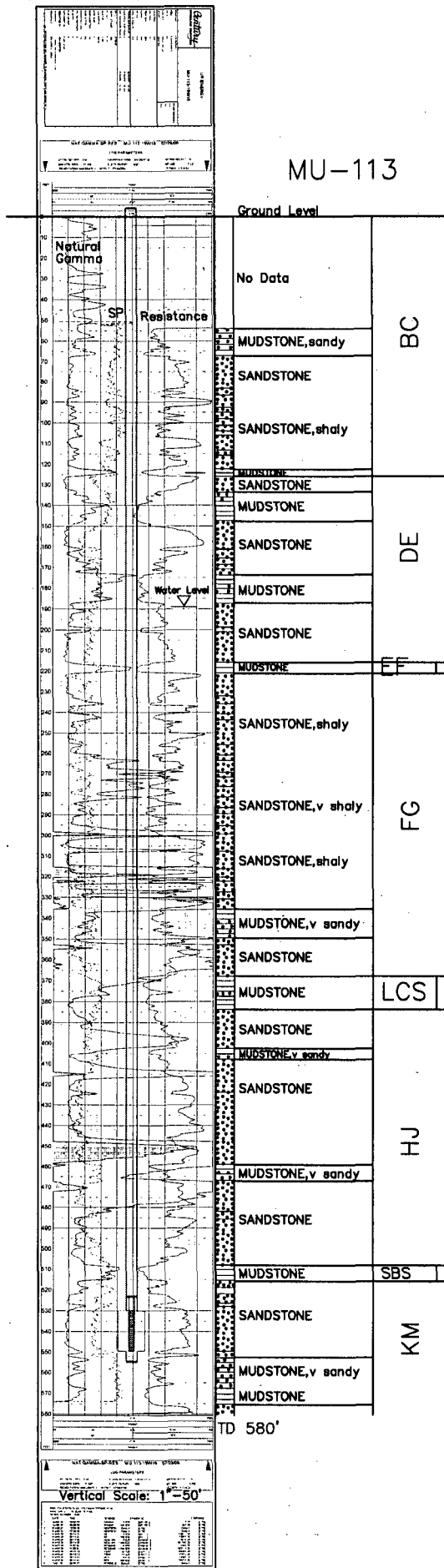
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate Poor



MU-113

HJMU-101

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-101

WELL # HJMU-101 SEO # 179863 Date Drilled: 7-30-07Location: E 743,277 / N 531,997 (NAD 27)Ground Elev: 6903.50 Measure Point Elev: 6904.71TD: 535 ft. Hole Dia.: 7-7/8"CASED to: 499' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 207' Elev: 6697'UNDERREAM: Blade Dia: 10-1/2"Intervals: from 499' to 535' / length 36'

from _____ to _____ / length _____

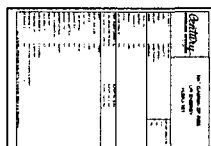
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-pack	483'		6421'		
Screen	499'	539'	6405'	6365'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

Ground Level

No Lithology Data

BC

DE

EF

FC

LCS

HJ

SBS

KM

Vertical Scale: 1"=50'

HJMU-101

HJMU-104

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-104

WELL # HJMU-104 SEO # 179872 Date Drilled: 8-7-07

Location: E 742891 / N 534907 (NAD 27)

Ground Elev: 6939.01' Measure Point Elev: 6940.51'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 512' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 196' Elev: 6745' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 512' to 550' / length 38'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	495	6446'	
Screen	512' 552'	6429' 6389'	40'

SCREEN SPECIFICATIONS:

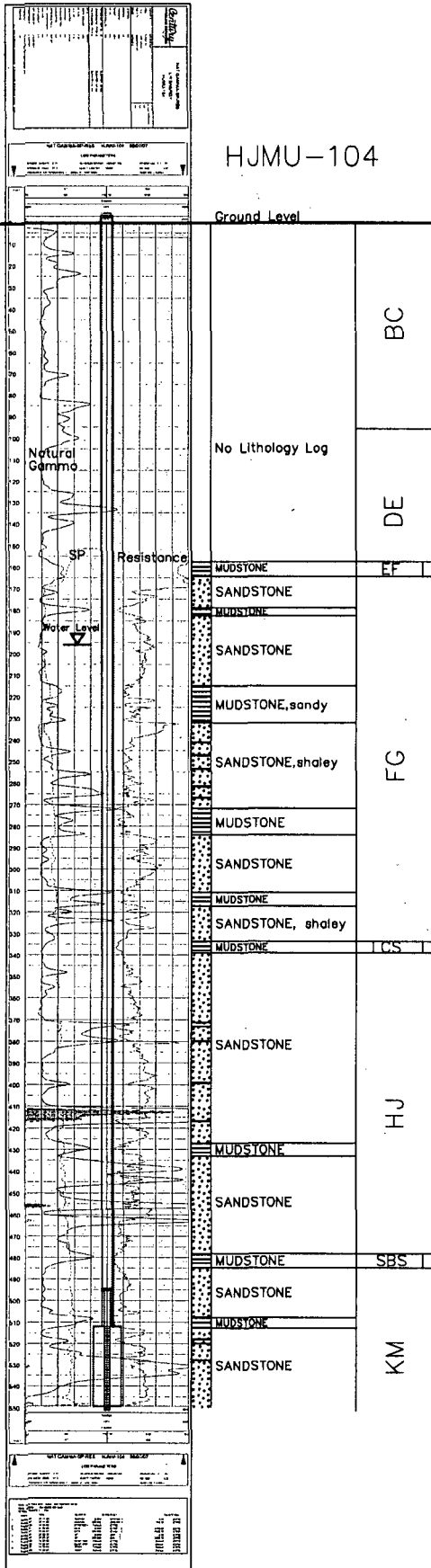
Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good Moderate / Poor

Vertical Scale: 1"=50'

HJMU-104

HJMU-105

HJMU-105

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJMU-105 SEO # 179875 Date Drilled: 8-8-07Location: E 742,942 / N 535,076 (NAD 27)Ground Elev: 6936.37 Measure Point Elev: 6937.58TD: 548 ft. Hole Dia.: 7-7/8"CASED to: 502' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 197' Elev: 6741'UNDERREAM: Blade Dia: 10-1/2"Intervals: from 502' to 542' / length 40'

from _____ to _____ / length _____

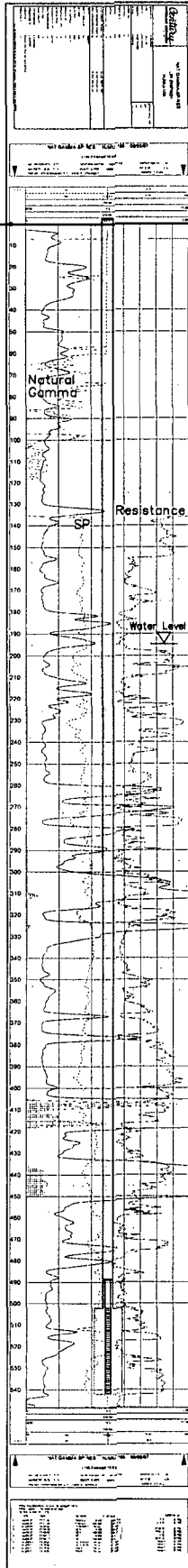
SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	489'	6448'	
Screen	502' 542'	6435' 6395'	40'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

Vertical Scale: 1"=50'

HJMU-105

HJMU-108

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-108

WELL # HJMU-108 SEO # 179884 Date Drilled: 7-19-07Location: E 743,476 / N 535,299 (NAD 27)Ground Elev: 6949.97' Measure Point Elev: 6951.51'TD: 850' Hole Dia.: 7-7/8"CASED to: 510' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 210' Elev: 6741' (avg.)UNDERREAM: Blade Dia: 10.5"Intervals: from 510' to 540' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		<u>497'</u>		<u>6455'</u>	
Screen	<u>510'</u>	<u>540'</u>	<u>6442'</u>	<u>6412'</u>	<u>30'</u>

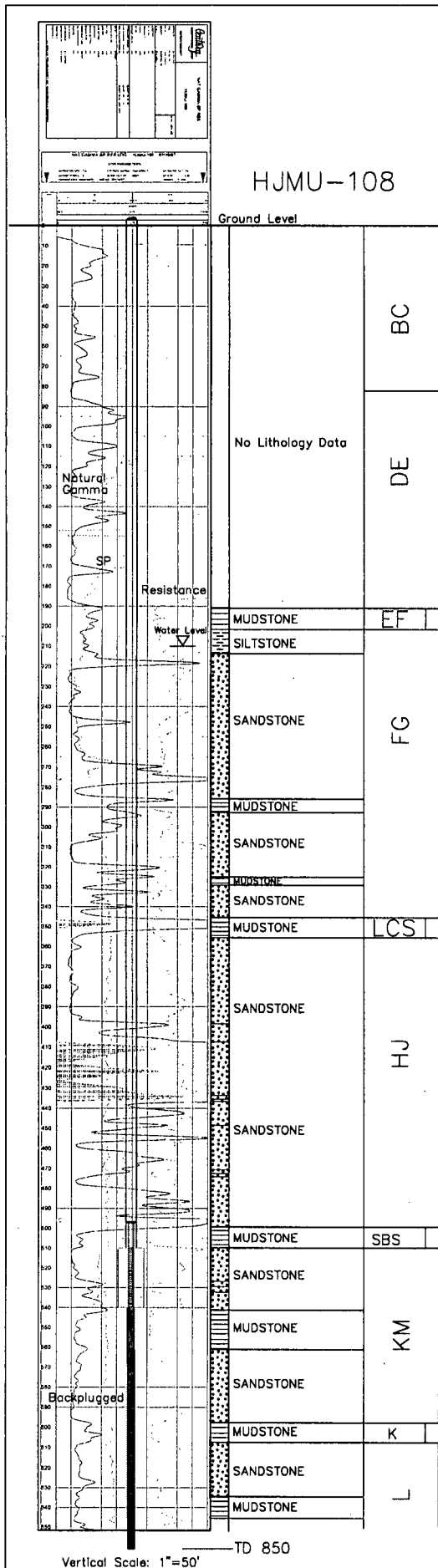
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / PoorPilot Hole BACKPLUGGED: 540'-850'

w/ BH UltragROUT slurry - 25% solids



HJMU-108

HJMU-109

HJMU-109

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJMU-109 SEO # 179887 Date Drilled: 5-24-07

Location: E 743,905 / N 534,835 (NAD 83)

Ground Elev: 6933.92 Measure Point Elev: 6939.38

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 524' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 192' Elev: 6747'

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 524' to 574' / length 50'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	511'	6428'	
Screen	524' 574'	6415' 6365'	50'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

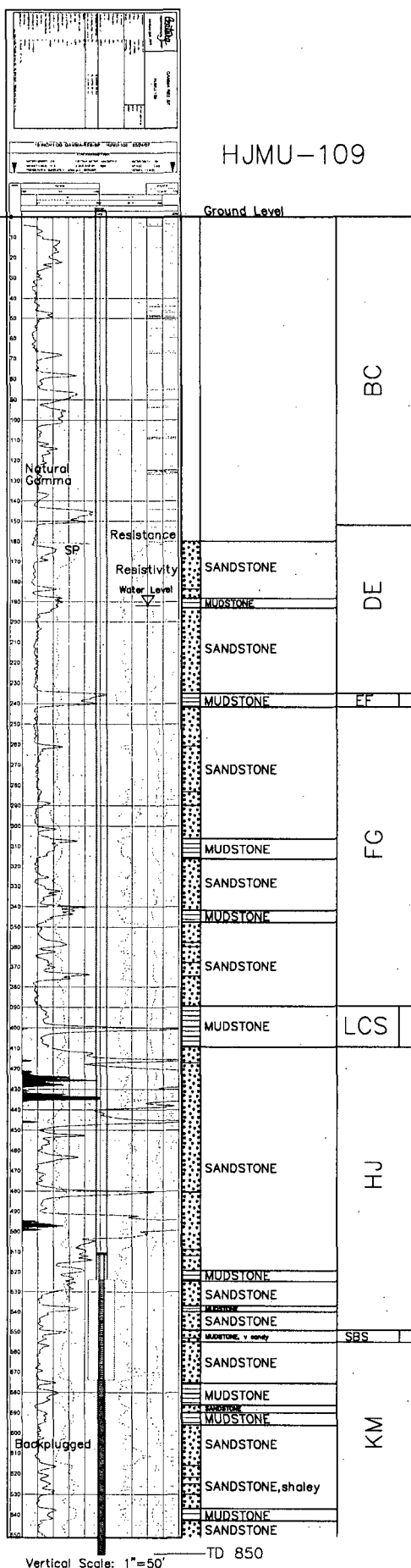
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 574'-850'

w/ BH UltragROUT slurry - 25% solids



Vertical Scale: 1"=50'

TD 850

HJMU-109

HJMU-110

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-110

WELL # HJMU-110 SEO # 179890 Date Drilled: 4-26-07Location: E 743.685 / N 535.195 (NAD 27)Ground Elev: 6945.97' Measure Point Elev: 6947.56'TD: 850' Hole Dia.: 7-7/8"CASED to: 492' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 207' Elev: 6741' (avg.)UNDERREAM: Blade Dia: 10.5"Intervals: from 492' to 532' / length 40'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	Length
	From - To	/ From - To		
K-packers	<u>485'</u>		<u>6463'</u>	
Screen	<u>492'</u> <u>537'</u>		<u>6456'</u> <u>6411'</u>	<u>45'</u>

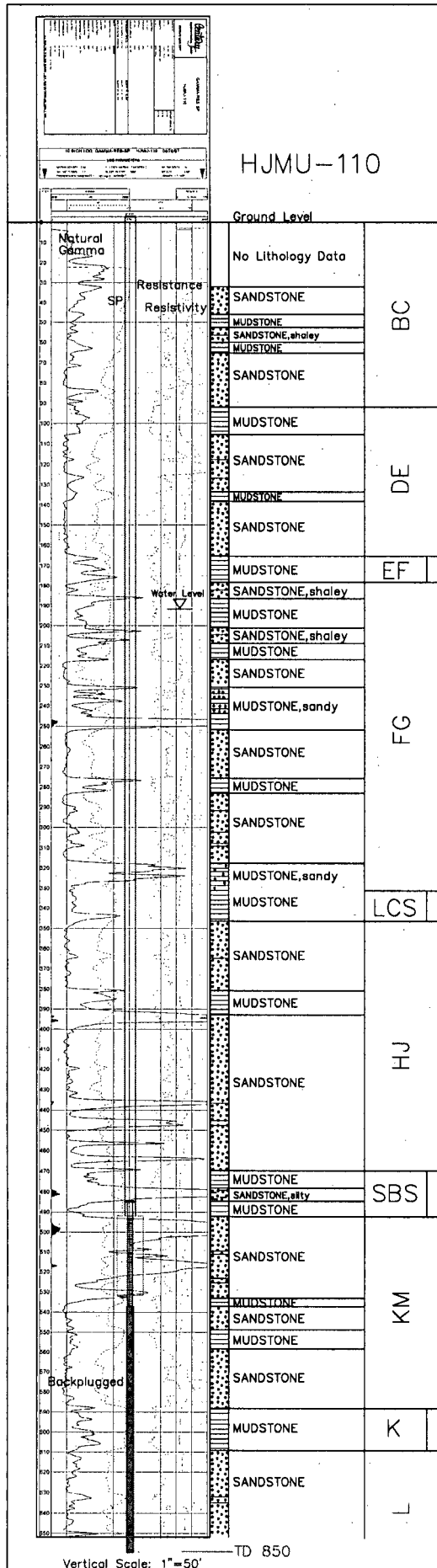
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / PoorPilot Hole BACKPLUGGED: 537'-850'

w/ BH Ultragrout slurry - 25% solids



HJMU-110

HJMU-113

HJMU-113

Lost Creek ISR, LLC

WELL COMPLETION REPORTWELL # HJMU-113 SEO # 179899 Date Drilled: 6-4-07Location: E 744,277 / N 534,807 (NAD 27)Ground Elev: 6935.16 Measure Point Elev: 6936.99TD: 800 ft. Hole Dia.: 7-7/8"CASED to: 524' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 188' Elev: 6749' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 524' to 555' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	512'	6424'	
Screen	524' 554'	6412' 6382'	30'

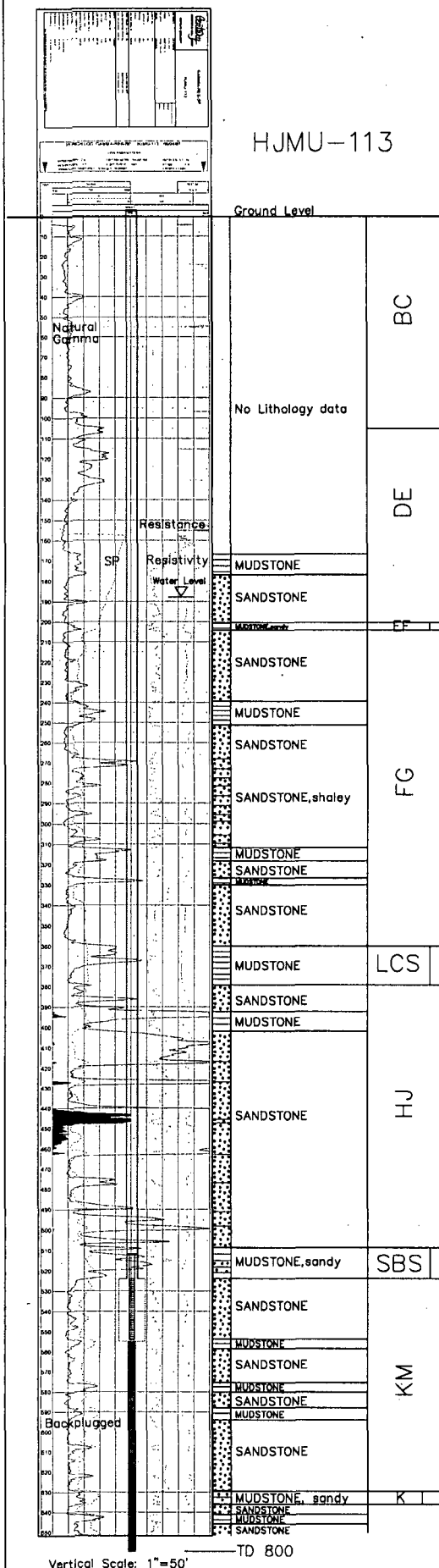
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / PoorPilot Hole BACKPLUGGED: 555'-800'

w/ BH Ultragrout slurry - 25% solids



HJMU-113

LC17M

LC17M

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC17M SEO # 175260 Date Drilled: 8-14-06

Location: E 744,548 / N 534,838 (NAD 27)

Ground Elev: 6935.32 Measure Point Elev: 6936.90

TD: 575 ft. Hole Dia.: 7-7/8"

CASED to: 529' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 187' Elev: 6750' (avg.)

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 529' to 565' / length 36'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	N/A		
Open-hole	529' 565'	6408' 6372'	36'

SCREEN SPECIFICATIONS:

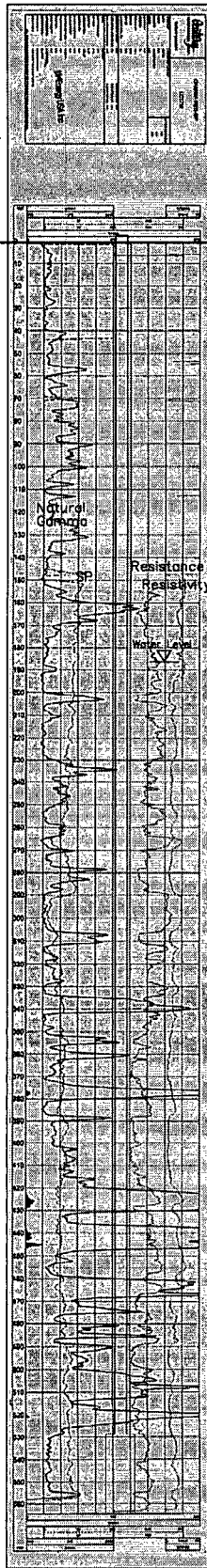
Slot: _____ Composition N/A

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

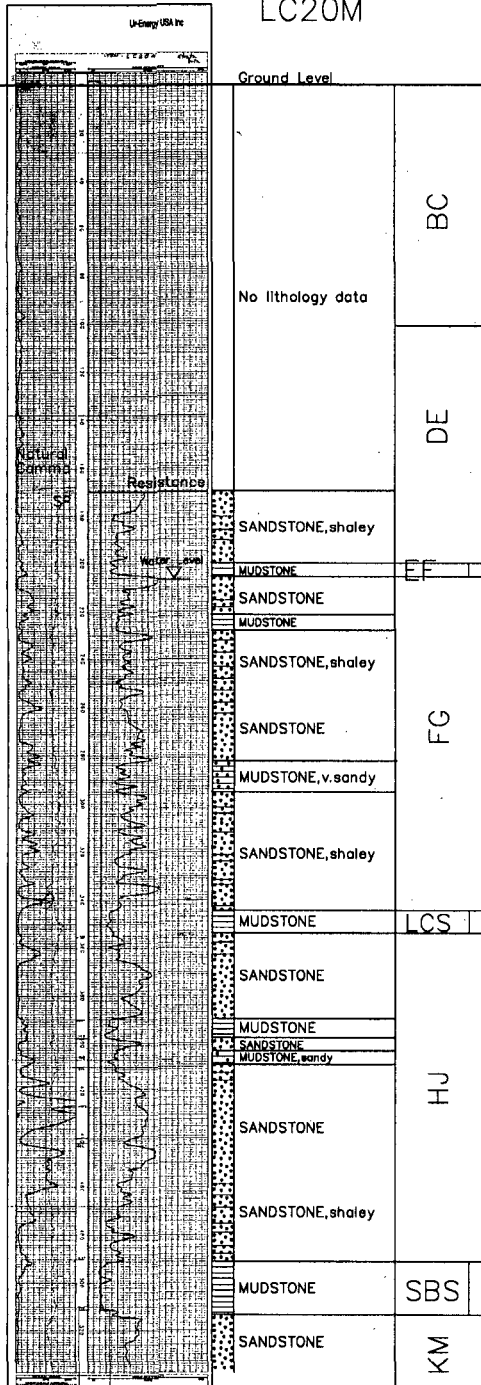


Vertical Scale: 1"=50'

LC17M

LC20M

LC20M



Vertical Scale: 1"=50'

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC20M SEO # 175261 Date Drilled: 8-30-06

Location: E 743,383 / N 535,331 (NAD 27)

Ground Elev: 6949.27' Measure Point Elev: 6950.64'

TD: 543' Hole Dia.: 7-7/8"

CASED to: 511' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 209' Elev: 6742' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 511' to 543' / length 32'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer				N/A	
Open-hole	511'	543'	6440'	6408'	32'

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

LC20M

LC24M

LC24M

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC24M SEO # 175263 Date Drilled: 8-30-06

Location: E 744,566 / N 535,200 (NAD 27)

Ground Elev: 6942.33' Measure Point Elev: 6944.33'

TD: 542' Hole Dia.: 7-7/8"

CASED to: 478' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 204' Elev: 6740' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 478' to 531' / length 53'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	N/A				
Open-hole	478'	531'	6466'	6413'	53'

SCREEN SPECIFICATIONS:

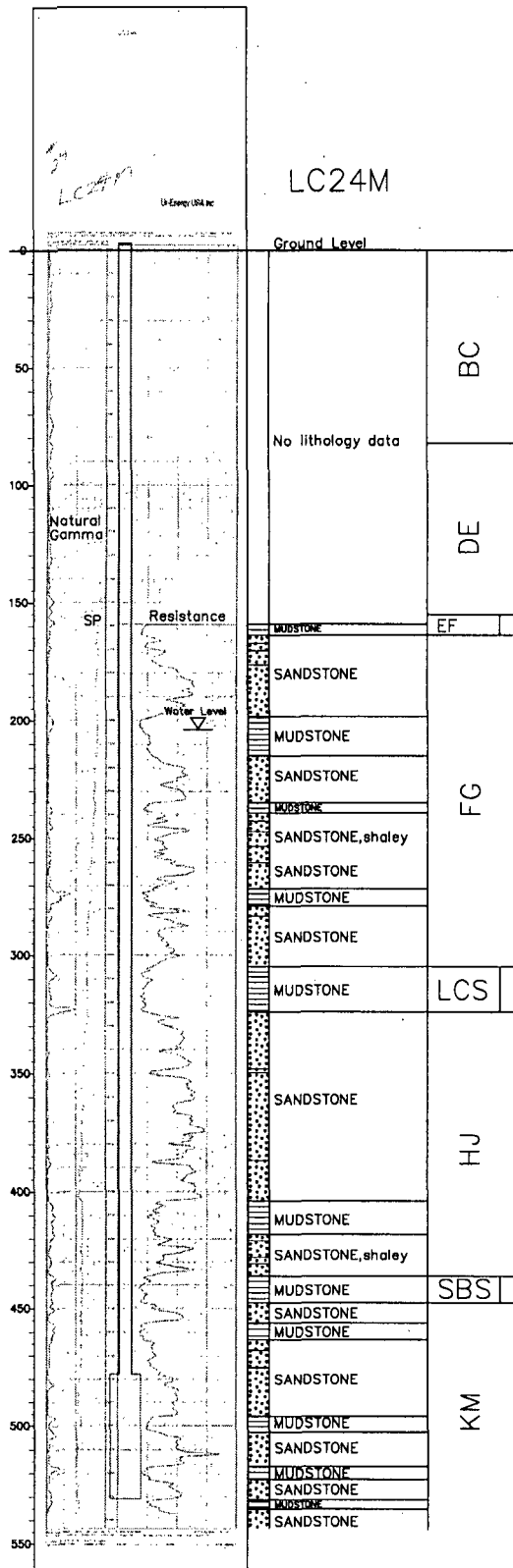
Slot: _____ Composition N/A

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: _____ N/A _____

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



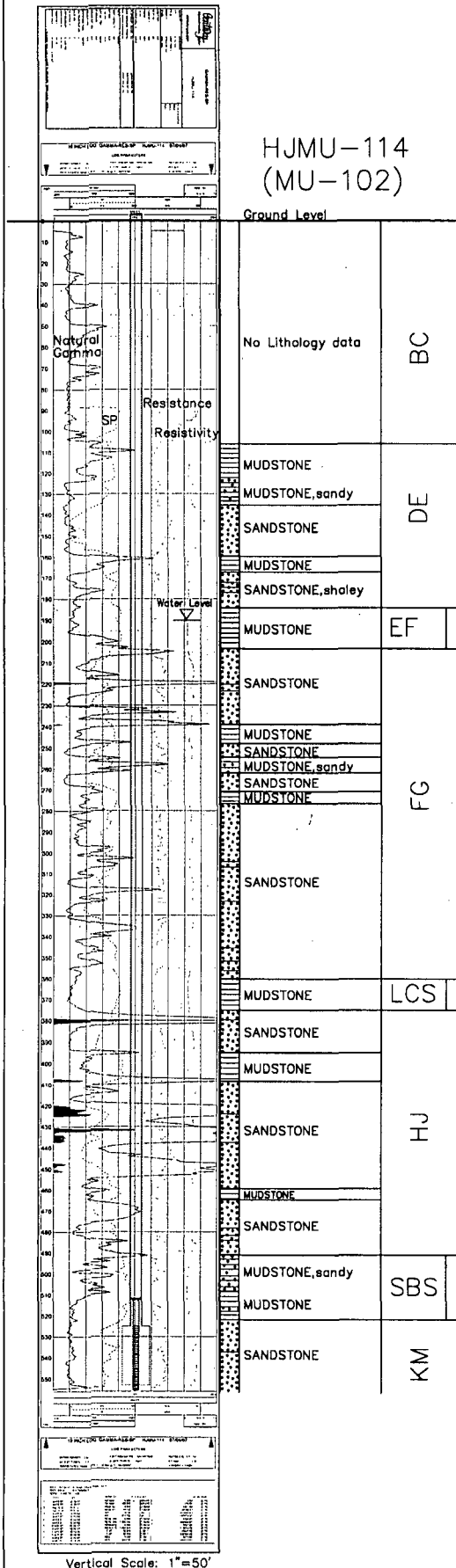
Vertical Scale: 1"=50'

LC24M

HJMU-114
(MU-102)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-114
(MU-102)



WELL # HJMU-114 SEO # 179902 Date Drilled: 7-4-07

Location: E 744,966 / N 534,678 (NAD 27)

Ground Elev: 6939.10' Measure Point Elev: 6940.43'

TD: 557' Hole Dia.: 7-7/8"

CASED to: 525' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 190' Elev: 6750' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 525' to 553' / length 28'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	512'	6428'	
Screen	525' 555'	6415' 6385'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

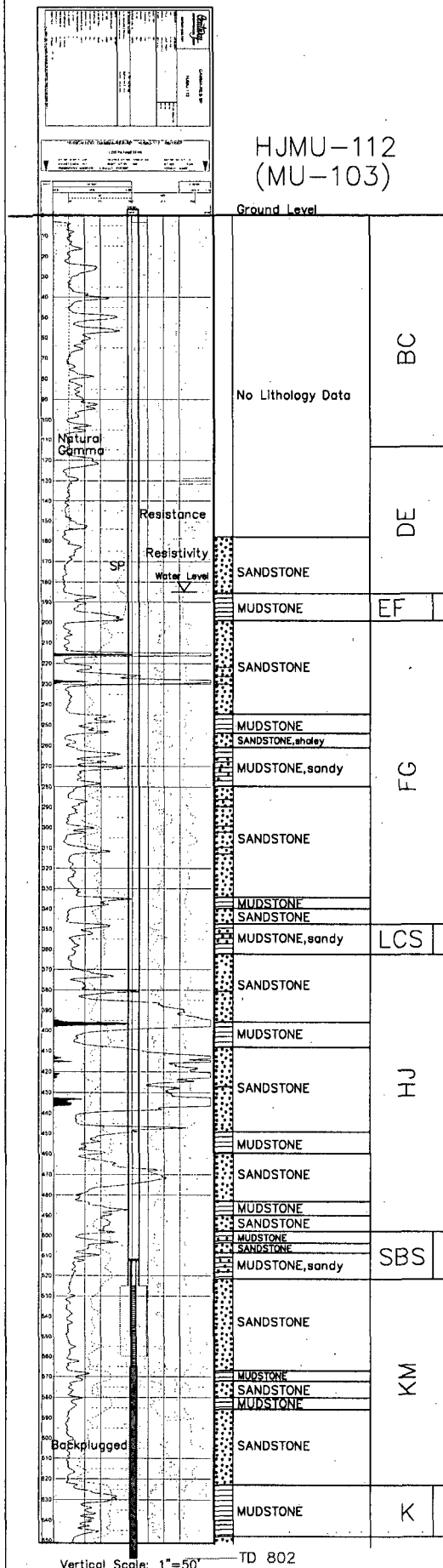
Yield: Good / Moderate / Poor

HJMU-114
(MU-102)

HJMU-112
(MU-103)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-112
(MU-103)



WELL # HJMU-112 SEO # 179896 Date Drilled: 6-18-07

Location: E 744,386 / N 534,676 (NAD 27)

Ground Elev: 6934.18' Measure Point Elev: 6935.35'

TD: 802' Hole Dia.: 7-7/8"

CASED to: 525' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 185' Elev: 6750' (avg.)

UNDERREAM: Blade Dia: 10.5"
Intervals: from 525' to 560' / length 35'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packers	<u>512'</u>	<u>6423'</u>	
Screen	<u>525'</u> <u>565'</u>	<u>6410'</u> <u>6370'</u>	<u>40'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 565'-802'

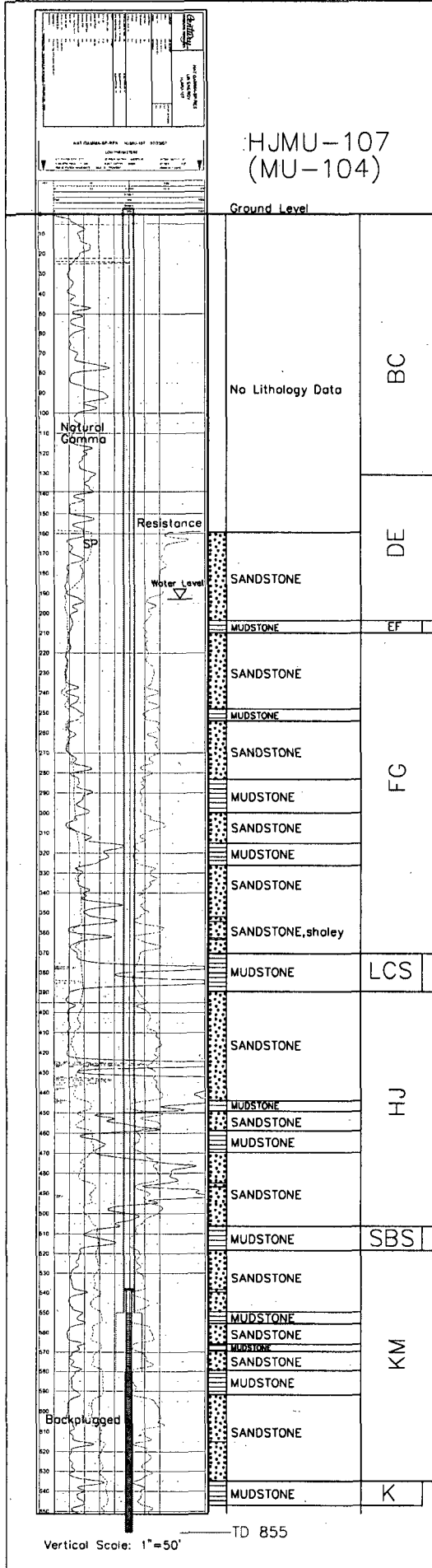
w/ BH UltragROUT slurry - 25% solids

HJMU-112
(MU-103)

HJMU-107
(MU-104)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-107
(MU-104)



WELL # HJMU-107 SEO # 179881 Date Drilled: 7-23-07

Location: E 743,686 / N 534,788 (NAD 83)

Ground Elev: 6936.84 Measure Point Elev: 6937.88

TD: 855 ft. Hole Dia.: 7-7/8"

CASED to: 550' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 193' Elev: 6745'

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 550' to 580' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-packer	538'	6399	
Screen	550' 580'	6387' 6357'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 580'-855'
w/ BH Ultragrout slurry - 25% solids

HJMU-107
(MU-104)

HJMU-111
(MU-105)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-111
(MU-105)

WELL # HJMU-111 SEO # 179893 Date Drilled: 4-24-07

Location: E 743,841 / N 535,374 (NAD 27)

Ground Elev: 6948.93 Measure Point Elev: 6950.08

TD: 853 ft. Hole Dia.: 7-7/8"

CASED to: 507' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 209' Elev: 6741'

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 507' to 545' / length 38'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	492'		6458'		
Screen	507' 547'		6443' 6403'		40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

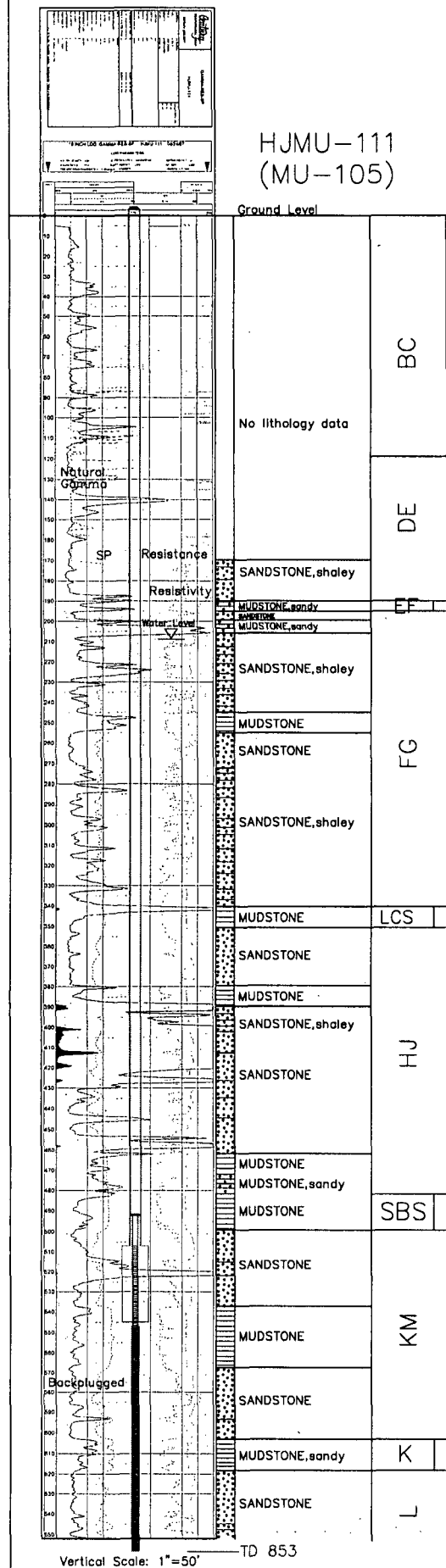
Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 547'-850'

w/ BH Ultragrout slurry - 25% solids



HJMU-111
(MU-105)

HJMU-106 (MU-106)

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-106 (MU-106)

WELL # HJMU-106 SEO # 179878 Date Drilled: 8-8-07

Location: E 743159 / N 535258 (NAD 27)

Ground Elev: 6940.59' Measure Point Elev: 6941.75'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 500' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6741'

UNDERREAM: Blade Dia: 10.5"

Intervals: from 500' to 546' / length 46'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	483'	6459'	
Screen	500' 550'	6442' 6392'	50'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

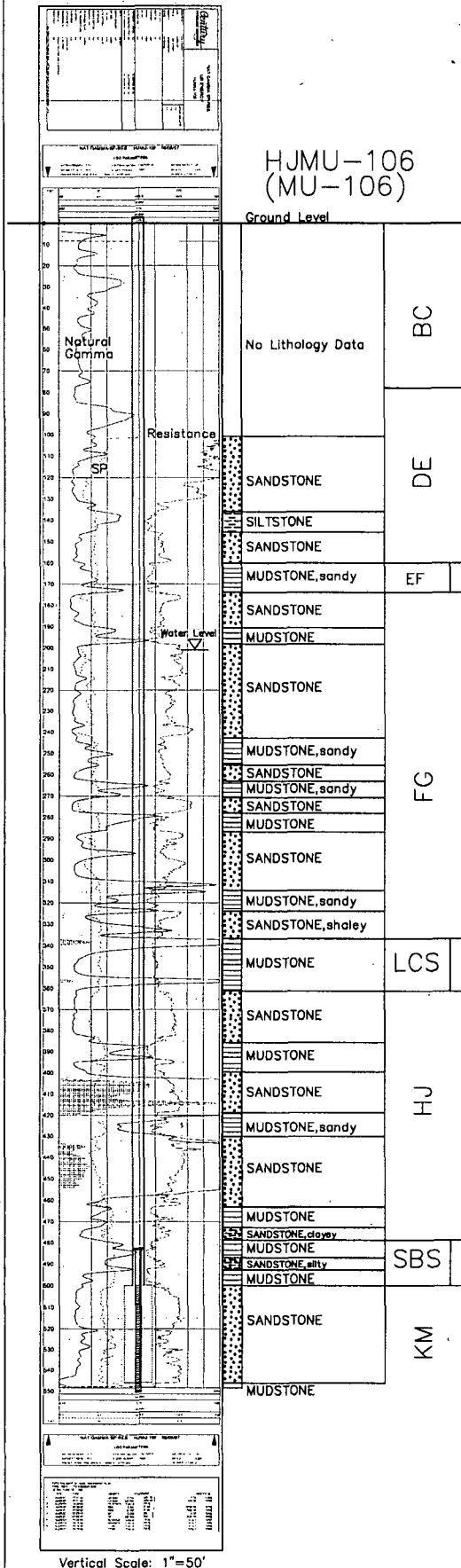
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

HJMU-106
(MU-106)

HJMU-103
 (MU-107)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMU-103 SEO # 179869 Date Drilled: 7-24-07

Location: E 742,657 / N 535,098 (NAD 83)

Ground Elev: 6935.06 Measure Point Elev: 6936.06

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 500' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
 Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 195' Elev: 6741'

UNDERREAM: Blade Dia: 10-1/2"
 Intervals: from 500' to 540' / length 40'
 from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		488'		6448'	
Screen	500'	540'	6436'	6396'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

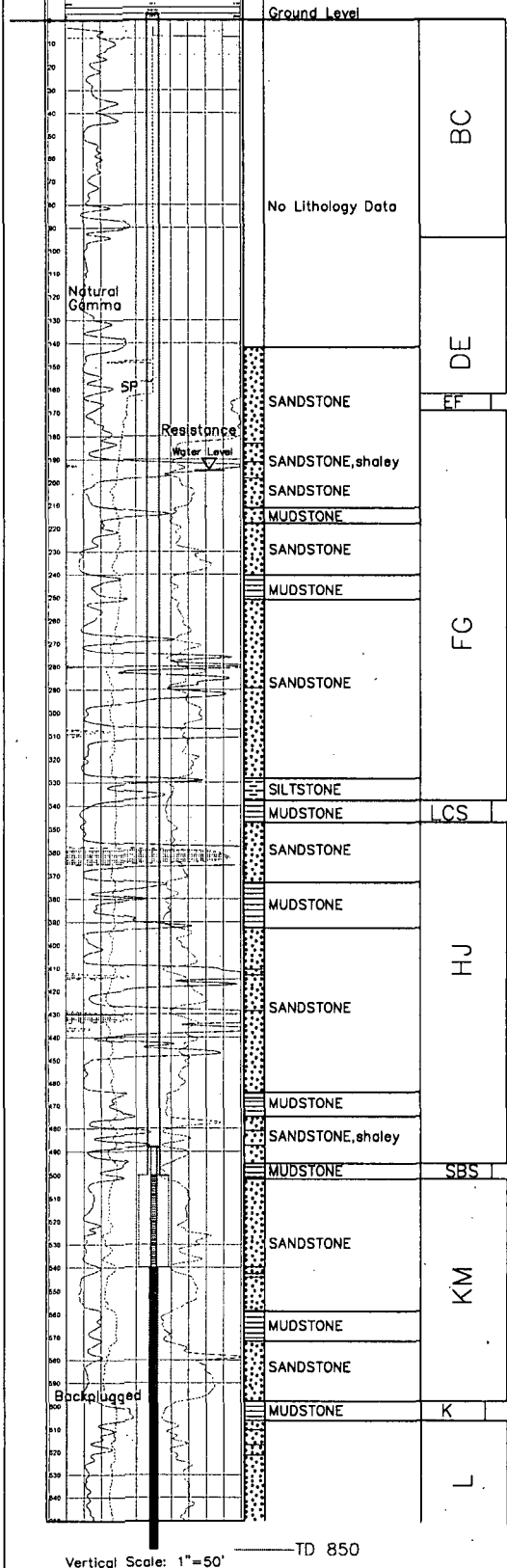
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 540'-850'

w/ BH Ultragrout slurry - 25% solids



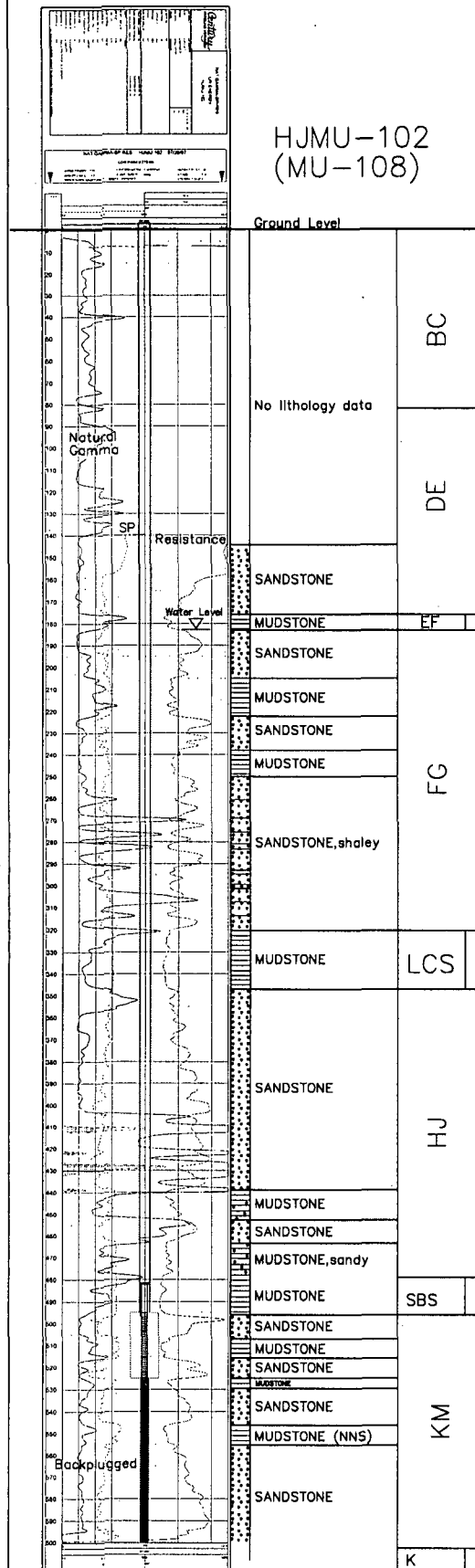
Vertical Scale: 1"=50' — TD 850

HJMU-103
 (MU-107)

HJMU-102 (MU-108)

HJMU-102 (MU-108)

Lost Creek ISR, LLC WELL COMPLETION REPORT



Vertical Scale: 1"=50'

WELL # HJMU-102 SEO # 179866 Date Drilled: 7-26-07

Location: E 743,476 / N 535299 (NAD 27)

Ground Elev: 6934.72 Measure Point Elev: 6935.35

TD: 600 ft. Hole Dia.: 7-7/8"

CASED to: 495' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 183' Elev: 6752' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 495' to 525' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	482'	6453'	
Screen	495' 525'	6440' 6410'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 525'-600'

w/ BH Ultragrout slurry - 25% solids

HJMU-102
(MU-108)

UKMP-101

UKMP-101

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # UKMP-101 SEO # 179906 Date Drilled: 5-15-07

Location: E 744,090 / N 534,929 (NAD 27)

Ground Elev: 6940.18 Measure Point Elev: 6941.74

TD: 575 ft. Hole Dia.: 7-7/8"

CASED to: 547' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 199' Elev: 6742' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 547' to 575' / length 28'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	545'		6396'		
Screen	547'	577'	6394'	6364'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

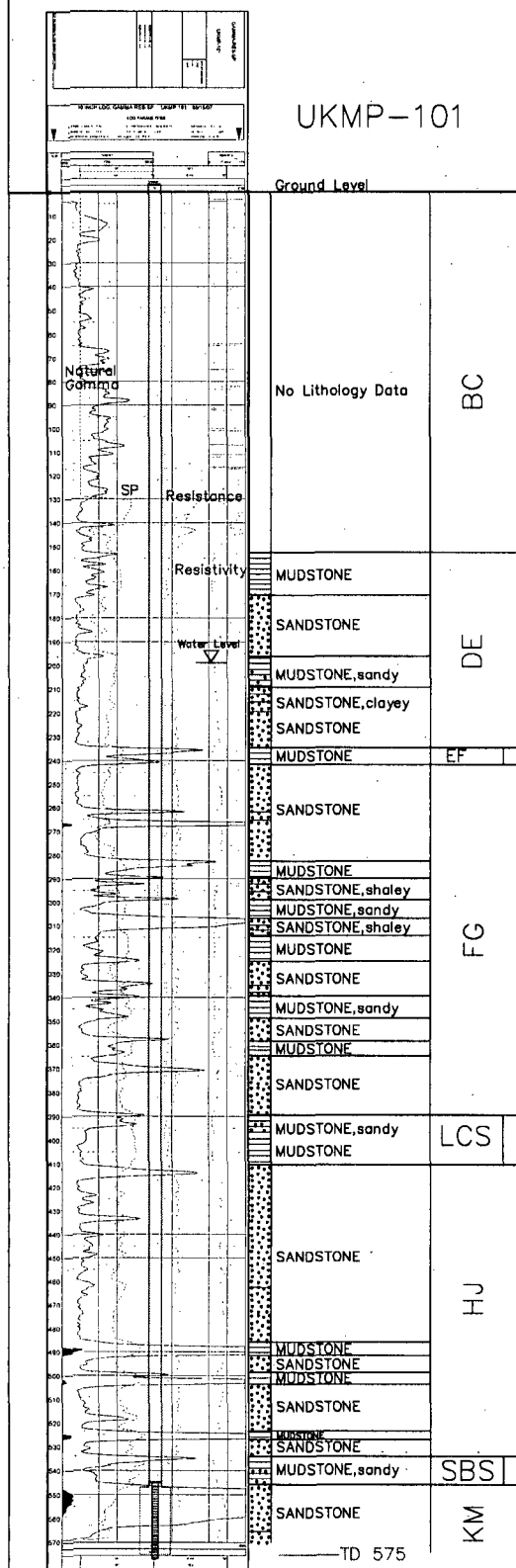
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



UKMP-101

UKMP-102

UKMP-102

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # UKMP-102 SEO # 179909 Date Drilled: 5-18-07

Location: E 744.204 / N 535.145 (NAD 27)

Ground Elev: 6940.51 Measure Point Elev: 6942.10'

TD: 498' Hole Dia.: 7-7/8"

CASED to: 475' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6741' (Avg)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 485' to 505' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-pack	472'		6470'		
Screen	475'	495'	6467'	6447'	20'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

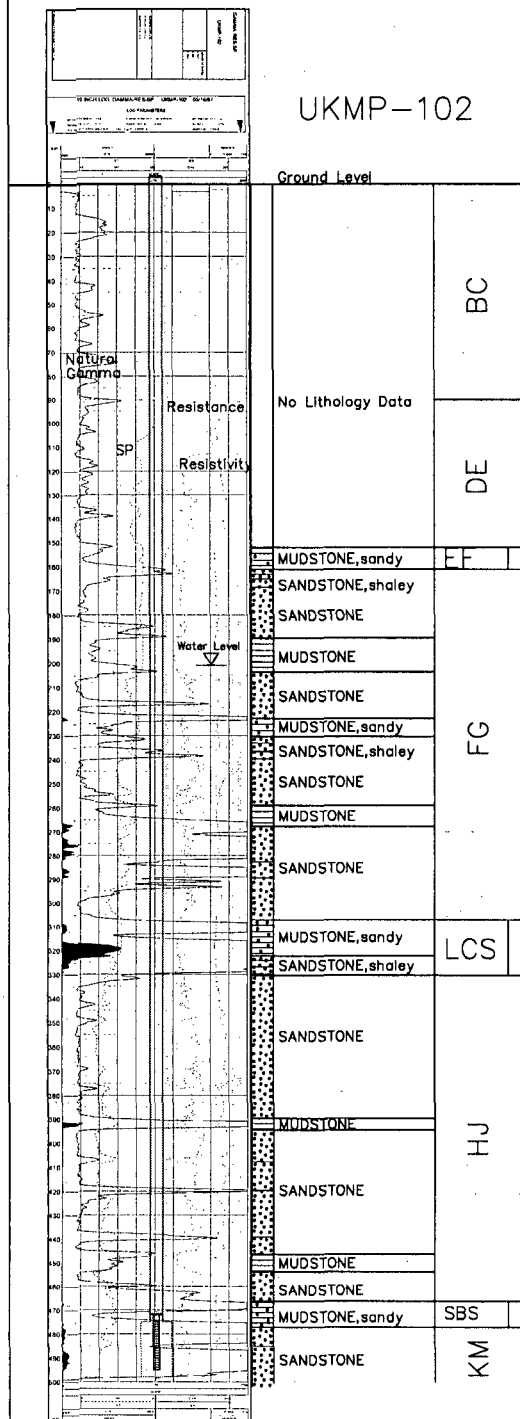
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

UKMP-102

UKMU-103

UKMU-103

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # UKMU-103 SEO # 179911 Date Drilled: 5-30-07

Location: E 744,488 / N 535,546 (NAD 27)

Ground Elev: 6848.75 Measure Point Elev: 6950.92

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 558' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MKM Sand

Static Water Level: Depth 209' Elev: 6444' (avg.)

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 558' to 590' / length 32'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	546'		6404'		
Screen	558'	588'	6392'	6362'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

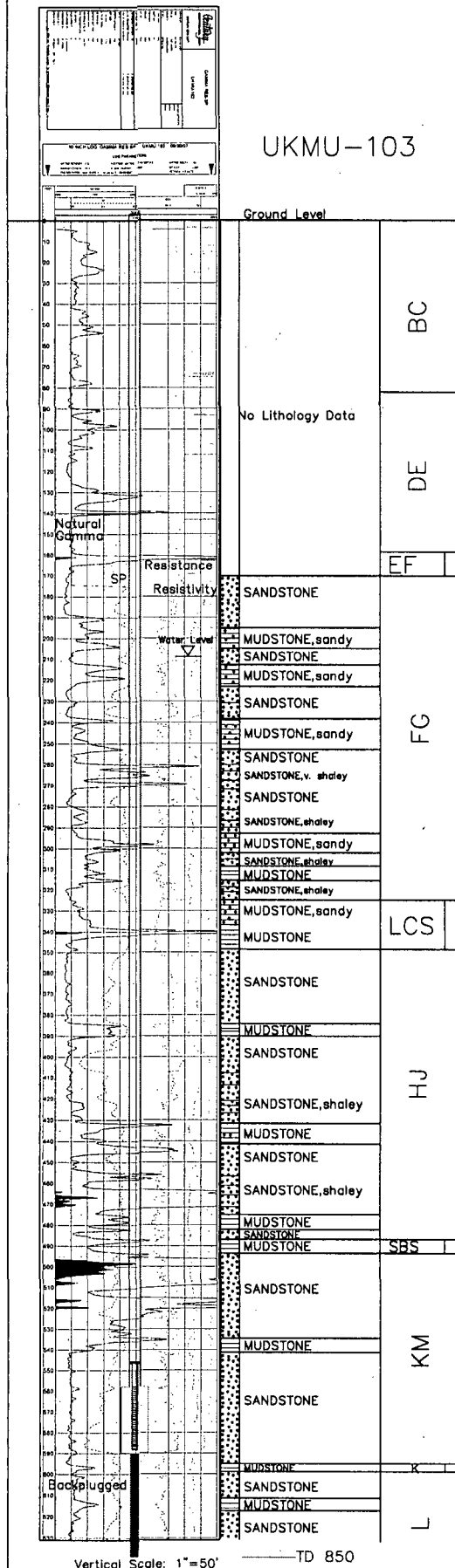
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: (Good) Moderate / Poor

Pilot Hole BACKPLUGGED: 590'-850'
w/ BH UltragROUT slurry - 25% solids



Vertical Scale: 1"=50' ——— TD 850

UKMU-103

HJMU-101

HJMU-101

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJMU-101 SEO # 179863 Date Drilled: 7-30-07Location: E 743,277 / N 531,997 (NAD 27)Ground Elev: 6903.50 Measure Point Elev: 6904.71TD: 535 ft. Hole Dia.: 7-7/8"CASED to: 499' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 207' Elev: 6697'UNDERREAM: Blade Dia: 10-1/2"Intervals: from 499' to 535' / length 36'

from _____ to _____ / length _____

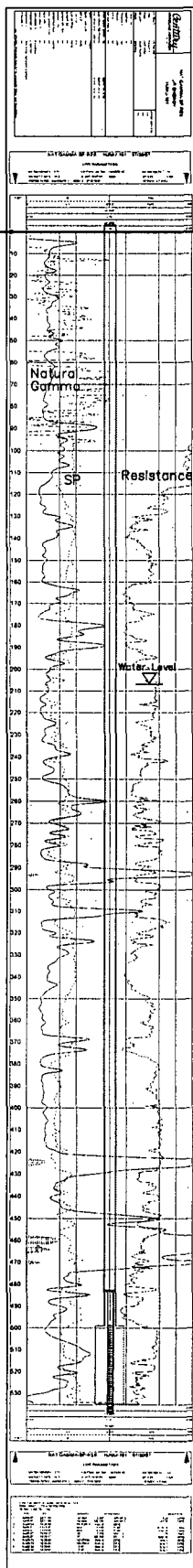
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-pack		<u>483'</u>		<u>6421'</u>	
Screen	<u>499'</u>	<u>539'</u>	<u>6405'</u>	<u>6365'</u>	<u>40'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

Vertical Scale: 1"=50'

HJMU-101

HJMU-104

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-104

WELL # HJMU-104 SEO # 179872 Date Drilled: 8-7-07Location: E 742891 / N 534907 (NAD 27)Ground Elev: 6939.01' Measure Point Elev: 6940.51'TD: 550' Hole Dia.: 7-7/8"CASED to: 512' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 196' Elev: 6745' (avg.)UNDERREAM: Blade Dia: 10.5"Intervals: from 512' to 550' / length 38'
from _____ to _____ / length _____

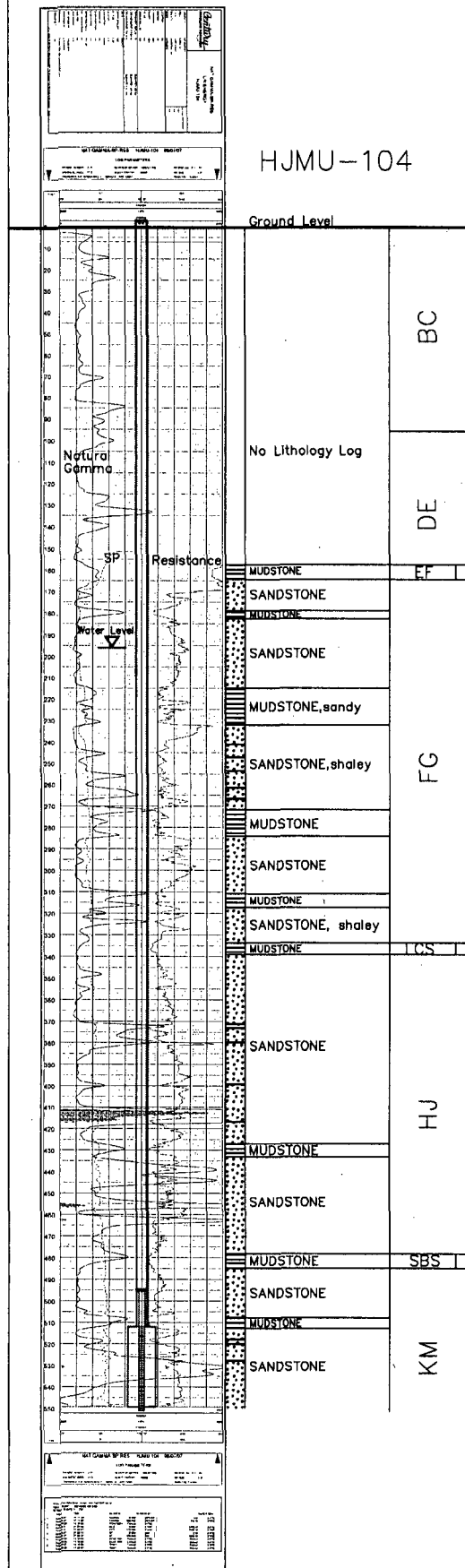
SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-pack	495	6446'	
Screen	512' 552'	6429' 6389'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

Vertical Scale: 1"=50'

HJMU-104

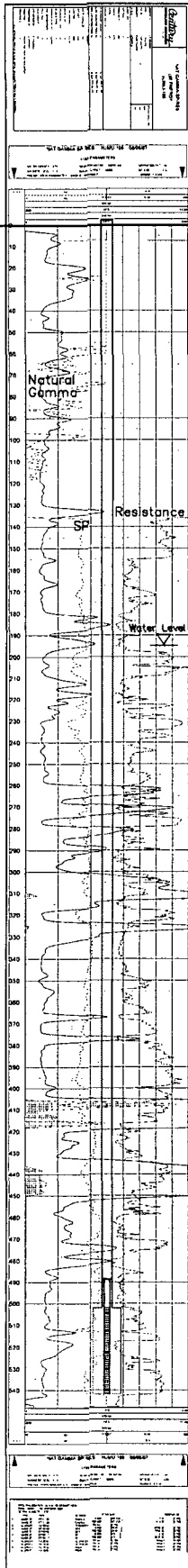
HJMU-105

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-105

WELL # HJMU-105 SEO # 179875 Date Drilled: 8-8-07Location: E 742,942 / N 535,076 (NAD 27)Ground Elev: 6936.37 Measure Point Elev: 6937.58TD: 548 ft. Hole Dia.: 7-7/8"CASED to: 502' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 197' Elev: 6741'UNDERREAM: Blade Dia: 10-1/2"Intervals: from 502' to 542' / length 40'
from _____ to _____ / length _____**SCREEN LINER ASSEMBLY**

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	489'	6448'	
Screen	502' 542'	6435' 6395'	40'

SCREEN SPECIFICATIONS:Slot: 0.020" Composition 3" PVC**FILTER PACKING:**Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

Vertical Scale: 1"=50'

HJMU-105

HJMU-108

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-108

WELL # HJMU-108 SEO # 179884 Date Drilled: 7-19-07Location: E 743,476 / N 535,299 (NAD 27)Ground Elev: 6949.97' Measure Point Elev: 6951.51'TD: 850' Hole Dia.: 7-7/8"CASED to: 510' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 210' Elev: 6741' (avg.)UNDERREAM: Blade Dia: 10.5"Intervals: from 510' to 540' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	497'	6455'	
Screen	510' 540'	6442' 6412'	30'

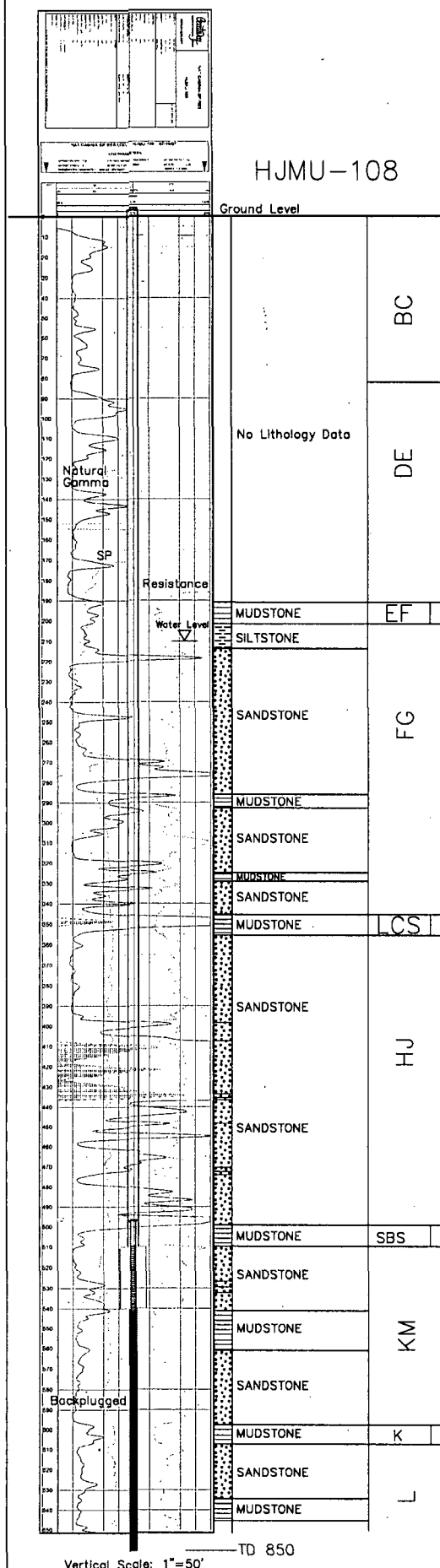
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / PoorPilot Hole BACKPLUGGED: 540'-850'

w/ BH Ultragrout slurry - 25% solids



Vertical Scale: 1"=50'

TD 850

HJMU-108

HJMU-109

Lost Creek ISR, LLC

WELL COMPLETION REPORT

HJMU-109

WELL # HJMU-109 SEO # 179887 Date Drilled: 5-24-07

Location: E 743.905 / N 534.835 (NAD 83)

Ground Elev: 6933.92 Measure Point Elev: 6939.38

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 524' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 192' Elev: 6747'

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 524' to 574' / length 50'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	511'	6428'	
Screen	524' 574'	6415' 6365'	50'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

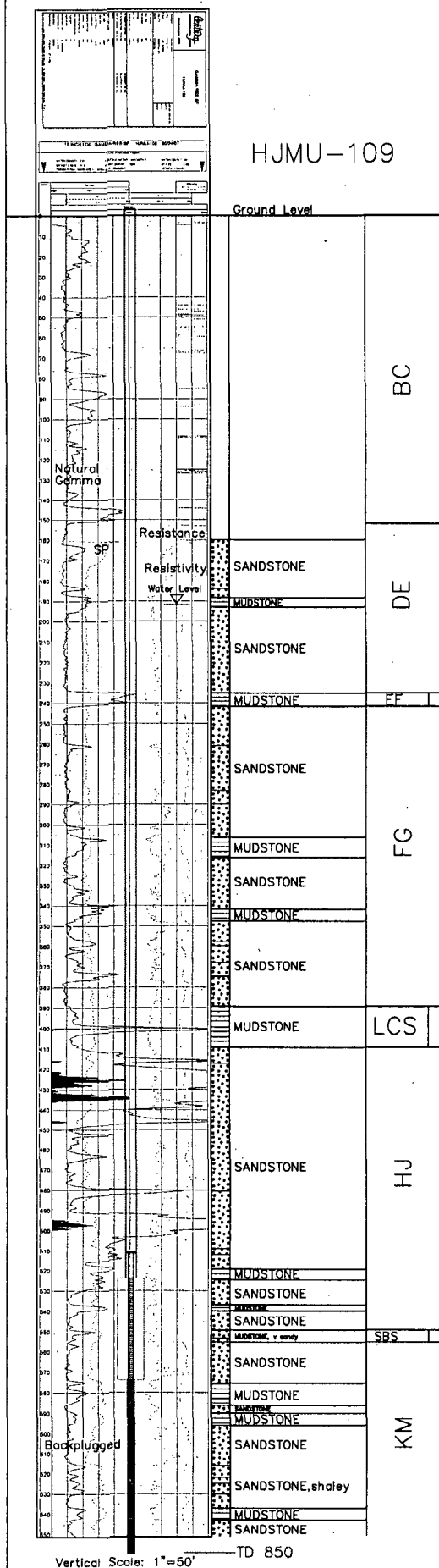
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 574'-850'

w/ BH Ultragrout slurry - 25% solids



HJMU-109

[illegible][illegible]

WELL COMPLETION REPORT

Location: E 743,685 / N 535,195 (NAD 27)

TD: 850' Hole Dia.: 7-7/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water.

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 207' Elev: 6741' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 492' to 532' / length 40'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		485'		6463'	
Screen	492'	537'	6456'	6411'	45'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

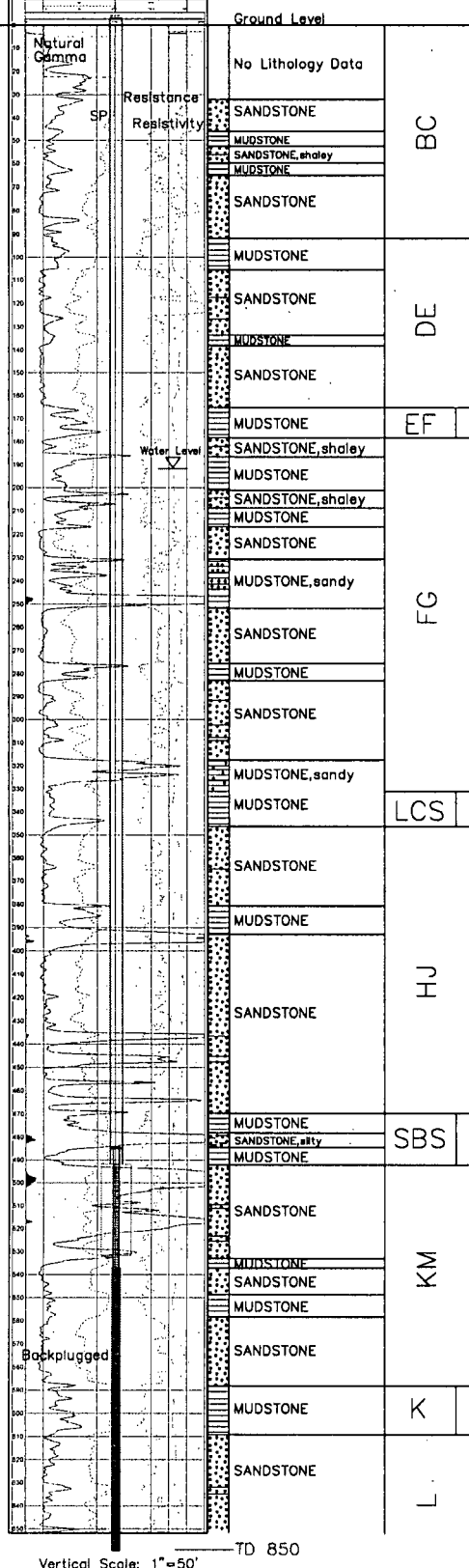
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 537'-850'

w/ BH Ultragrout slurry - 25% solids



Vertical Scale: 1"=50'

-TD 850

HJMU-110

HJMU-113

HJMU-113

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJMU-113 SEO # 179899 Date Drilled: 6-4-07

Location: E 744,277 / N 534,807 (NAD 27)

Ground Elev: 6935.16 Measure Point Elev: 6936.99

TD: 800 ft. Hole Dia.: 7-7/8"

CASED to: 524' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 188' Elev: 6749' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 524' to 555' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-pack	512'	6424'	
Screen	524' 554'	6412' 6382'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

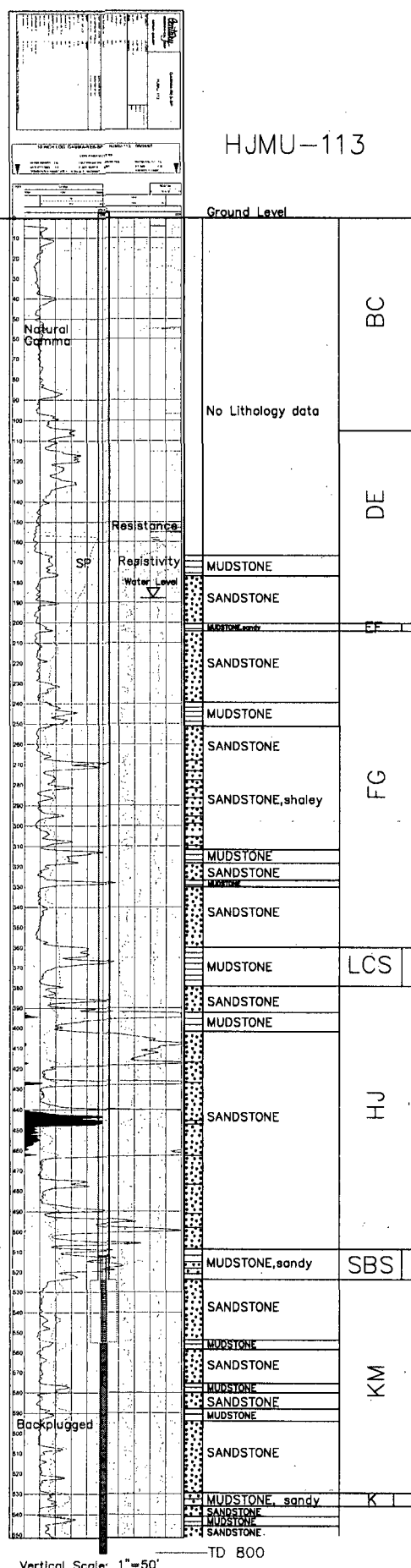
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 555'-800'

w/ BH Ultragrout slurry - 25% solids



HJMU-113

LC17M

LC17M

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC17M SEO # 175260 Date Drilled: 8-14-06Location: E 744,548 / N 534,838 (NAD 27)Ground Elev: 6935.32 Measure Point Elev: 6936.90TD: 575 ft. Hole Dia.: 7-7/8"CASED to: 529' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 187' Elev: 6750' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 529' to 565' / length 36'
from _____ to _____ / length _____

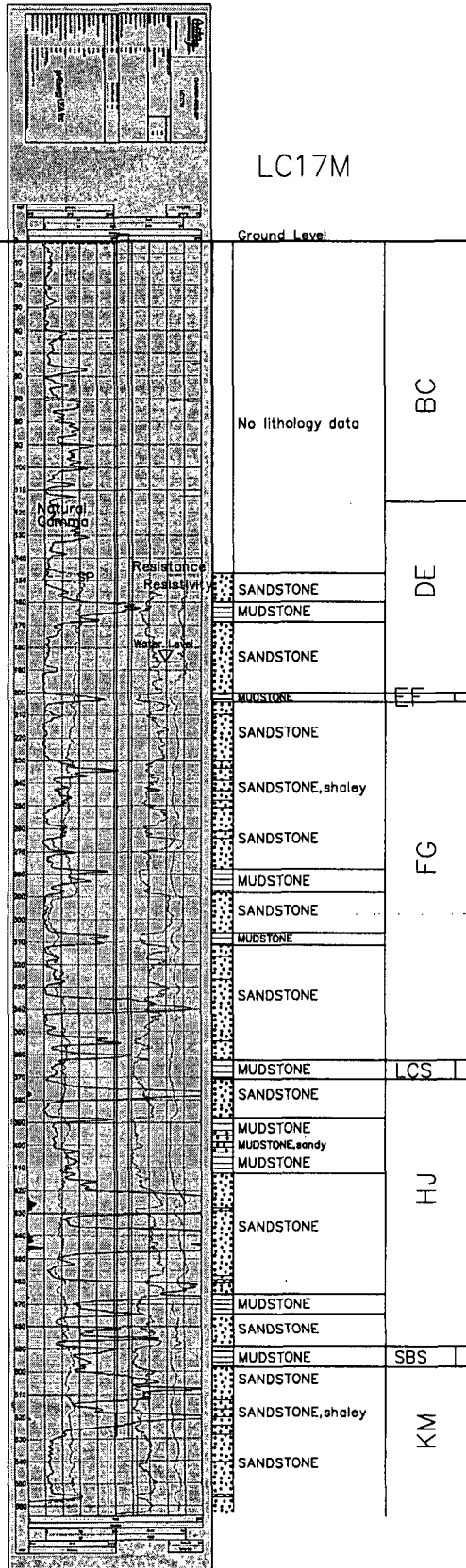
OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	N/A				
Open-hole	529'	565'	6408'	6372'	36'

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

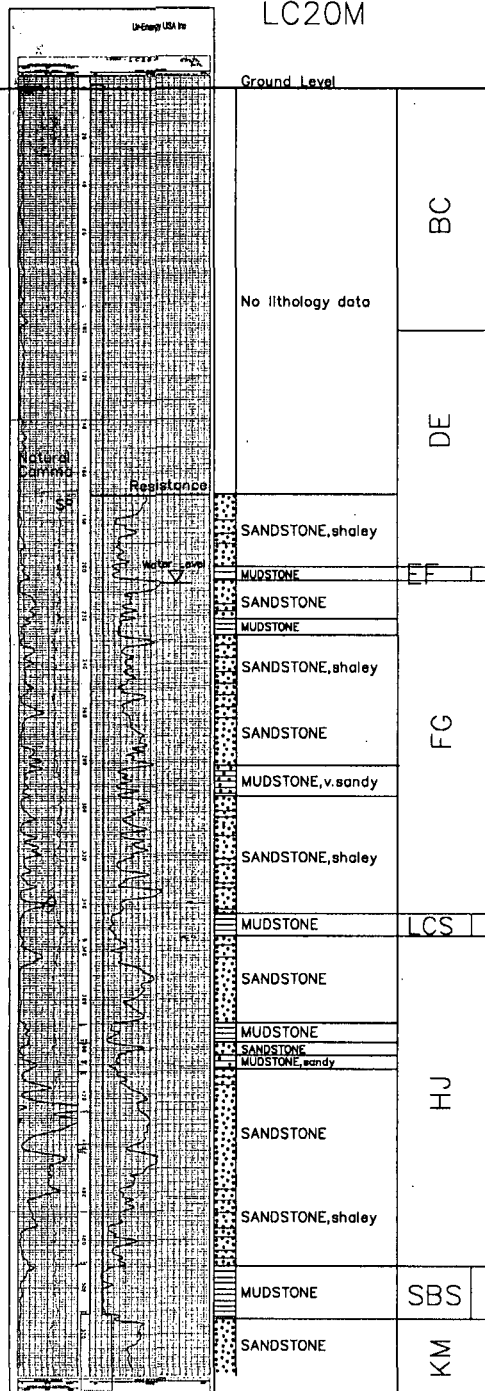
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

LC17M

LC20M

LC20M



Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # LC20M SEO # 175261 Date Drilled: 8-30-06

Location: E 743,383 / N 535,331 (NAD 27)

Ground Elev: 6949.27' Measure Point Elev: 6950.64'

TD: 543' Hole Dia.: 7-7/8"

CASED to: 511' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 209' Elev: 6742' (avg.)

UNDERREAM: Blade Dia: 10.5"
Intervals: from 511' to 543' / length 32'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION				
Description	Depth		Elev.	
	From - To		From - To	Length
K-packer			N/A	
Open-hole	511'	543'	6440'	6408'
				32'

SCREEN SPECIFICATIONS:
Slot: _____ Composition N/A

FILTER PACKING:
Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift
Yield: Good / Moderate / Poor

LC20M

LC24M

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC24M SEO # 175263 Date Drilled: 8-30-06

Location: E 744,566 / N 535,200 (NAD 27)

Ground Elev: 6942.33' Measure Point Elev: 6944.33'

TD: 542' Hole Dia.: 7-7/8"

CASED to: 478' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II

Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 204' Elev: 6740' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 478' to 531' / length 53'

from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	N/A				
Open-hole	478'	531'	6466'	6413'	53'

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

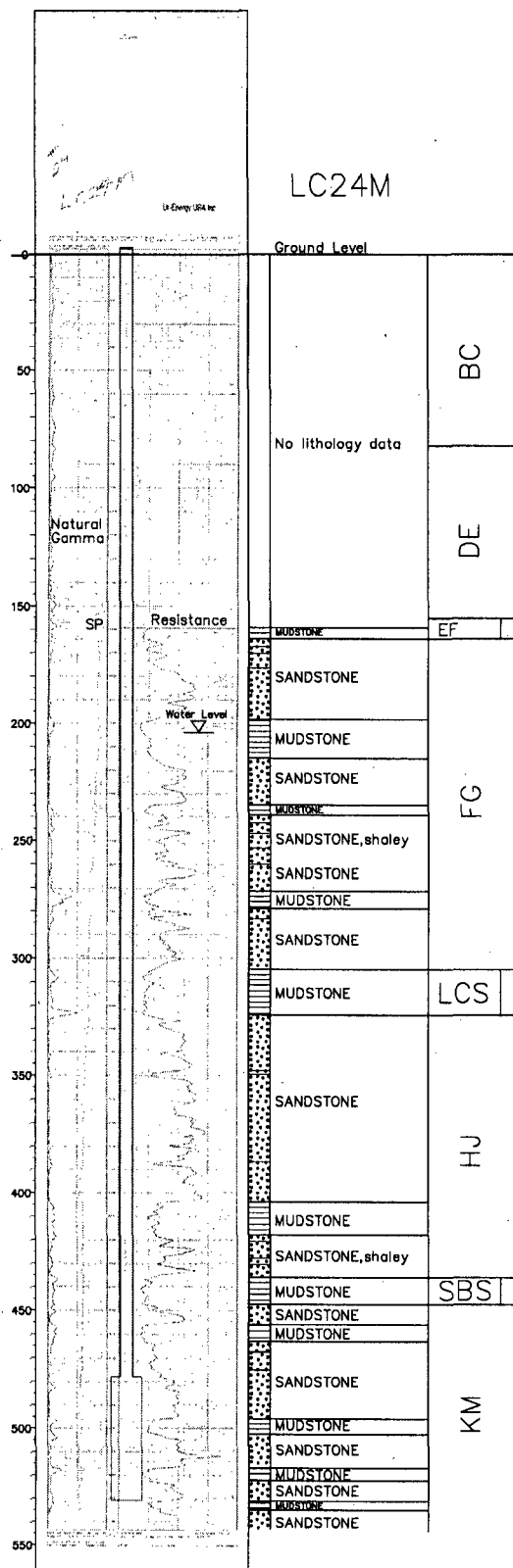
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

LC24M

HJMU-114
(MU-102)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMU-114 SEO # 179902 Date Drilled: 7-4-07

Location: E 744,966 / N 534,678 (NAD 27)

Ground Elev: 6939.10' Measure Point Elev: 6940.43'

TD: 557' Hole Dia.: 7-7/8"

CASED to: 525' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 190' Elev: 6750' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 525' to 553' / length 28'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-packer		<u>512'</u>		<u>6428'</u>	
Screen	<u>525'</u>	<u>555'</u>	<u>6415'</u>	<u>6385'</u>	<u>30'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

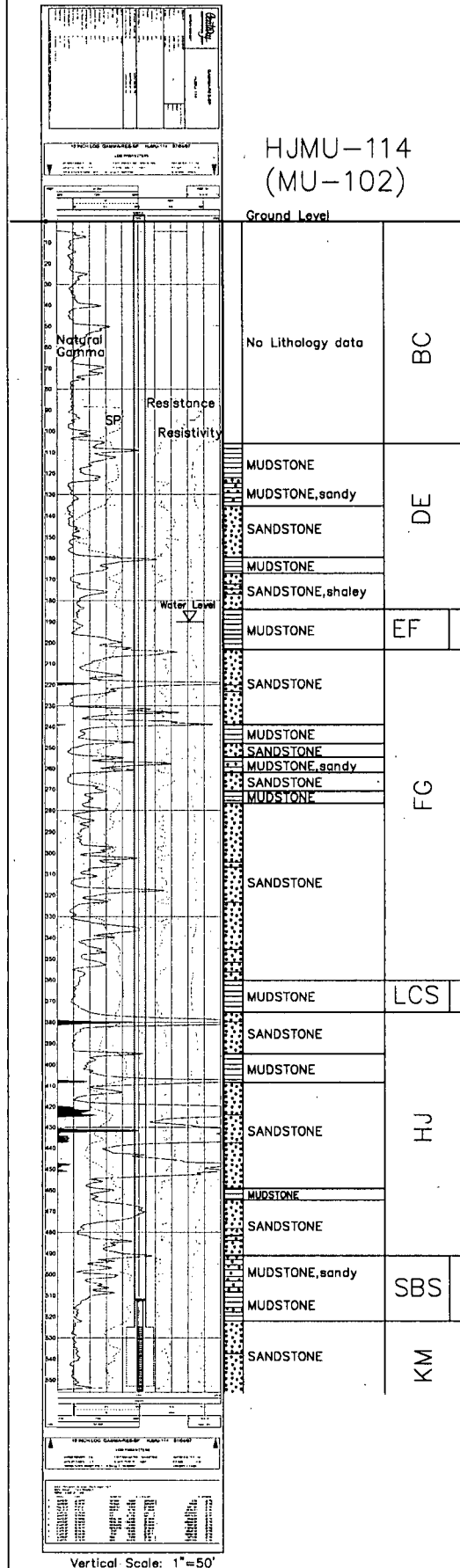
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



HJMU-114
(MU-102)

HJMU-112
(MU-103)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-112
(MU-103)

WELL # HJMU-112 SEO # 179896 Date Drilled: 6-18-07

Location: E 744.386 / N 534.676 (NAD 27)

Ground Elev: 6934.18' Measure Point Elev: 6935.35'

TD: 802' Hole Dia.: 7-7/8"

CASED to: 525' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 185' Elev: 6750' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 525' to 560' / length 35'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	512'		6423'		
Screen	525'	565'	6410'	6370'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

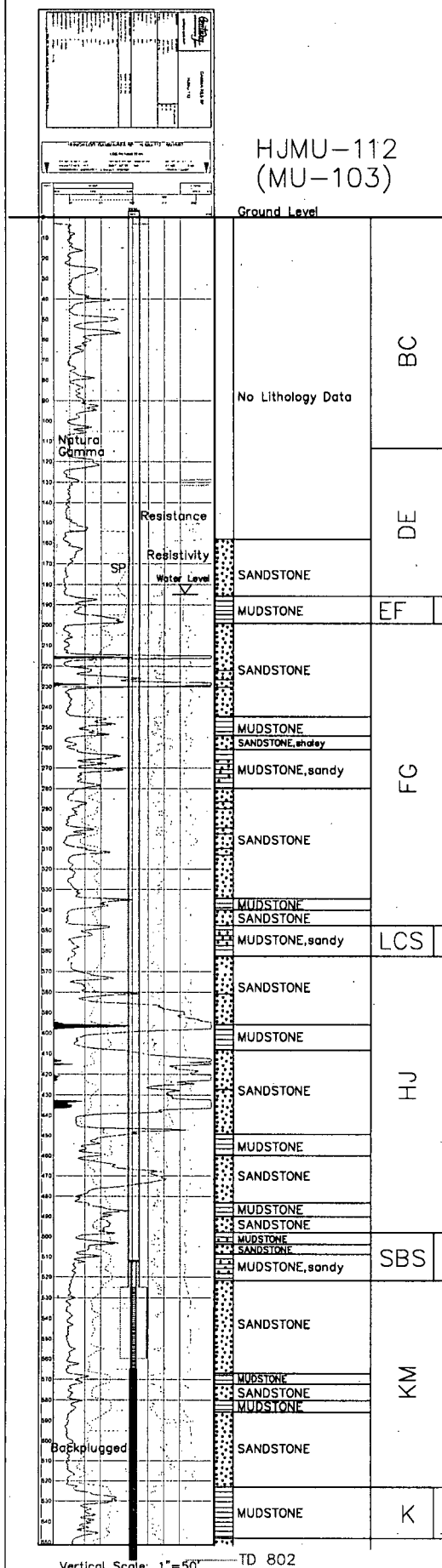
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 565'-802'

w/ BH Ultragrout slurry - 25% solids

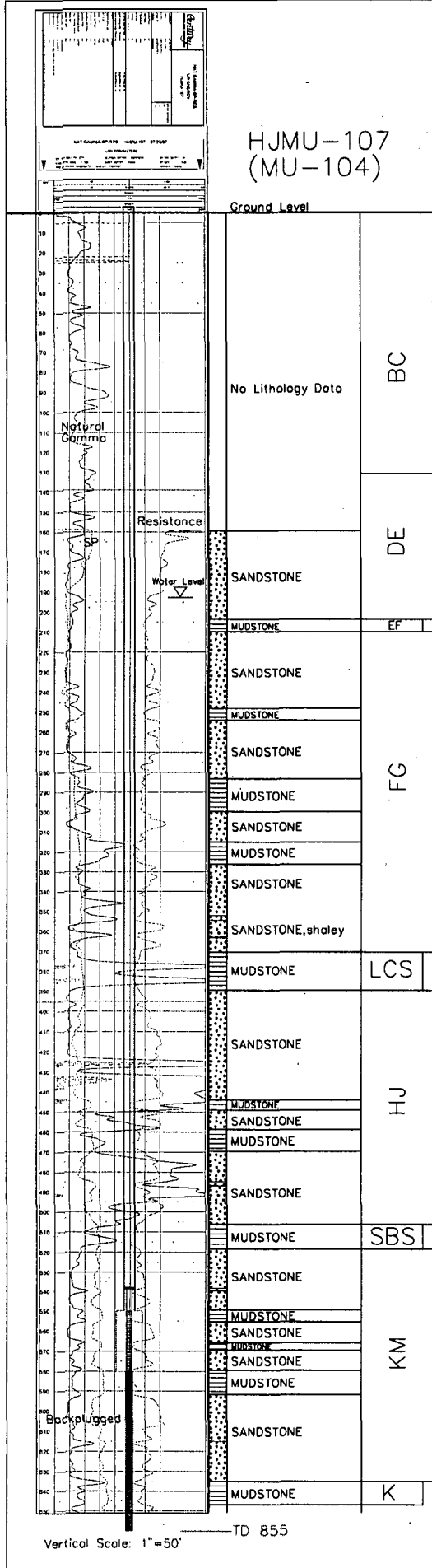


HJMU-112
(MU-103)

HJMU-107
(MU-104)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-107
(MU-104)



WELL # HJMU-107 SEO # 179881 Date Drilled: 7-23-07

Location: E 743,686 / N 534,788 (NAD 83)

Ground Elev: 6936.84 Measure Point Elev: 6937.88

TD: 855 ft. Hole Dia.: 7-7/8"

CASED to: 550' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 193' Elev: 6745'

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 550' to 580' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	<u>538'</u>	<u>6399</u>	
Screen	<u>550'</u> <u>580'</u>	<u>6387'</u> <u>6357'</u>	<u>30'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 580'-855'

w/ BH Ultragrout slurry - 25% solids

HJMU-107
(MU-104)

HJMU-111
(MU-105)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

HJMU-111
(MU-105)

WELL # HJMU-111 SEO # 179893 Date Drilled: 4-24-07

Location: E 743,841 / N 535,374 (NAD 27)

Ground Elev: 6948.93 Measure Point Elev: 6950.08

TD: 853 ft. Hole Dia.: 7-7/8"

CASED to: 507' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 209' Elev: 6741'

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 507' to 545' / length 38'

from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	492'		6458'		
Screen	507' 547'		6443' 6403'		40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

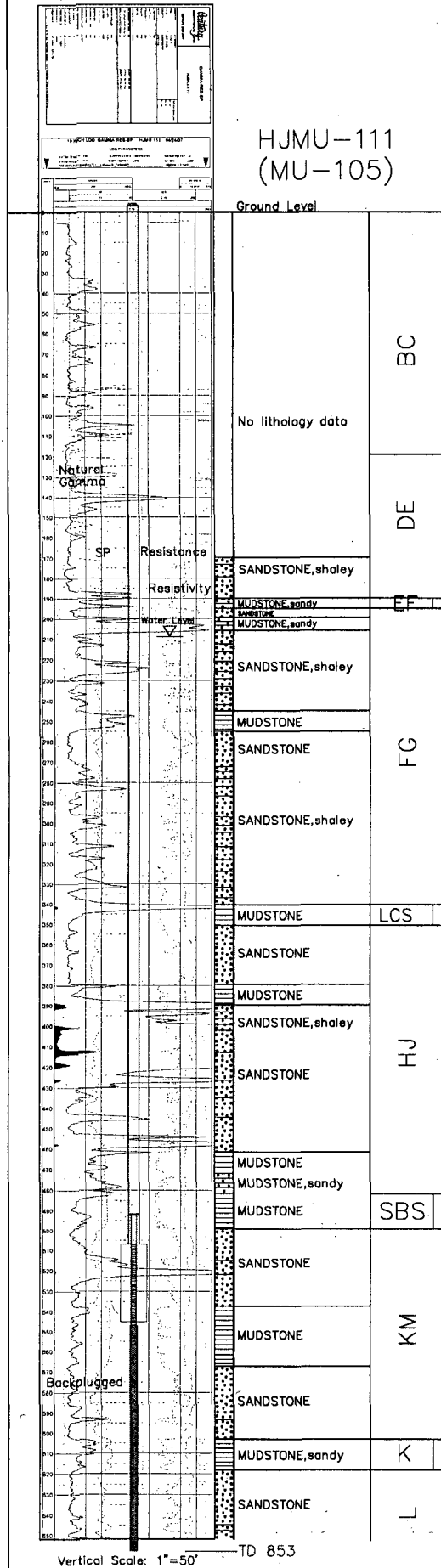
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 547'-850'

w/ BH Ultragrout slurry - 25% solids

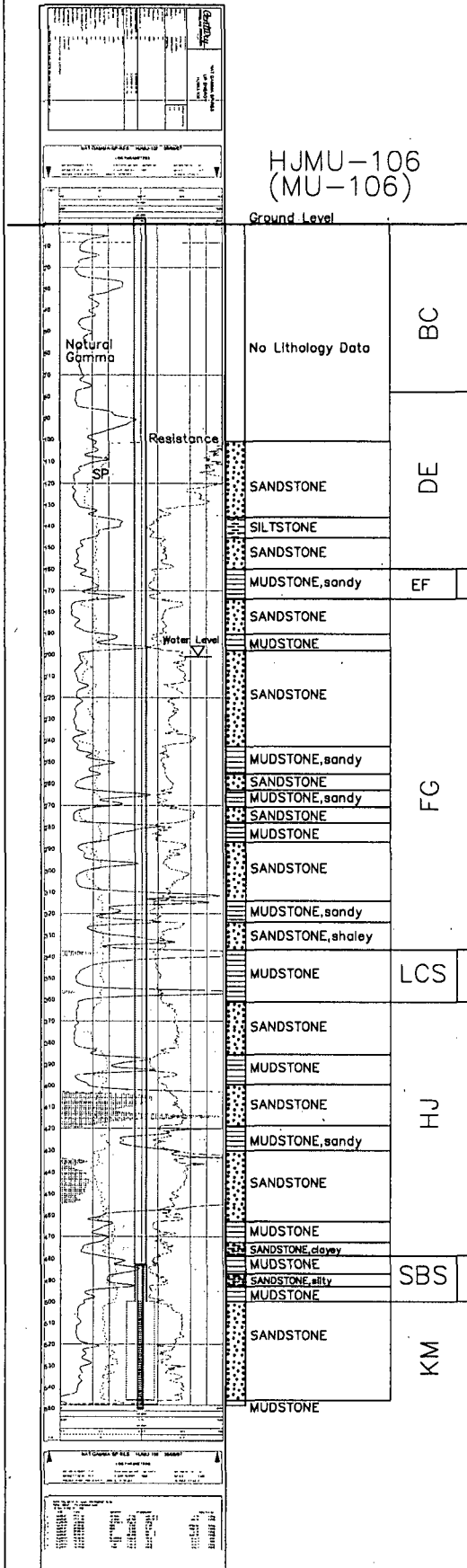


HJMU-111
(MU-105)

HJMU-106 (MU-106)

Lost Creek ISR, LLC WELL COMPLETION REPORT

HJMU-106
(MU-106)



Vertical Scale: 1"=50'

WELL # HJMU-106 SEO # 179878 Date Drilled: 8-8-07

Location: E 743159 / N 535258 (NAD 27)

Ground Elev: 6940.59' Measure Point Elev: 6941.75'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 500' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6741'

UNDERREAM: Blade Dia: 10.5"

Intervals: from 500' to 546' / length 46'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	483'	6459'	
Screen	500' 550'	6442' 6392'	50'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good Moderate / Poor

HJMU-106
(MU-106)

DATE	TIME	WELL #	SECTION

HJMU-103
(MU-107)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMU-103 SEO # 179869 Date Drilled: 7-24-07

Location: E 742,657 / N 535,098 (NAD 83)

Ground Elev: 6935.06 Measure Point Elev: 6936.06

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 500' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 195' Elev: 6741'

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 500' to 540' / length 40'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		488'	6448'		
Screen	500'	540'	6436'	6396'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

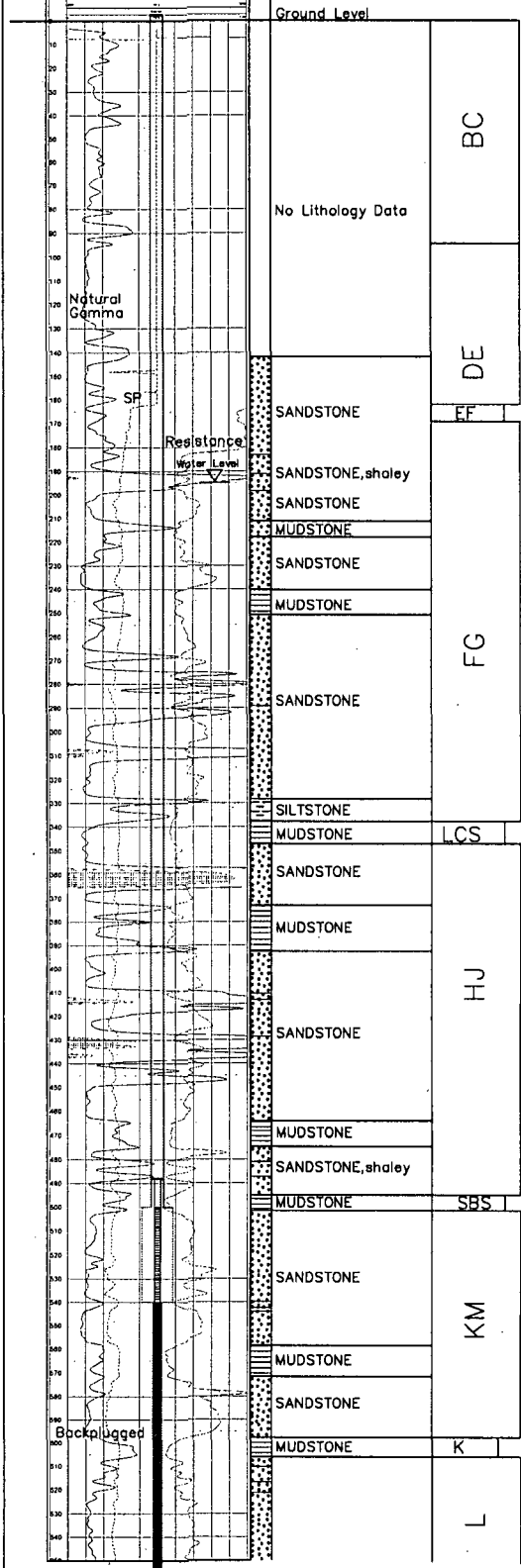
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 540'-850'

w/ BH Ultragrout slurry - 25% solids



Vertical Scale: 1"=50' — TD 850

HJMU-103
(MU-107)

HJMU-102
(MU-108)

HJMU-102
(MU-108)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMU-102 SEO # 179866 Date Drilled: 7-26-07

Location: E 743.476 / N 535299 (NAD 27)

Ground Elev: 6934.72 Measure Point Elev: 6935.35

TD: 600 ft. Hole Dia.: 7-7/8"

CASED to: 495' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 183' Elev: 6752' (avg.)

UNDERREAM: Blade Dia: 10.5"
Intervals: from 495' to 525' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packers	482'		6453'		
Screen	495'	525'	6440'	6410'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

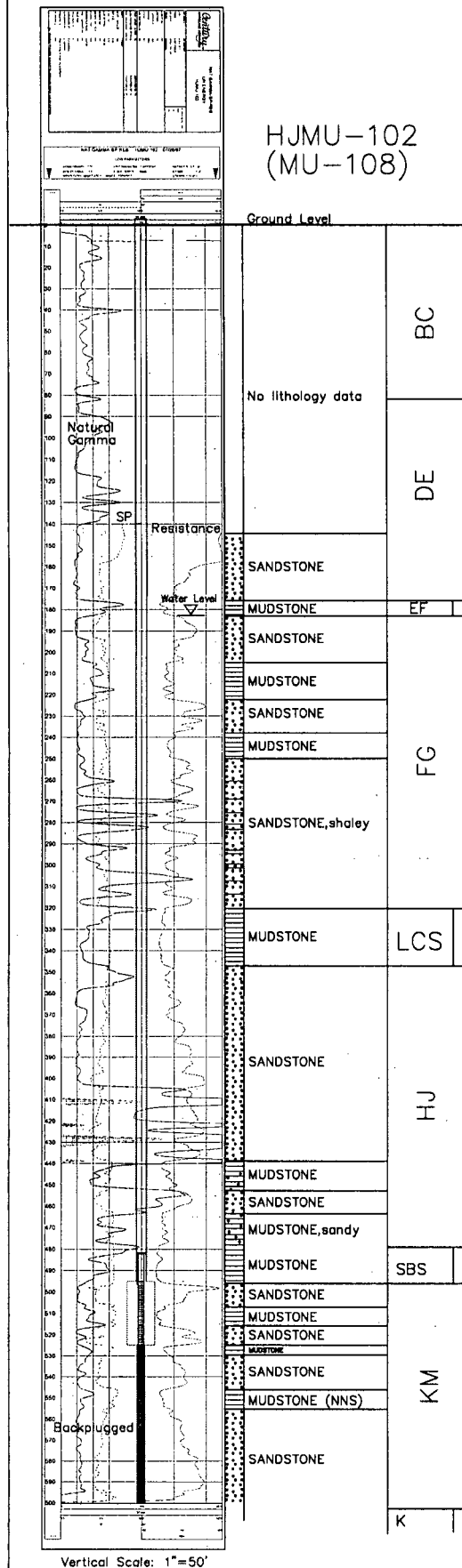
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Pilot Hole BACKPLUGGED: 525'-600'

w/ BH Ultragrout slurry - 25% solids



HJMU-102
(MU-108)

UKMP-101

UKMP-101

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # UKMP-101 SEO # 179906 Date Drilled: 5-15-07Location: E 744.090 / N 534.929 (NAD 27)Ground Elev: 6940.18 Measure Point Elev: 6941.74TD: 575 ft. Hole Dia.: 7-7/8"CASED to: 547' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: UKM SandStatic Water Level: Depth 199' Elev: 6742' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 547' to 575' / length 28'
from _____ to _____ / length _____

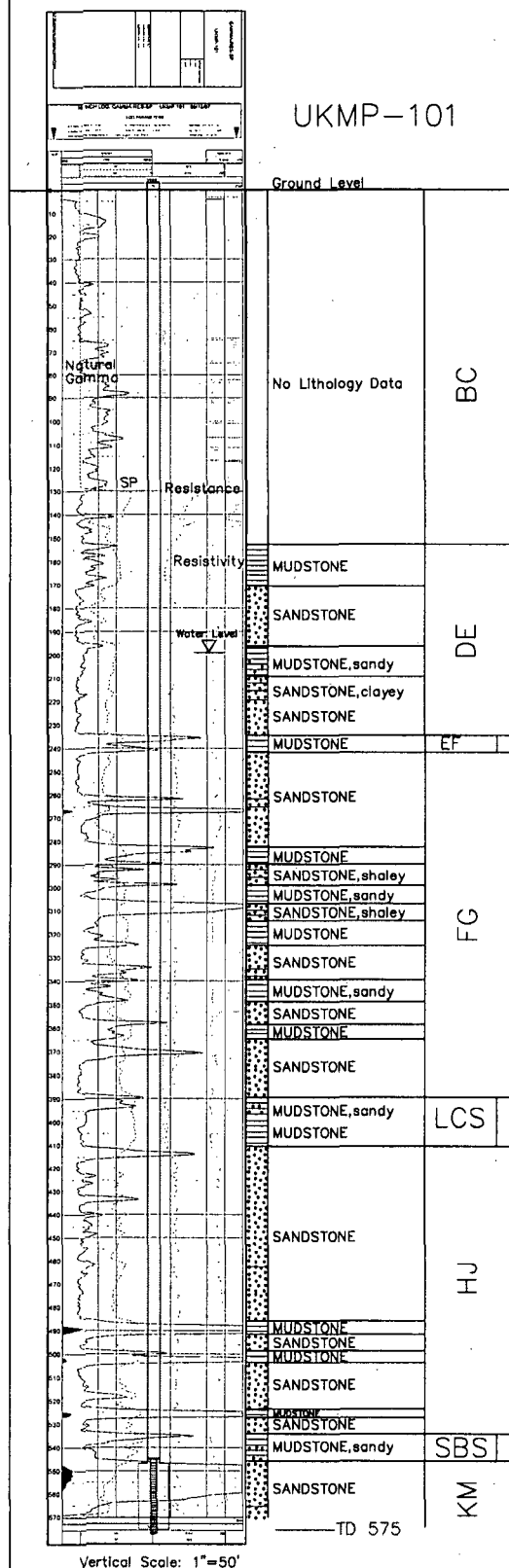
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packers	545'		6396'		
Screen	547'	577'	6394'	6364'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

UKMP-101

UKMP-102

UKMP-102

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # UKMP-102 SEO # 179909 Date Drilled: 5-18-07

Location: E 744,204 / N 535,145 (NAD 27)

Ground Elev: 6940.51 Measure Point Elev: 6942.10'

TD: 498' Hole Dia.: 7-7/8"

CASED to: 475' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6741' (Avg)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 485' to 505' /length 20'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packers	472'		6470'		
Screen	475'	495'	6467'	6447'	20'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

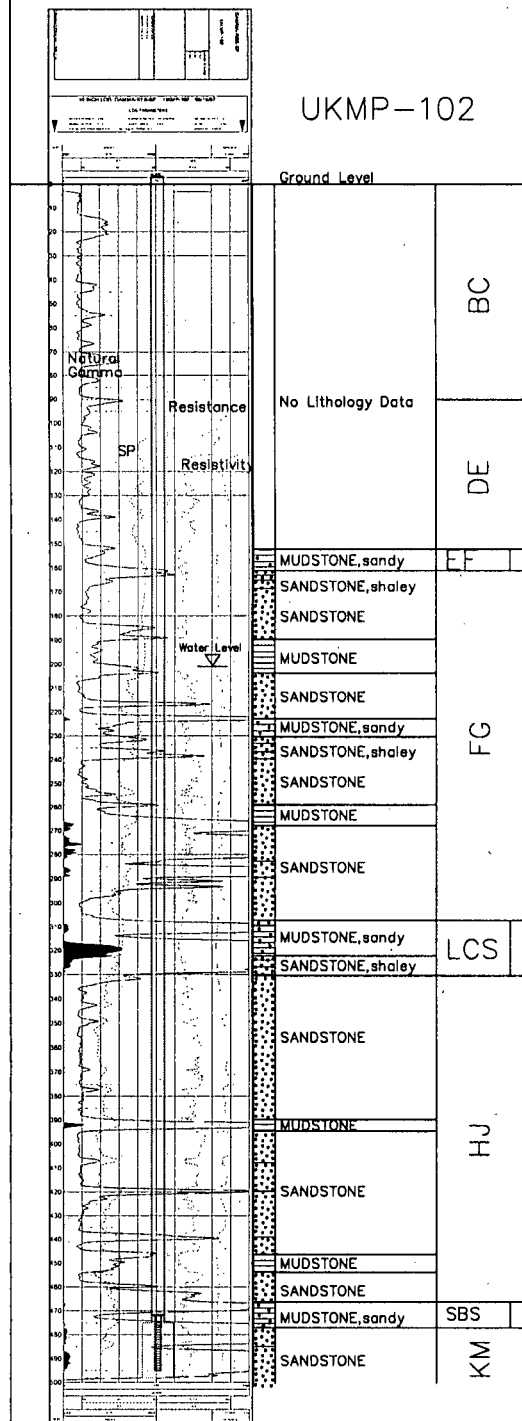
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

UKMP-102

UKMU-103

UKMU-103

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # UKMU-103 SEO # 179911 Date Drilled: 5-30-07Location: E 744,488 / N 535,546 (NAD 27)Ground Elev: 6848.75 Measure Point Elev: 6950.92TD: 850 ft. Hole Dia.: 7-7/8"CASED to: 558' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MKM Sand

Static Water Level: Depth 209' Elev: 6444' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 558' to 590' / length 32'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	546'		6404'		
Screen	558' 588'		6392' 6362'		30'

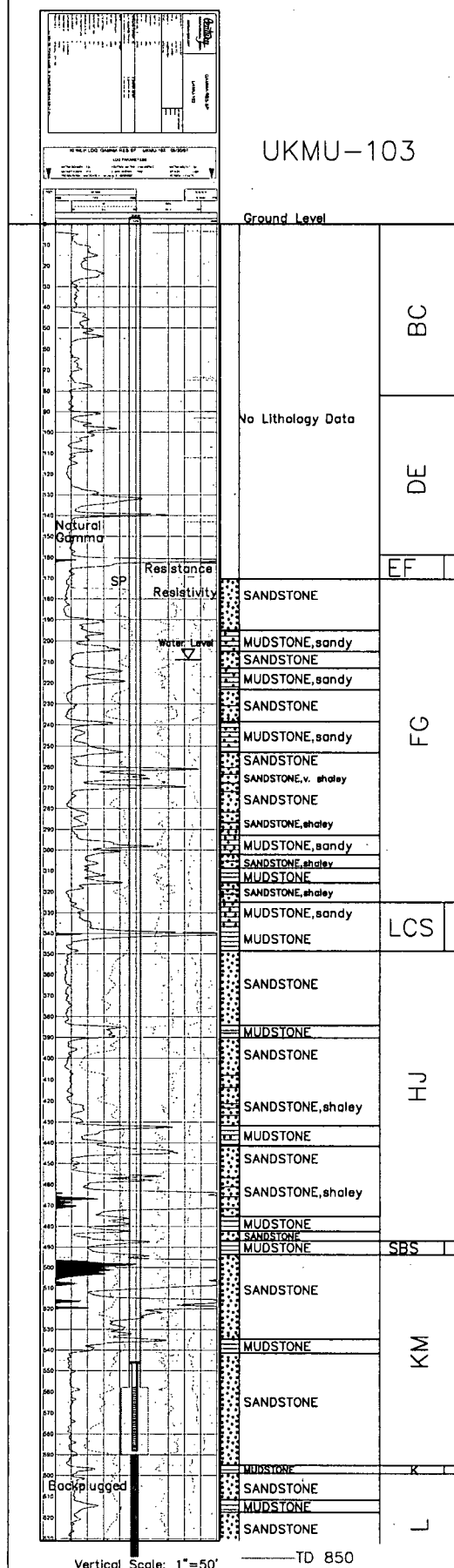
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good Moderate / PoorPilot Hole BACKPLUGGED: 590'-850'

w/ BH UltragROUT slurry - 25% solids



Vertical Scale: 1"=50' — TD 850

UKMU-103

KPW-2

WELL # KPW-2 SEO # Pending Date Drilled: 3/7/09

Ground Elev: 6934.2' Measure Point Elev: 6935.35'

TD: 600' Hole Dia.: 9-1/2"

CASED to: 500' Casing: PVC SDR17 ID: 6" OD: 6-5/8"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: KM Sand

Static Water Level: Depth No Record Elev: _____ (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 500' to 507' / length 7'

from 526' to 545' / length 19'

from 555' to 590' / length 35'

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	493'		6441'		
Screen	500'	507'	6434'	6427'	7'
Screen	526'	545'	6408'	6389'	19'
Screen	555'	590'	6379'	6344'	35'

SCREEN SPECIFICATIONS:

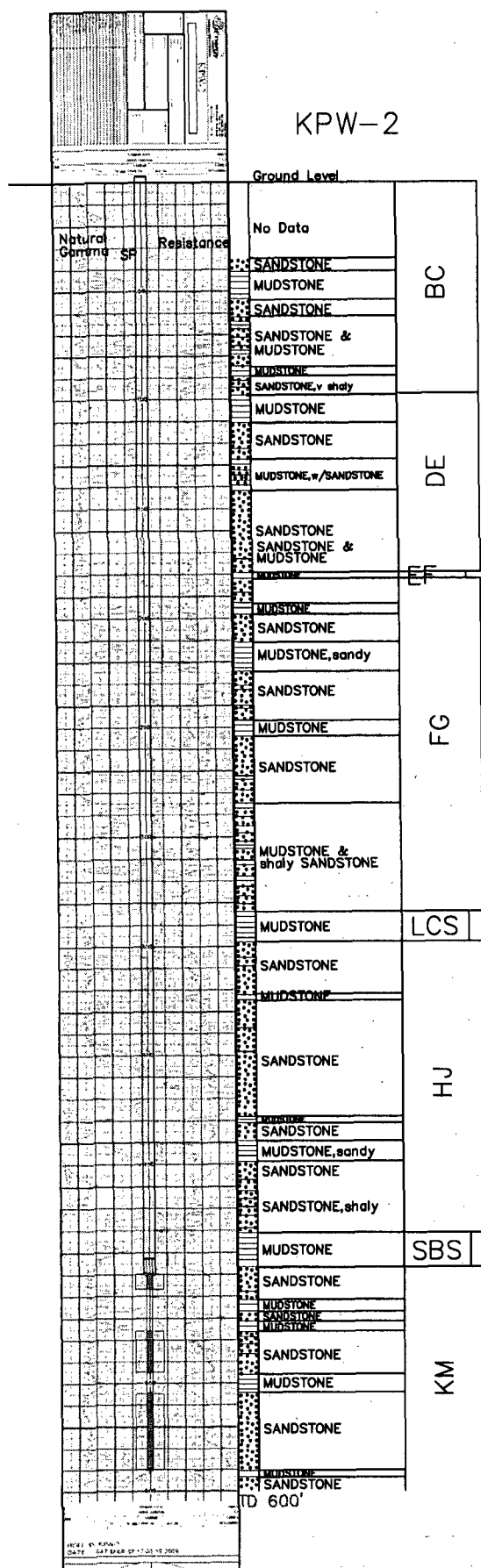
Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

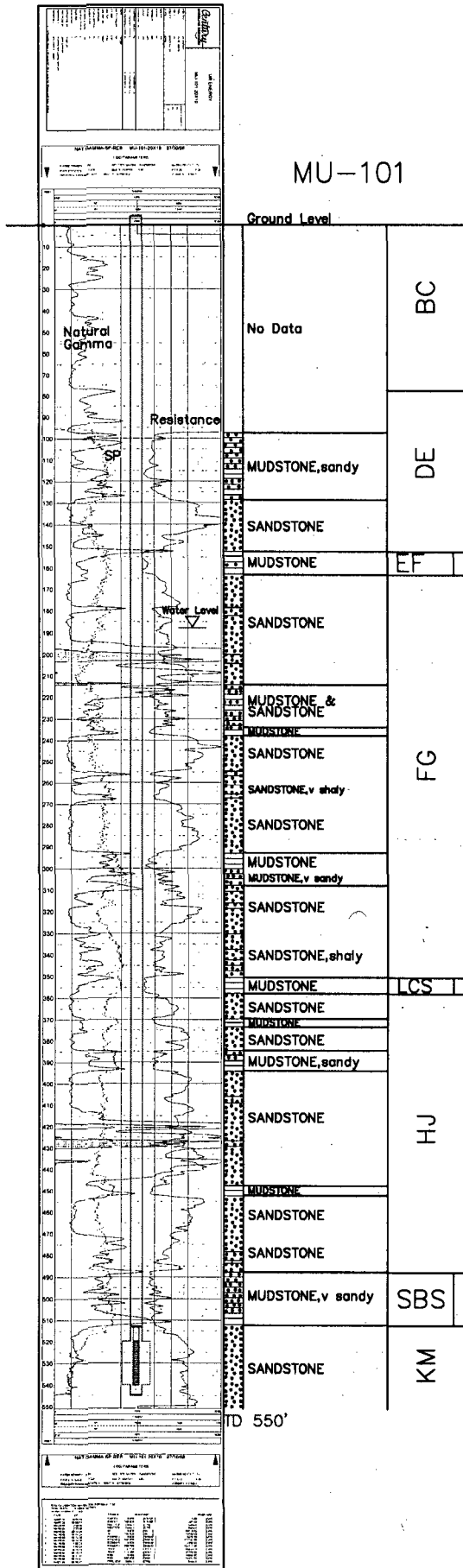
Yield: Good / Moderate / Poor

KPW-2

MU-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-101



WELL # MU-101 SEO # 187660 Date Drilled: 7/30/08

Location: E 2,213,858 / N 595,192 (NAD 83)

Ground Elev: 6938.6' Measure Point Elev: 6940.37'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 545' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 188' Elev: 6751' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 520' to 540' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	<u>513'</u>		<u>6426'</u>		
Screen	<u>520'</u>	<u>540'</u>	<u>6419'</u>	<u>6399'</u>	<u>20'</u>

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

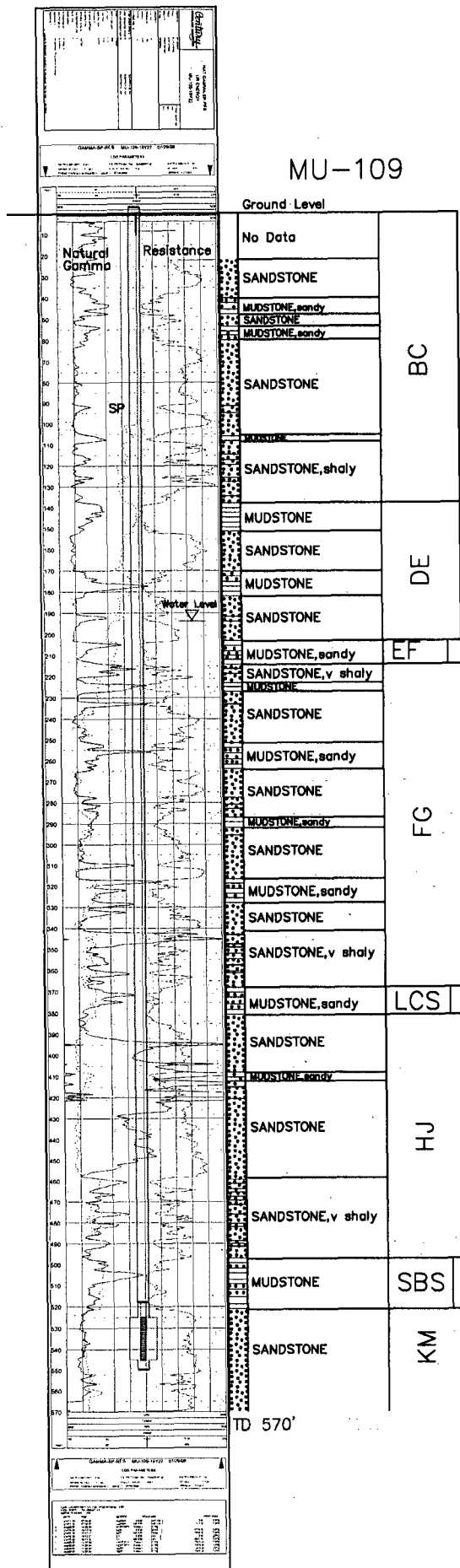
Yield: Good / Moderate / Poor

MU-101

MU-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-109



WELL # MU-109 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,210,944 / N 595,230 (NAD 83)

Ground Elev: 6932.0' Measure Point Elev: 6932.78'

TD: 570' Hole Dia.: 7-7/8"

CASED to: 550' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 194' Elev: 6738' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 525' to 545' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	518'		6414'		
Screen	525'	545'	6407'	6487'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

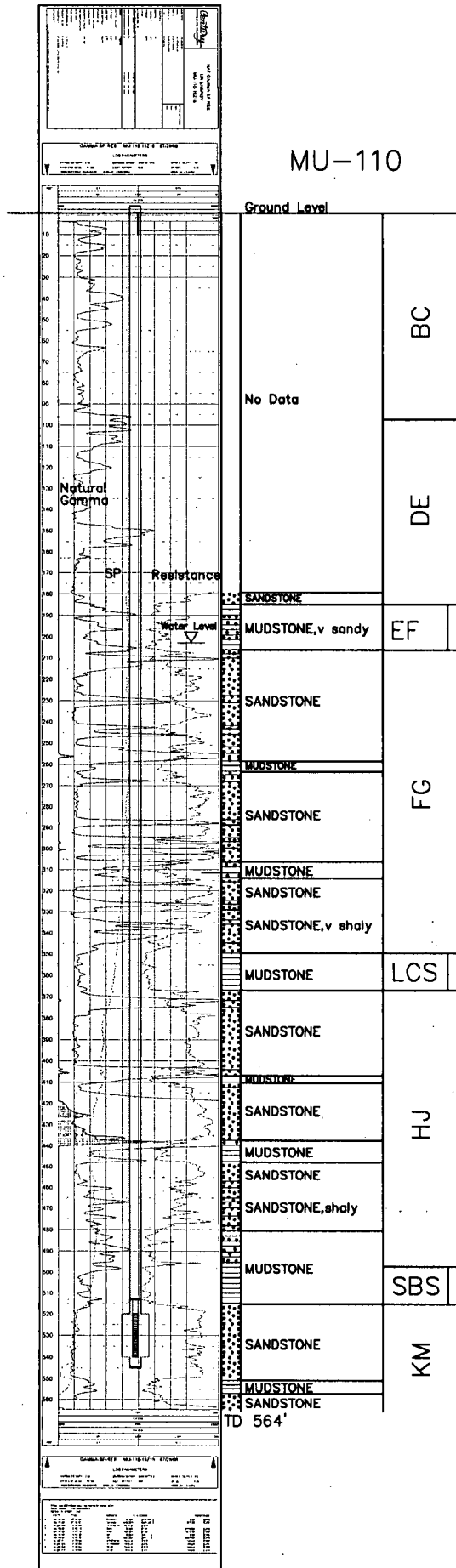
Yield: Good / Moderate / Poor

MU-109

MU-110

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-110



WELL # MU-110 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,210.165 / N 595.647 (NAD 83)

Ground Elev: 6937.9' Measure Point Elev: 6939.23'

TD: 564' Hole Dia.: 7-7/8"

CASED to: 545' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 203' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 520' to 540' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	513'	6425'	
Screen	520' 540'	6418' 6398'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

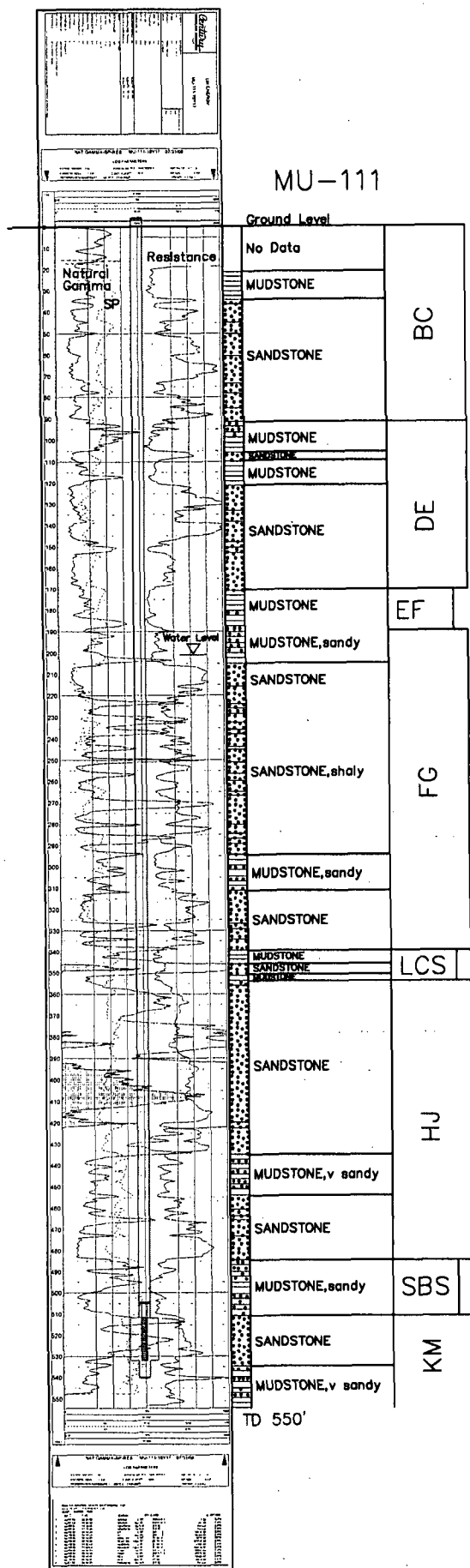
WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

MU-110

MU-111

Lost Creek ISR, LLC
WELL COMPLETION REPORT



WELL # MU-111 SEO # 187657 Date Drilled: 7/31/08

Location: E 2,209.930 / N 595.358 (NAD 83)

Ground Elev: 6936.1' Measure Point Elev: 6937.05'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 540' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 512' to 532' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	505'		6431'		
Screen	512'	532'	6424'	6404'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good Moderate / Poor

MU-111

MU-112

Lost Creek ISR, LLC

WELL COMPLETION REPORT

MU-112

WELL # MU-112 SEO # 187657 Date Drilled: 7/28/08

Location: E 2,209,567 / N 595,538 (NAD 83)

Ground Elev: 6935.8' Measure Point Elev: 6936.75'

TD: 550' Hole Dia.: 7-7/8"

CASED to: 540' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 201' Elev: 6735' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 515' to 535' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	508'		6428'		
Screen	515'	535'	6421'	6401'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

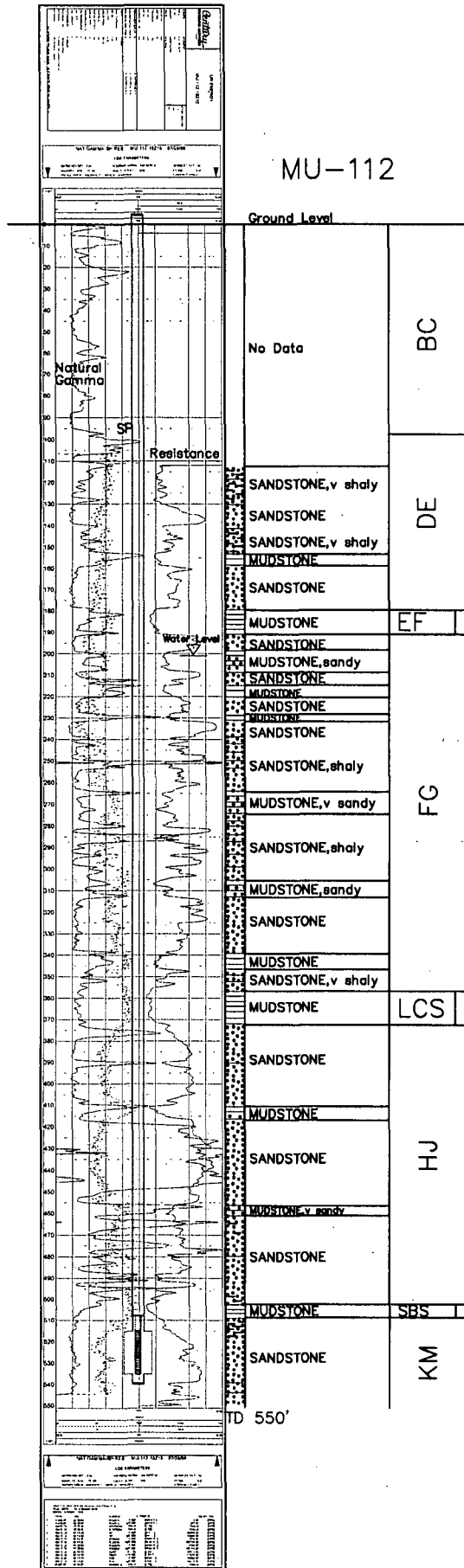
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



MU-112

MU-113

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MU-113

WELL # MU-113 SEO # 187657 Date Drilled: 7/29/08

Location: E 2,209,842 / N 594,951 (NAD 83)

Ground Elev: 6922.1' Measure Point Elev: 6923.75'

TD: 580' Hole Dia.: 7-7/8"

CASED to: 555' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: UKM Sand

Static Water Level: Depth 189' Elev: 6733' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 530' to 550' / length 20'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	523'		6399'		
Screen	530'	550'	6392'	6372'	20'

SCREEN SPECIFICATIONS:

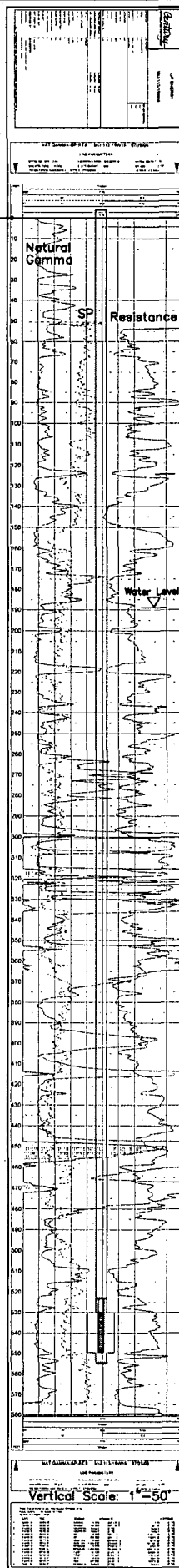
Slot: 0.020" Composition: 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate Poor



MU-113

HJMP-101

HJMP-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMP-101 SEO # 179864 Date Drilled: 8-01-07

Location: E 743.287 / N 534.998 (NAD 27)

Ground Elev: 6903.70 Measure Point Elev: 6904.58

TD: 490 ft. Hole Dia.: 7-7/8"

CASED to: 438' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 181' Elev: 6723' (avg.)

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 438' to 465' / length 27'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	425'	6479'	
Screen	438' 468'	6466' 6436'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

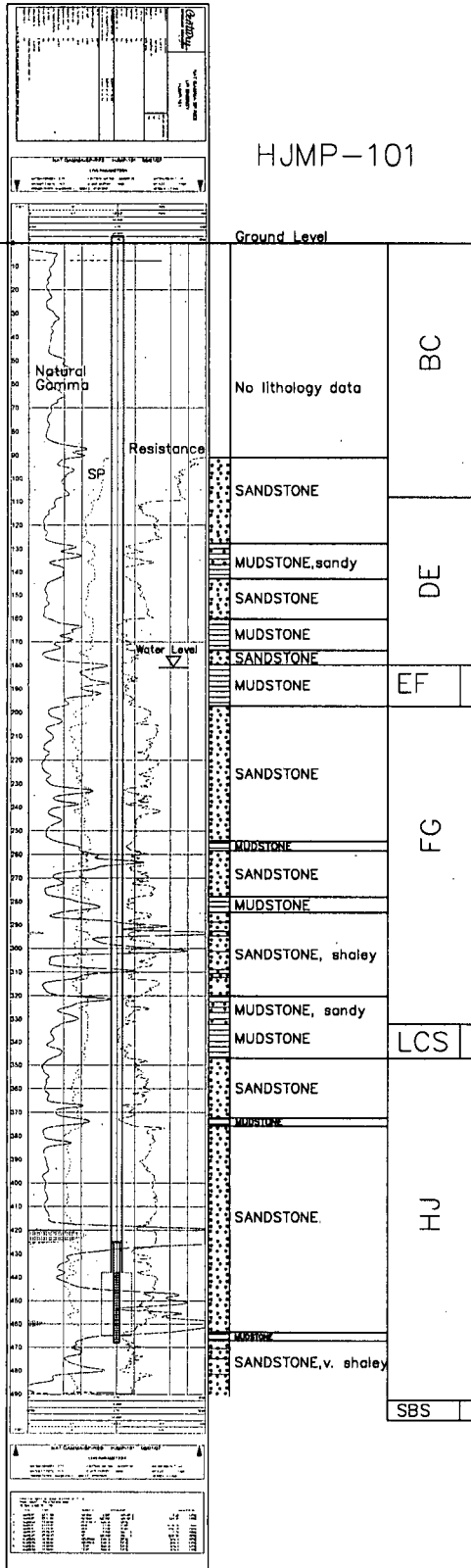
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

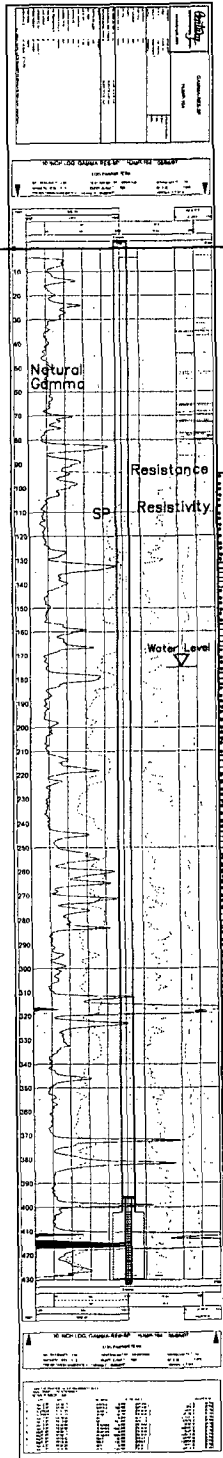
WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



HJMP-101

HJMP-104



HJMP-104

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMP-104 SEO # 179873 Date Drilled: 7-6-07

Location: E 742,886 / N 534,897 (NAD 27)

Ground Elev: 6939.04' Measure Point Elev: 6941.04'

TD: 432' Hole Dia.: 7-7/8"

CASED to: 402' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 175' Elev: 6766' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 402' to 430' /length 25'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-pack	396'		6545'		
Screen	402'	432'	6539'	6509'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

HJMP-104

HJMP-105

Well Log Header Information

HJMP-105

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMP-105 SEO # 179876 Date Drilled: 9-5-07

Location: E 742.933 / N 535.073 (NAD 27)

Ground Elev: 6936.84 Measure Point Elev: 6937.38

TD: 460 ft. Hole Dia.: 7-7/8"

CASED to: 425' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 171' Elev: 6767' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 435' to 463' /length 28'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-pack	410'		6521'		
Screen	425'	465'	6512'	6472'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

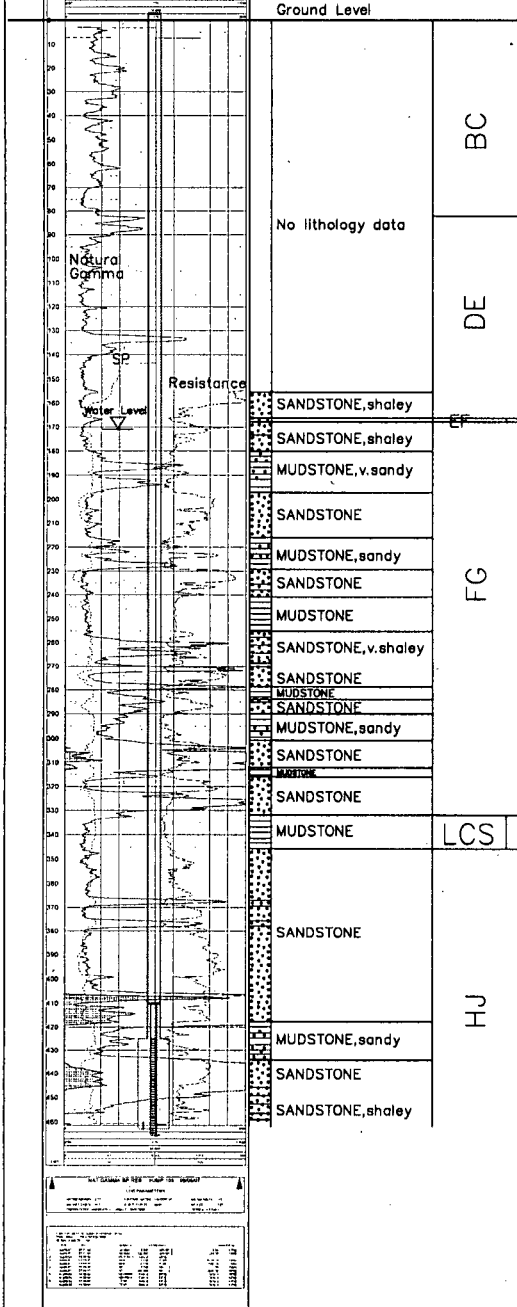
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

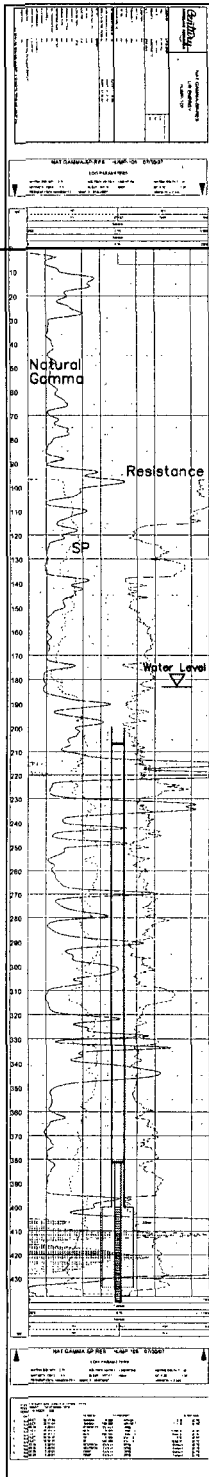
Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

HJMP-105

HJMP-108



HJMP-108

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # HJMP-108 SEO # 179885 Date Drilled: 7-30-07

Location: E 743,466 / N 535,311 (NAD 27)

Ground Elev: 6951.12' Measure Point Elev: 6952.20'

TD: 440' Hole Dia.: 7-7/8"

CASED to: 400' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 183' Elev: 6769' (Avg)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 400' to 434' / length 34'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	381'	6571'	
Screen	400' - 440'	6552' - 6512'	40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

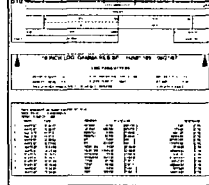
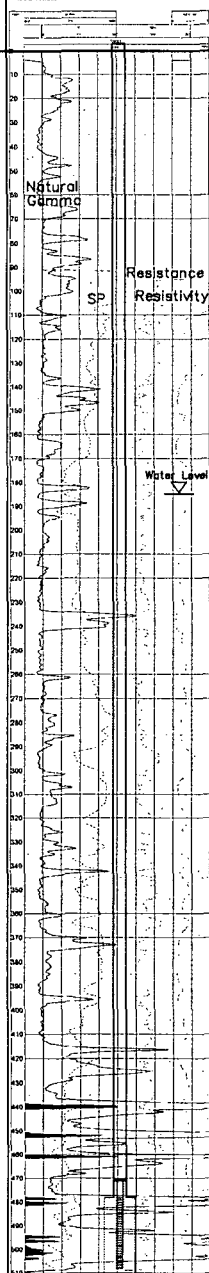
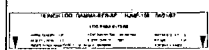
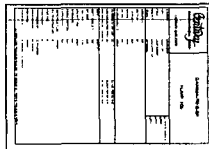
Yield: Good / Moderate / Poor

HJMP-108

HJMP-109

HJMP-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT



Vertical Scale: 1"=50'

Ground Level		
No lithology data		BC
SANDSTONE		
MUDSTONE, sandy		
SANDSTONE		
MUDSTONE, sandy		
SANDSTONE		
MUDSTONE		
SANDSTONE		DE
MUDSTONE		
SANDSTONE		
MUDSTONE		EF
SANDSTONE		
SANDSTONE, shaley		
SANDSTONE		
MUDSTONE		FG
SANDSTONE		
SANDSTONE, shaley		
SANDSTONE		
SANDSTONE		
MUDSTONE, sandy		
SANDSTONE		
MUDSTONE, sandy		LCS
SANDSTONE		
SANDSTONE		
MUDSTONE		
SANDSTONE		HJ

WELL # HJMP-109 SEO # 179888 Date Drilled: 6-21-07

Location: E 743,895 / N 534,829 (NAD 27)

Ground Elev: 6937.89 Measure Point Elev: 6939.10

TD: 512 ft. Hole Dia.: 7-7/8"

CASED to: 478' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 185' Elev: 6754' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 478' to 512' / length 34'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-pack	471'	6468'	
Screen	478' 508'	6461' 6431'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

HJMP-109

HJMP-110

HJMP-110

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # HJMP-110 SEO # 179891 Date Drilled: 5-8-07

Location: E 743,682 / N 535,184 (NAD 27)

Ground Elev: 6945.81' Measure Point Elev: 6947.01'

TD: 476' Hole Dia.: 7-7/8"

CASED to: 431' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 177' Elev: 6770' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 431' to 476' / length 45'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	430'		6517'		
Screen	431'	476'	6516'	6471'	45'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

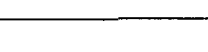
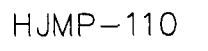
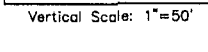
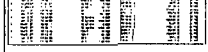
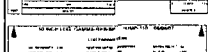
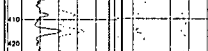
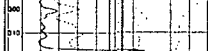
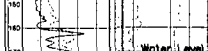
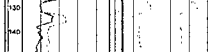
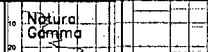
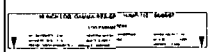
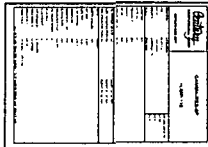
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

HJMP-110

HJMP-113

HJMP-113

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJMP-113 SEO # 179900 Date Drilled: 6-20-07

Location: E 744,273 / N 534,797 (NAD 83)

Ground Elev: 6935.26 Measure Point Elev: 6937.26

TD: 466 ft. Hole Dia.: 7-7/8"

CASED to: 416' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 181' Elev: 6756' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 416' to 462' / length 46'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-pack	408'	6529'	
Screen	416' 466'	6521' 6471'	50'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

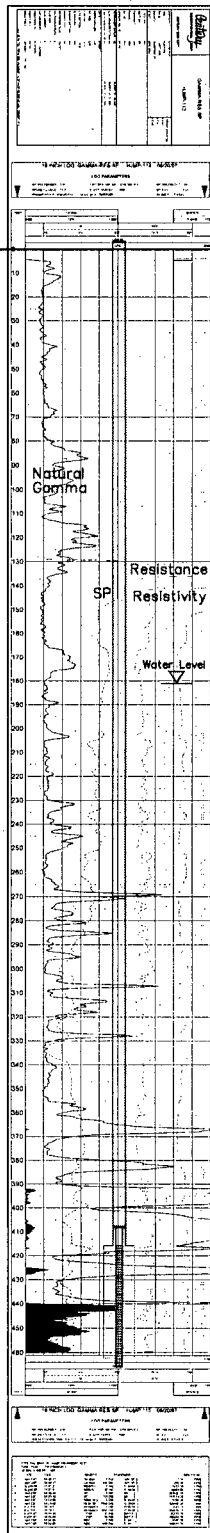
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good Moderate / Poor



HJMP-113

HJT-101

HJT-101

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJT-101 SEO # 179856 Date Drilled: 8-10-07Location: E 742,561 / N 534,610 (NAD 27)Ground Elev.: 6937.12 Measure Point Elev.: 6937.56TD: 478 ft. Hole Dia.: 7-7/8"CASED to: 437' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: HJ SandStatic Water Level: Depth 176' Elev.: 6762' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 437' to 477' / length 40'

from _____ to _____ / length _____

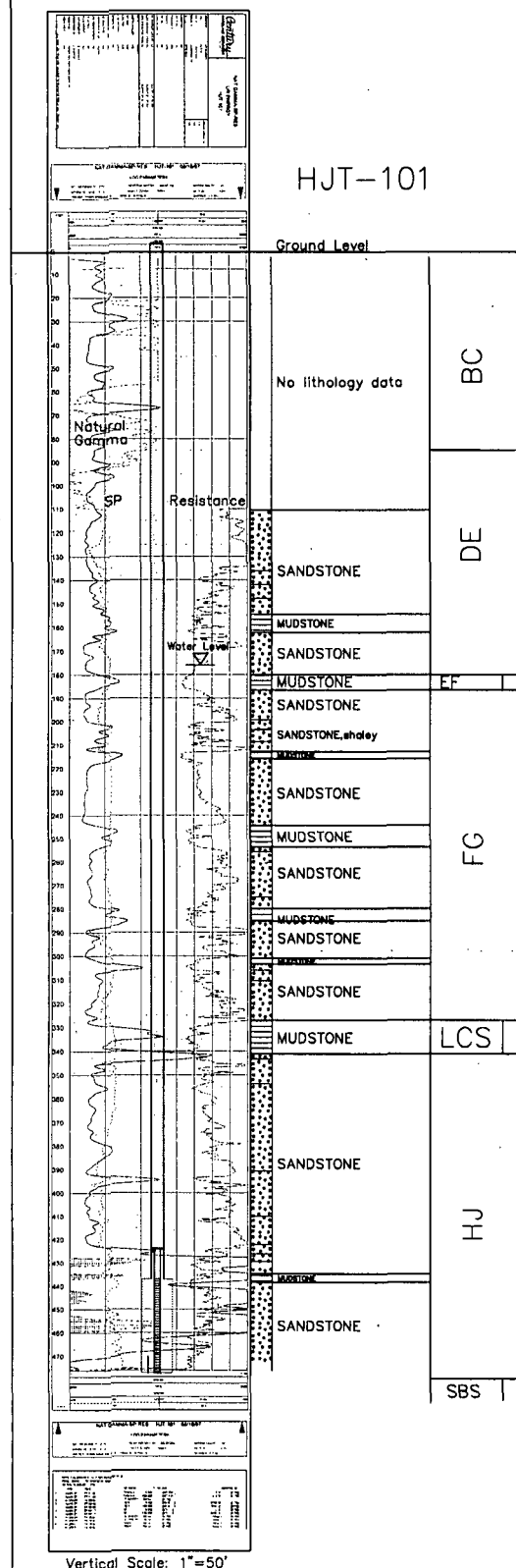
SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	424'		6514'		
Screen	437'	477'	6501'	6461'	40'

SCREEN SPECIFICATIONS:

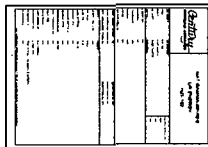
Slot: 0.030" Composition 3" PVC

FILTER PACKING:

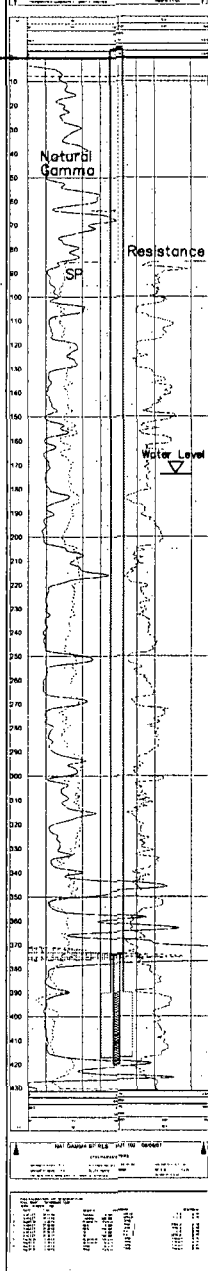
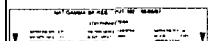
Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good Moderate / Poor

HJT-101

HJT-102



HJT-102



Vertical Scale: 1"=50'

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJT-102 SEO # 179857 Date Drilled: 8-6-07

Location: E 742,886 / N 534,696 (NAD 27)

Ground Elev: 6937.82' Measure Point Elev: 6939.15'

TD: 430' Hole Dia.: 7-7/8"

CASED to: 390' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II

Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 174' Elev: 6765' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 390 to 417 / length 27'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	374'	6565'	
Screen	390' 420'	6549' 6519'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

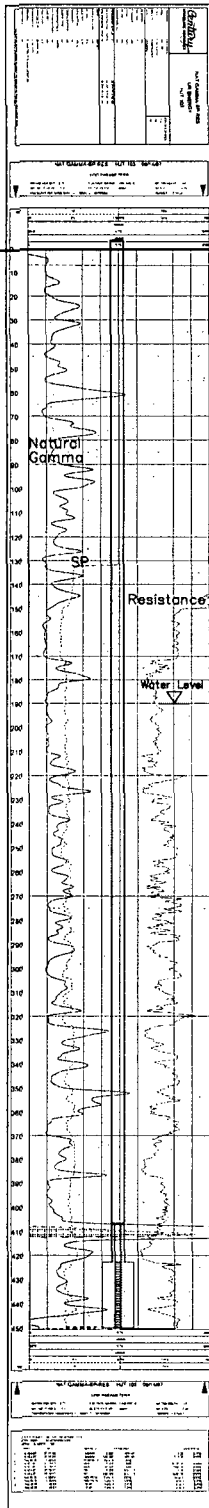
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

HJT-102

HJT-103



Vertical Scale: 1"=50'

HJT-103

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # HJT-103 SEO # 179858 Date Drilled: 8-14-07Location: E 743.180 / N 534.670 (NAD 27)Ground Elev: 6937.56 Measure Point Elev: 6938.22TD: 450 ft. Hole Dia.: 7-7/8"CASED to: 423' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: HJ SandStatic Water Level: Depth 190' Elev: 6748' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 423' to 450' / length 27'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-pack	407'	6531'	
Screen	423' 450'	6515' 6488'	27'

SCREEN SPECIFICATIONS:

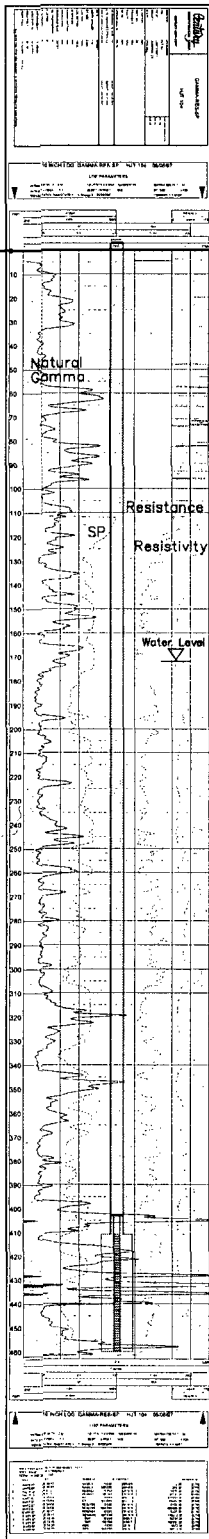
Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

HJT-103

HJT-104



HJT-104

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # HJT0104 SEO # 179859 Date Drilled: 6-6-07Location: E 743,653 / N 534,892 (NAD 27)Ground Elev: 6937.48' Measure Point Elev: 6940.15'TD: 460' Hole Dia.: 7-7/8"CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with waterCOMPLETION Aquifer: HJ SandStatic Water Level: Depth 172' Elev: 6768' (avg.)UNDERREAM: Blade Dia: 10.5"Intervals: from 410' to 463' / length 50'
from _____ to _____ / length _____**SCREEN LINER ASSEMBLY**

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	403'	6537'	
Screen	410' 460'	6530' 6480'	50'

SCREEN SPECIFICATIONS:Slot: 0.030" Composition: 3" PVC**FILTER PACKING:**Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / Poor

HJT-104

HJT-105

HJT-105

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # HJT-105 SEO # 179860 Date Drilled: 4-26-07Location: E 744.423 / N 535.024 (NAD 27)Ground Elev: 6937.45 Measure Point Elev: 6938.87TD: 850 ft. Hole Dia.: 7-7/8"CASED to: 407' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II

Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ SandStatic Water Level: Depth 172' Elev: 6766' (avg.)UNDERREAM: Blade Dia: 10-1/2"Intervals: from 407' to 438' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	403'	6535'	
Screen	407' 437'	6531' 6501'	30'

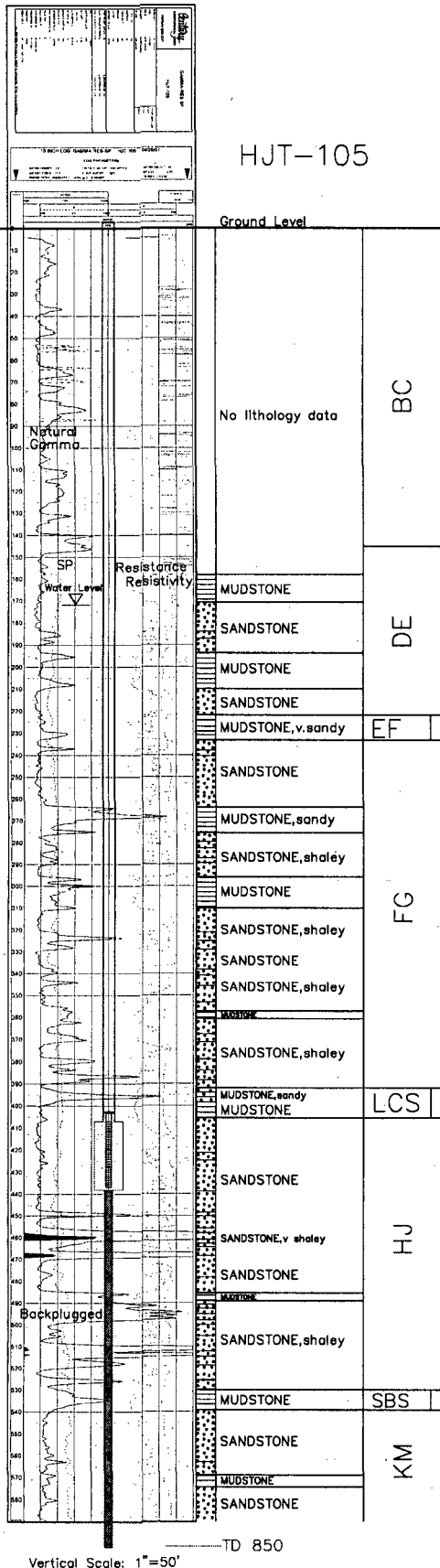
SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

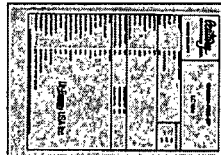
Volume: _____ (bags)(ft³) Sand Specs. _____Method: N/AWELL STIMULATION: Method AirliftYield: Good / Moderate / PoorPilot Hole BACKPLUGGED: 438'-850'

w/ BH Ultragrout slurry - 25% solids



HJT-105

LC16M



LC16M

Ground Level

No lithology data

BC

DE

FC

LCS

HJ

SBS

Vertical Scale: 1"=50'

Lost Creek ISR, LLC

WELL COMPLETION REPORT

WELL # LC16M SEO # 175260 Date Drilled: 8-14-07

Location: E 744,549 / N 534,818 (NAD 27)

Ground Elev: 6934.73' Measure Point Elev: 6936.15'

TD: 472' Hole Dia.: 7-7/8"

CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 179' Elev: 6757' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 410' to 467' / length 57'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		N/A			
Open-Hole	410'	467'	6526'	6469'	57'

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

LC16M

LC19M

LC19M

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # LC19M SEO # 175261 Date Drilled: 8-14-06

Location: E 743,383 / N 535,317 (NAD 27)

Ground Elev: 6949.32 Measure Point Elev: 6950.52

TD: 463 ft. Hole Dia.: 7-7/8"

CASED to: 412' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 181' Elev: 6769' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 412' to 463' / length 51'
from _____ to _____ / length _____

OPEN-HOLE COMPLETION

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	N/A				
Open-hole	412'	463'	6538'	6487'	51'

SCREEN SPECIFICATIONS:

Slot: _____ Composition N/A

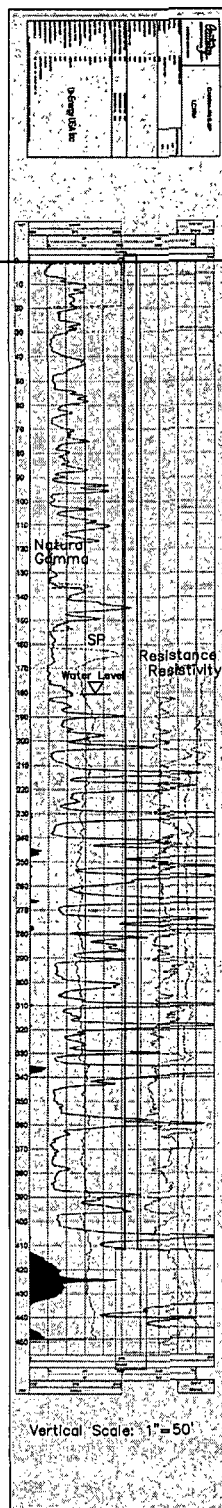
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

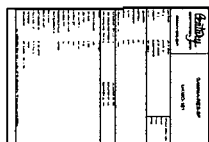
Yield: Good / Moderate / Poor



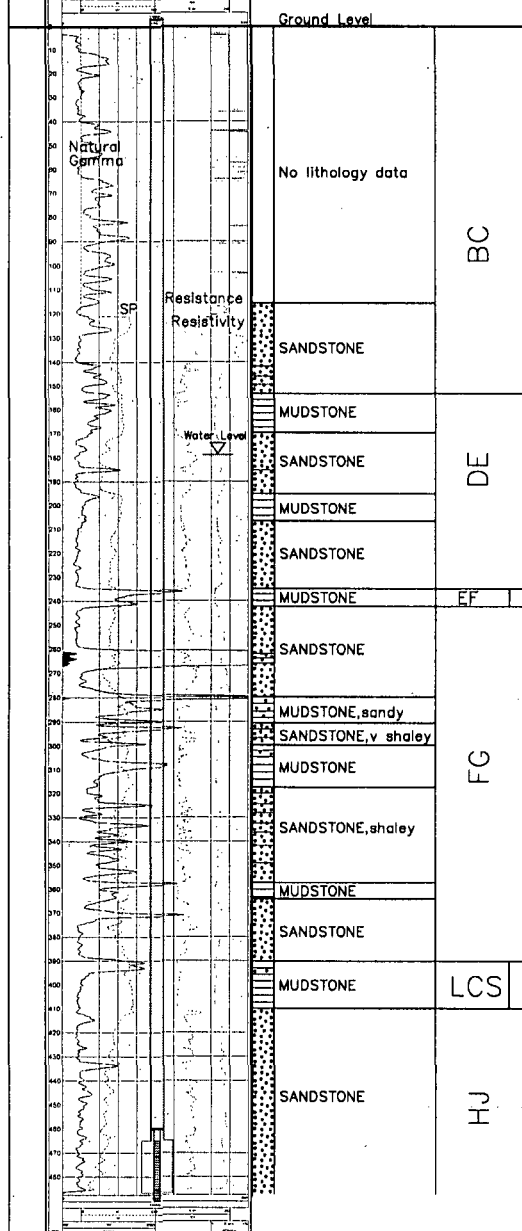
Ground Level			
No lithology data		BC	
		DE	
SANDSTONE,shaley	MUDSTONE,sandy	EF	
SANDSTONE, shaley	MUDSTONE	FG	
SANDSTONE,shaley	MUDSTONE		
SANDSTONE commonly shaley	MUDSTONE,sandy		
SANDSTONE	MUDSTONE	LCS	
SANDSTONE			
SANDSTONE		HJ	
		SBS	

LC19M

UKMO-101



UKMO-101



Vertical Scale: 1"=50'

Lost Creek ISR, LLC WELL COMPLETION REPORT

WELL # UKMO-101 SEO # 179907 Date Drilled: 5-17-07

Location: E 744,086 / N 534,943 (NAD 27)

Ground Elev: 6940.19 Measure Point Elev: 6942.28

TD: 488 ft. Hole Dia.: 7-7/8"

CASED to: 465' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 179' Elev: 6763' (avg')

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 465' to 487' /length 22'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	460'		6482'		
Screen	465'	490'	6477'	6452'	25'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good Moderate / Poor

UKMO-101.

UKMO-102

UKMO-102

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # UKMO-102 SEO # 179910 Date Drilled: 5-22-07

Location: E 744,205 / N 535,134 (NAD 27)

Ground Elev: 6940.24' Measure Point Elev: 6940.79'

TD: 420' Hole Dia.: 7-7/8"

CASED to: 379' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement, - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 167' Elev: 6774' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 377' to 408' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	379'		6562'		
Screen	379' 419'		6562' 6522'		40'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

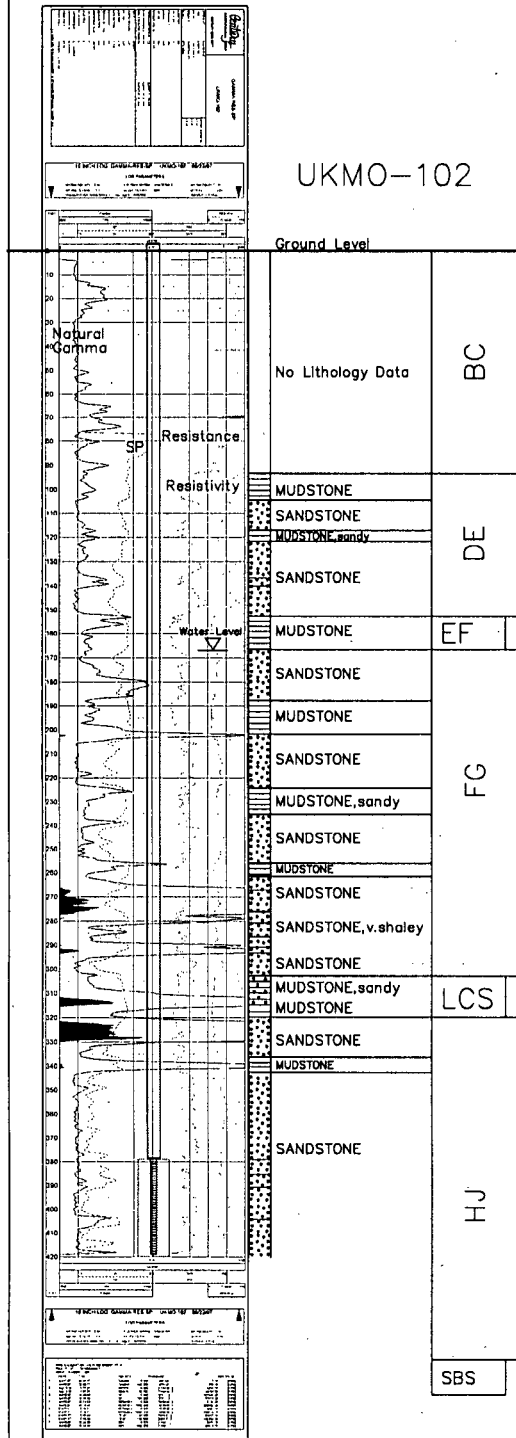
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



UKMO-102

UKMO-103

UKMO-103

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # UKMO-103 SEO # 179913 Date Drilled: 6-14-07

Location: E 744,501 / N 535,556 (NAD 27)

Ground Elev: 6949.28 Measure Point Elev: 6950.53

TD: 438 ft. Hole Dia.: 7-7/8"

CASED to: 409' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 176' Elev: 6774' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 409' to 430' / length 21'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	405'		6545'		
Screen	409'	439'	6541'	6511'	30'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

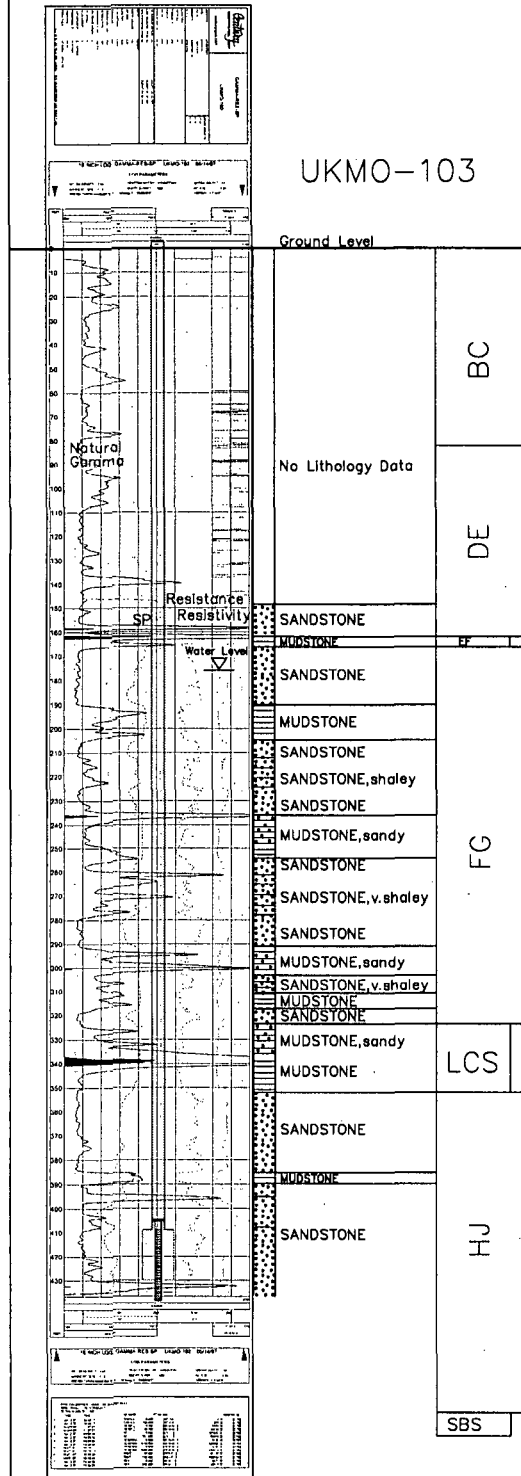
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor



Vertical Scale: 1"=50'

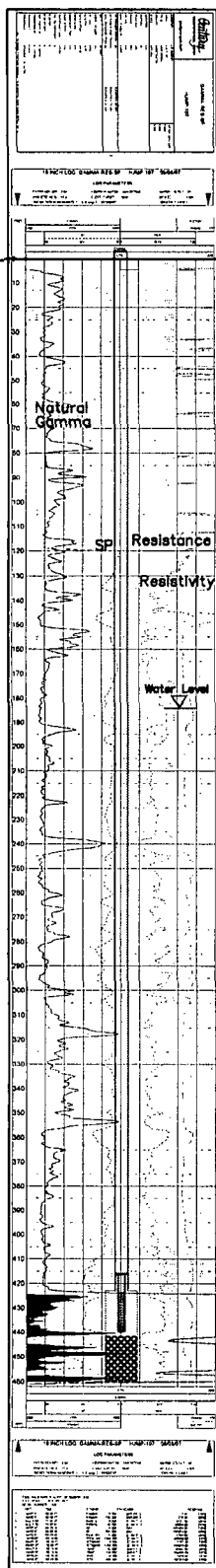
UKMO-103

MP-104
(HJMP-107)

Lost Creek ISR, LLC

WELL COMPLETION REPORT

MP-104
(HJMP-107)



MP-104
(HJMP-107)

WELL # MP-104 SEO # 179882 Date Drilled: 6/8/07

Location: E 2,212,007 / N 595,515 (NAD 83)

Ground Elev: 6936.81 Measure Point Elev: 6938.45

TD: 464 ft. Hole Dia.: 7-7/8"

CASED to: 423' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 184' Elev: 6753' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 423' to 460' / length 37'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From -	To	From -	To	
K-packer		<u>416'</u>		<u>6521'</u>	
Screen	<u>424'</u>	<u>440'</u>	<u>6513'</u>	<u>6497'</u>	<u>16'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/20/08 to make completion interval consistent with production design.

Hole Backplugged: 442'-460' w/ Neat Cement

Screen Liner modified to current completion interval

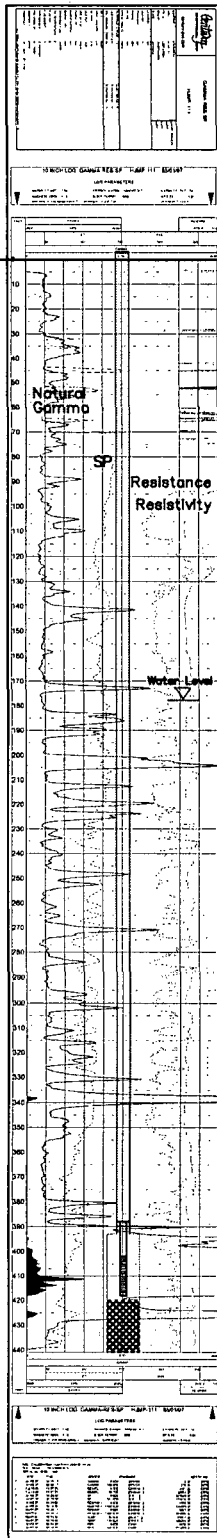
Renamed as MP-104

MP-105
(HJMP-111)

MP-105
(HJMP-111)

Lost Creek ISR, LLC

WELL COMPLETION REPORT



MP-105
(HJMP-111)

WELL # MP-105 SEO # 179894 Date Drilled: 5/1/07

Location: E 2,212.158 / N 596,079 (NAD 83)

Ground Elev: 6948.99 Measure Point Elev: 6949.49

TD: 440 ft. Hole Dia.: 7-7/8"

CASED to: 393' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 178' Elev: 6771' (avg.)

UNDERREAM: Blade Dia: 10-1/2"
Intervals: from 393' to 440' / length 47'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		<u>388'</u>		<u>6561'</u>	
Screen	<u>402'</u>	<u>418'</u>	<u>6547'</u>	<u>6531'</u>	<u>16'</u>

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/26/08 to make completion interval consistent with production design.

Hole Backplugged: 420'-440' w/ Neat Cement

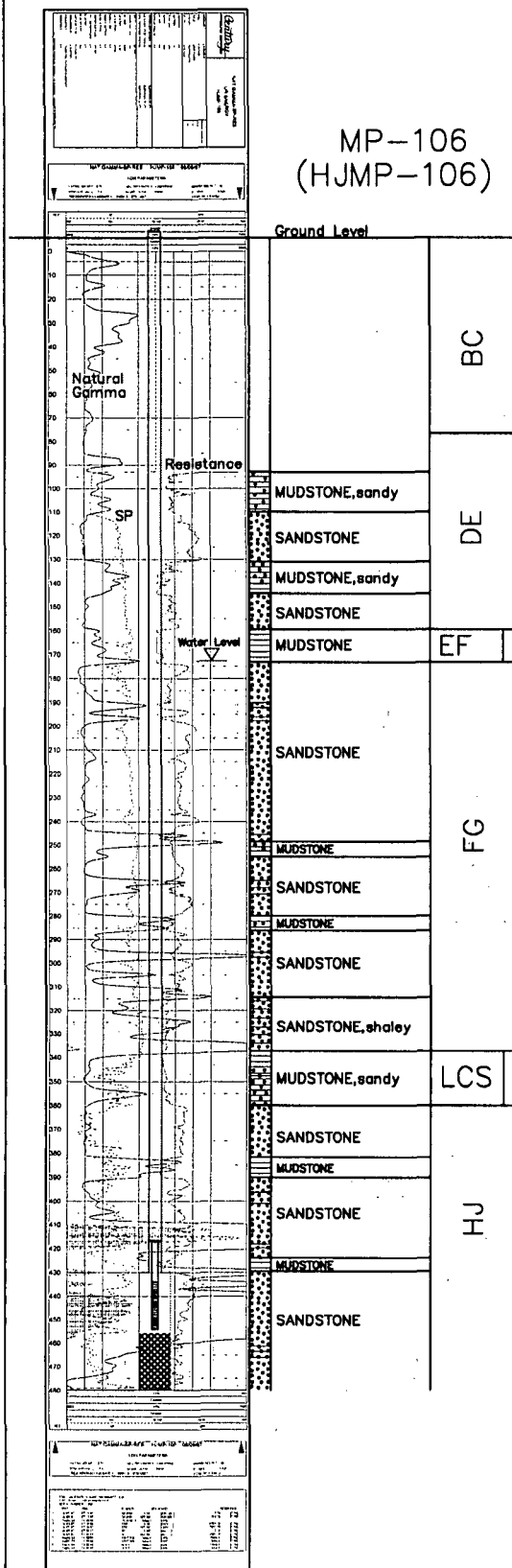
Screen Liner modified to current completion interval

Renamed as MP-105

MP-106
(HJMP-106)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-106
(HJMP-106)



MP-106
(HJMP-106)

WELL # MP-106 SEO # 179879 Date Drilled: 8/9/07

Location: E 2,211,488 / N 595,980 (NAD 83)

Ground Elev: 6940.20' Measure Point Elev: 6941.29'

TD: 480' Hole Dia.: 7-7/8"

CASED to: 430' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LHJ Sand

Static Water Level: Depth 173' Elev: 6767' (avg.)

UNDERREAM: Blade Dia: 10.5"
Intervals: from 430' to 480' / length 50'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From	To	From	To
K-packer	417'		6523'	
Screen	434'	454'	6506'	6486'
				20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/26/08 to make completion interval consistent with production design.

Hole Backplugged: 456'-480' w/ Neat Cement

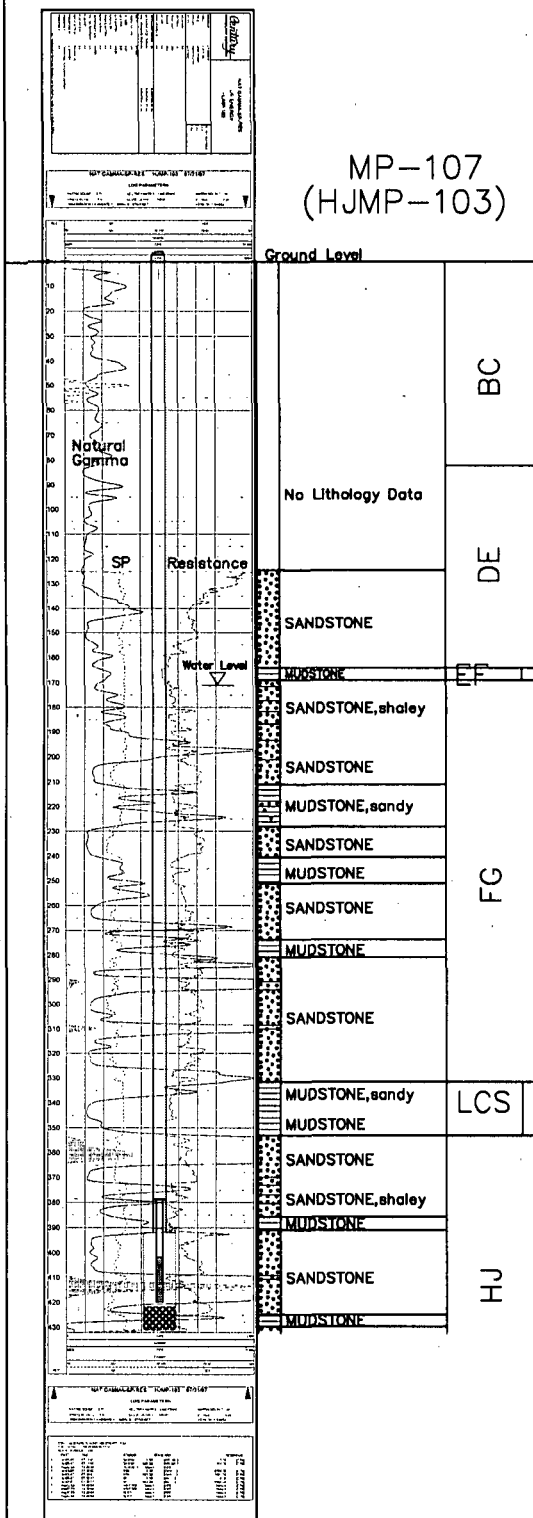
Screen Liner modified to current completion interval

Renamed as MP-106

MP-107
(HJMP-103)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-107
(HJMP-103)



MP-107
(HJMP-103)

WELL # MP-107 SEO # 179870 Date Drilled: 7/31/07

Location: E 2,210.976 / N 595.822 (NAD 83)

Ground Elev: 6935.08 Measure Point Elev: 6936.49

TD: 432 ft. Hole Dia.: 7-7/8"

CASED to: 392' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 171' Elev: 6764' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 392' to 432' / length 38'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		379'		6556'	
Screen	402'	420'	6533'	6515'	18'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/14/08 to make completion interval consistent with production design.

Hole Backplugged: 422'-432' w/ Neat Cement

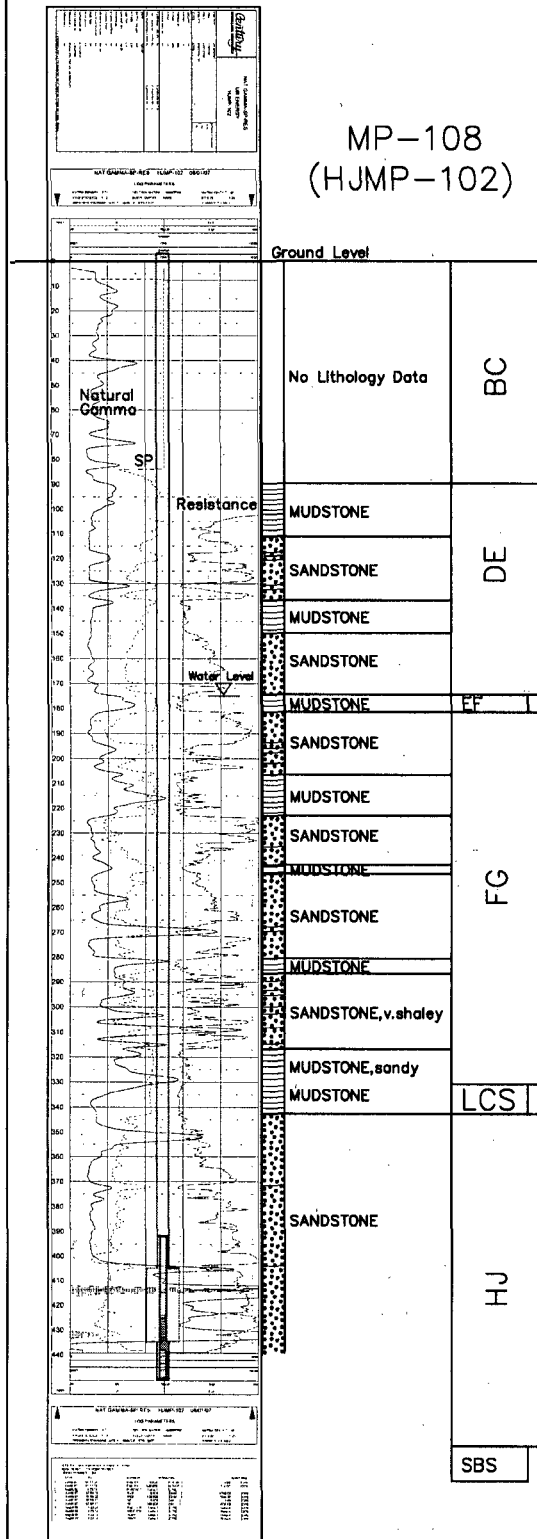
Screen Liner modified to current completion interval

Renamed as MP-107

MP-108
(HJMP-102)

MP-108
(HJMP-102)

Lost Creek ISR, LLC
WELL COMPLETION REPORT



Vertical Scale: 1"=50'

MP-108
(HJMP-102)

WELL # HJMP-102 SEO # 179867 Date Drilled: 8-1-07

Location: E 742,559 / N 534,755 (NAD 27)

Ground Elev: 6934.15' Measure Point Elev: 6936.15'

TD: 440' Hole Dia.: 7-7/8"

CASED to: 405' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 175' Elev: 6762' (avg.)

UNDERREAM: Blade Dia: 10.5"
Intervals: from 405' to 435' / length 30'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		392'		6542'	
Screen	424'	438'	6510'	6496'	30'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

(RECOMPLETED: 8/13/08 to make completion interval consistent with production design.

Hole Deepened to 450'

Screen Liner modified to current completion interval

Renamed as MP-108



LOST CREEK HYDROLOGIC TESTING – MINE UNIT 1 NORTH AND SOUTH TESTS



10758 West Centennial Road, Suite 200
Littleton, Colorado 80127 USA

LOST CREEK PROJECT, SWEETWATER COUNTY, WY

**OCTOBER 2009
(Revised March 2010)**

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EXECUTIVE SUMMARY

- ❑ Lost Creek ISR, LLC (LC ISR) plans to develop and extract uranium from in-situ recovery (ISR) mine units within the HJ Horizon of the Battle Spring Formation located at the Lost Creek Project Area (LCPA). To support State and Federal permit applications necessary for the project, LC ISR has completed the Mine Unit 1 (MU1) pump tests from pumping wells located north and south of the Lost Creek Fault, within MU1. Both pump tests targeted the primary Production Zone (HJ Horizon) aquifer and supplement two previous smaller-scale pump tests conducted within the HJ Horizon.
- ❑ Pump testing performed in the HJ Horizon north of the fault has demonstrated hydraulic communication between the HJ Horizon pumping well and the surrounding HJ monitor wells; likewise, pump testing conducted in the HJ Horizon south of the fault has demonstrated hydraulic communication between the HJ Horizon and surrounding HJ monitor wells.
- ❑ Testing has confirmed that the Lost Creek Fault is a partial barrier to groundwater flow within the HJ Horizon. During both tests, responses observed in the HJ Horizon on the opposite side of the fault were an order of magnitude lower than those observed on the pumping well side.
- ❑ The observed response during the north test at well MU-108 (24.7 feet of drawdown, completed in the underlying UKM Sand) was due to damage to the casing and annular seal during well completion. This well was subsequently plugged and abandoned. LC ISR conducted additional hydrologic testing during June 2009 to confirm the successful abandonment and hydraulic isolation at this location between the HJ Horizon and the underlying UKM Sand by pumping from the UKM Sand and monitoring the aquifer response in the HJ at well MP-108 (located approximately 15 feet adjacent to MU-108), where water levels were not observed to vary in response to the pumping.
- ❑ Geologic data indicate that the overlying and underlying confining shale units are continuous throughout the permit area. Testing results indicate adequate vertical confinement of the HJ Horizon and successful abandonment of well MU-108.
- ❑ Responses in the overlying and underlying aquifers were minor and an order of magnitude lower than responses observed in the HJ Horizon. Additional evaluation as to the cause of the responses is being conducted. LC ISR is pursuing the proper plugging and abandonment of historic wells to mitigate the potential for communication through improperly abandoned wells.
- ❑ Based on testing results to date, it is anticipated that the minor communication between the HJ Horizon and the overlying and underlying sands can be managed through operational practices, detailed monitoring, and engineering operations.
- ❑ The pump test results provide sufficient aquifer characterization of the HJ Horizon such that mining can proceed after the appropriate Nuclear Regulatory Commission (NRC) license and Wyoming Land Quality Division (LQD) permit are issued, and demonstrate that the HJ Horizon has sufficient transmissivity for ISR operations.

1.0 INTRODUCTION

1.1 BACKGROUND

The Lost Creek Project Area (LCPA) is located in the northeastern portion of the Great Divide Basin of Wyoming, within Sweetwater County (Figure 1-1). LC ISR plans to develop and extract uranium from ISR mine units within the HJ Horizon of the Battle Spring Formation. This report provides a summary of the mine-unit scale hydrogeologic testing conducted in the HJ Horizon during November and December 2008 to support State and Federal permit applications necessary for the project. Pump tests were conducted at separate locations north and south of the Lost Creek Fault (referenced as "fault" within this report), identified within the proposed MU1. The pump test on the north side of the fault ("north test") was conducted at pumping well PW-102, and the test on the south side of the fault ("south test") was conducted at pumping well PW-101.

The LCPA is located in all or parts of Sections 13, 24, and 25 of T25N, R93W, and Sections 16 through 20, and 29 through 31 of T25N, R92W. Figure 1-1 shows the LCPA and its relationship to the Great Divide Basin. Figures 1-2 and 1-3 present the location of the pumping wells and monitor wells used for the north and south pump tests, respectively.

There are no active ISR operations within ten miles of the LCPA. Areva's Christensen Ranch and Cameco Resources' Smith Ranch-Highland uranium project are located approximately 150 miles to the northeast and east, respectively. The primary Production Zone at Lost Creek is the HJ Horizon that occurs between depths of 300 and 450 feet below ground surface, although the ore bearing sand is typically found in the middle portion of the HJ horizon.

In the LCPA, water is beneficially used for livestock watering as well as for purposes related to mining (monitoring, test wells, dewatering, industrial, stock, reservoir supply, and miscellaneous use). Currently, water is not used for domestic or irrigation purposes within two miles of the LCPA.

1.2 REGULATORY REQUIREMENTS

The objectives of mine-unit scale pumping tests, as stated in the Wyoming Department of Environmental Quality/Land Quality Division (WDEQ/LQD) Chapter 11 (and associated guidelines) and Nuclear Regulatory Commission (NRC) NUREG 1569 (Section 2.7; Hydrology), are to:

1. Determine the hydrologic characteristics of the Production Zone Aquifer;
2. Demonstrate hydrologic communication between the Production Zone pumping well and the surrounding Production Zone monitor wells;
3. Assess the presence of hydrologic boundaries, if any, within the Production Zone Aquifer over the area evaluated by the Pump Test; and,

-
4. Evaluate the degree of hydrologic communication, if any, between the Production Zone and the overlying and underlying aquifers in the vicinity of the pumping well.

The testing procedures and results are presented and discussed in this report. Two pump tests were conducted because of the presence of a fault (Lost Creek Fault) that bisects MU1 (Figures 1-2 and 1-3). Results from previous aquifer testing conducted on a smaller scale at the site within the HJ Horizon Production Zone Aquifer (Petrotek 2007a, Petrotek 2007b) indicated that the fault acts as a hydraulic barrier to groundwater flow in the production zone aquifer.

1.3 PURPOSE AND OBJECTIVES

The purpose of this report is to demonstrate that the recently completed hydrologic tests meet the requirements and objectives of WDEQ and NRC as previously stated. This report demonstrates that the HJ Horizon on both sides of the identified fault within MU1 has been sufficiently evaluated with respect to hydrogeologic conditions and is suitable for ISR mining.

The objective of this report is to present the information required by WDEQ/LQD and NRC NUREG 1569 (Section 2.7; Hydrology) for a Hydrologic Test Report. In accordance with these regulations the following information is included or referenced:

- ❑ A description and maps of the proposed permit area;
- ❑ Geological cross-sections, including data from monitor wells and test holes;
- ❑ Isopach maps of the Production Zone, Overlying Confining Unit, and Underlying Confining Unit;
- ❑ Well completion reports;
- ❑ A description of hydrologic testing;
- ❑ Discussion of the hydrologic test results including raw pump test data, type curve matches, potentiometric surface maps, water level graphs, drawdown maps, and other hydrologic data with interpretation and conclusions, as appropriate; and,
- ❑ Verification, based on the test data, that: (1) the monitor wells completed within the Production Zone are in communication with the pumping well; and (2) there is adequate confinement between the HJ Horizon Production Zone and the overlying (LFG Sand) and underlying (UKM Sand) aquifers, and (3) the Lost Creek Fault acts as a hydraulic barrier.

1.4 REPORT ORGANIZATION

The results of the MU1 pump tests conducted on both sides of the fault are included within this report. This report includes nine sections, summarized below:

- 1.0 Introduction
- 2.0 Site Characterization
- 3.0 Monitor Well Locations, Installation, and Completion
- 4.0 Pump Test Design and Procedures
- 5.0 Barometric Pressure Correlations and Corrections
- 6.0 Test Results
- 7.0 Analytical Methods and Results
- 8.0 Summary and Conclusions
- 9.0 References

Field activities for the Lost Creek Pump Test were jointly performed by LC ISR and Petrotek Engineering Corporation (Petrotek) personnel. Geologic interpretations were performed by LC ISR geologists. Aquifer test analyses were performed by Petrotek, and the summary report was written by Petrotek.

2.0 SITE CHARACTERIZATION

2.1 HYDROSTRATIGRAPHY

The LCPA is underlain by the upper portion of the Battle Spring Formation. The total thickness of the Battle Spring Formation is approximately 6,000 ft. The Battle Spring Formation unconformably overlies the Fort Union Formation. LC ISR utilizes the following nomenclature for the hydrostratigraphic units of interest within the Battle Spring Formation. The primary Production Zone is identified as the HJ Horizon. The HJ Horizon is subdivided into the Upper (UHJ), Middle (MHJ), and Lower (LHJ) Sands. The HJ Horizon is bounded above and below by areally extensive confining units identified as the Lost Creek Shale and the Sagebrush Shale, respectively. Overlying the Lost Creek Shale is the FG Horizon, the overlying aquifer to the HJ Production Zone (HJ Horizon). The FG Horizon consists of an upper and lower sand sequence that are hydrostratigraphically connected. The deepest sand in the FG Horizon is designated as the Lower FG (LFG) Sand and is the interval in which all overlying monitor wells are completed. Beneath the Sagebrush Shale is the KM Horizon, the underlying aquifer to the HJ Horizon. Similar to the HJ Horizon, the KM Horizon consists of upper, middle, and lower sand intervals that are hydrostratigraphically connected. The uppermost sand within the KM Horizon is designated the Upper KM (UKM) Sand and is the interval in which all of the underlying monitor wells were completed, with the exception of UKMU-103 (Middle KM [MKM] Sand completion). The shallowest occurrence of groundwater within the LCPA occurs within the DE Horizon, which is above the FG Horizon. Figure 2-1 depicts the hydrostratigraphic relationship of these units.

Thickness (isopach) maps of the overlying shale (Lost Creek Shale), the Production Zone Aquifer (HJ Horizon), and the underlying shale (Sagebrush Shale) were created utilizing geologic data provided by LC ISR, and are presented on Figures 2-2, 2-3, and 2-4, respectively. A structure map of the formation top of the HJ Horizon is presented on Figure 2-5.

Multiple cross-sections were also constructed from available geologic data. The cross-section locations are shown on Figure 2-6. North-south cross sections are presented in Figures 2-7 through 2-9, and west-east cross sections are presented in Figures 2-10 and 2-11.

2.2 OVERLYING UNITS: LFG SAND AND LOST CREEK SHALE

The overlying aquifer designated for the pump tests is the LFG Sand, the lowermost portion of the FG Horizon. The LFG Sand is continuous throughout the LCPA and ranges from 20 to 50 feet thick. The Lost Creek Shale is the confining layer that separates the overlying LFG Sand and Production Zone HJ Horizon. The Lost Creek Shale is continuous throughout MU1, and ranges from 4 to 40 feet thick, with typical thickness of 10 to 25 feet (Figure 2-2). Additional description of the LFG Sand can be found in Appendix D6 - Lost Creek Project – WDEQ Permit to Mine Application (LC ISR, 2007).

The DE Sand overlies the LFG sand, separated by an unnamed shale unit (Figure 2-1). Several observation wells were monitored during testing and the results are reported to supplement the majority of data recorded in wells screened to the immediately overlying sand (LFG).

2.3 PRODUCTION ZONE: HJ HORIZON

The Production Zone aquifer is designated as the HJ Horizon. The HJ Horizon is continuous throughout the proposed MU1 with a total thickness ranging from 100 to 151 feet, and averages approximately 120 feet (Figure 2-3). As mentioned above, the majority of mineralization within the HJ Horizon occurs in the middle portion (MHJ). For purposes of this report and because no laterally extensive confining units have been observed between the UHJ, MHJ and LHJ Sands, discussions and analyses presented herein will focus on the HJ Horizon as a single hydrostratigraphic unit. Additional description of the HJ Horizon can be found in Appendix D6 - Lost Creek Project - WDEQ Permit to Mine Application (LC ISR, 2007).

2.4 UNDERLYING UNITS: SAGEBRUSH SHALE AND UKM SAND

The underlying aquifer is designated as the UKM Sand, a member of the KM Horizon. The total thickness of the UKM Sand is typically 30 to 60 feet and is continuous throughout MU1. The Sagebrush Shale is the confining layer that separates the underlying UKM Sand and the Production Zone HJ Horizon. The Sagebrush Shale is continuous throughout MU1 and ranges from 5 to 38 feet thick, as seen in Figure 2-4. Additional description of the UKM Sand and Sagebrush Shale can be found in Appendix D6 - Lost Creek Project - WDEQ Permit to Mine Application (LC ISR, 2007).

2.5 STRUCTURE

In the LCPA, the Battle Spring Formation dips to the west at a rate of approximately three degrees. The Lost Creek Fault zone extends the length of the MU1 from the west-southwest to the east-northeast. The main fault bisects MU1 and is downthrown to the south. Displacement across the fault ranges from approximately 30 to 50 feet on the western end to approximately 80 feet on the eastern end (see Figures 2-5, 2-7, 2-8, and 2-9). There is also a fault splay to the south of the main Lost Creek Fault that intersects the main fault near the center of MU1. The fault splay generally trends to the east, subparallel to the main fault. The splay is upthrown to the south creating a downthrown fault block between the splay and the Lost Creek Fault (Figure 2-5). Displacement associated with the splay is approximately 14 feet in the western portion of the splay (Figure 2-8) and increases to approximately 28 feet farther to the east (Figure 2-9).

In previous pump test reports, LC ISR postulated that the Lost Creek Fault was a "scissor fault", with essentially no displacement near the center of MU1 at the hinge of the fault. Based on additional review of available geologic information of historic and newly installed borings, LC ISR personnel concluded that displacement increases from west to east.

The degree of hydraulic connection between hydrostratigraphic units across the fault is of interest with respect to ISR operations. As described above, the maximum observed displacement across the fault is approximately 80 feet. The thickness of the HJ Horizon averages about 120 feet thick throughout MU1. This indicates that the HJ Horizon should have sand to sand contact across the fault everywhere within MU1. However, water level elevation data and previous pump test results indicate that hydraulic communication across the fault is limited and that groundwater flow within the HJ Horizon is impeded (i.e., the fault acts as a low permeability barrier to flow).

2.6 PREVIOUS TESTING

Several historic pumping tests were conducted on the Lost Creek project in 1982 and 2006 to assess hydraulic characteristics of the Production Zone as well as overlying and underlying hydrostratigraphic units. Historic testing was performed by Hydro-Search Inc. (1982) and Hydro-Engineering, Inc. (2007). A pump test was conducted by LC ISR in the HJ Horizon north of the fault (pumping well LC19M) in June and July 2007 (Petrotek 2007a). A summary of these tests is presented in Appendix D6 of the Lost Creek WDEQ Permit to Mine (LC ISR, 2007). A second pump test was conducted by LC ISR in the HJ Horizon south of the fault (pumping well LC16M) in October and November 2007 (Petrotek 2007b).

The following discussion briefly summarizes the results of two previous regional pump tests conducted within MU1 at LCPA:

- **Regional Test #1 (June – July 2007)** – Pumping was conducted on the north side of the fault in the HJ Horizon (pumping well LC19M) for a period of 5.73 days, at an average rate of 42.9 gallons per minute (gpm). Calculated transmissivities ranged from 30 to 76 ft²/day, with an average transmissivity of 61 ft²/day. Calculated storativities ranged from 6.6×10^{-5} to 1.5×10^{-4} , with an average storativity of 1.1×10^{-4} .
- **Regional Test #2 (October – November 2007)** – Pumping was conducted on the south side of the fault in the HJ Horizon (pumping well LC16M) for a period of 5.5 days, at an average rate of 37.4 gpm. Calculated transmissivities ranged from 57 to 110 ft²/day, with an average transmissivity value of 76 ft²/day. Calculated storativities ranged from 3.5×10^{-5} to 9.1×10^{-4} , with an average storativity of 2.9×10^{-4} .

3.0 MONITOR WELL LOCATIONS, INSTALLATION, AND COMPLETION

3.1 WELL LOCATIONS

All of the pumping and observation wells monitored during pump testing are located in the proposed MU1 of the LCPA. The monitor wells included in the north and south pump tests are shown on Figures 1-2 and 1-3, respectively. Surveyed locations of all wells and test holes presented in this report are based on the NAD 83 Wyoming State Plane West Central Coordinate System.

3.2 WELL INSTALLATION AND COMPLETION

All of the wells used for this test are located in Sections 17, 18, 19 and 20, Township 25 North, Range 92 West (Figures 1-2 and 1-3), and were constructed with 4.5-inch nominal diameter casing. The wells were developed using standard water well construction techniques, including air lifting, pumping, swabbing, and/or surging. Completion information for each well is provided in Appendix A. Specific data related to well location, completion interval, and initial water levels are provided in Table 3-1.

3.2.1 NORTH TEST, PUMPING WELL PW-102

For the pump test conducted on the north side of the Fault, LC ISR monitored 99 wells (Figure 1-2), including 44 Production Zone (HJ Horizon) monitor wells, 25 Overlying (LFG Sand) monitor wells, 26 Underlying (UKM Sand) and one well completed in the MKM) monitor wells, 3 monitor wells in the uppermost DE Horizon, and PW-102 (pumping well completed in the HJ Horizon).

3.2.2 SOUTH TEST, PUMPING WELL PW-101

For the pump test conducted on the south side of the Fault, LC ISR monitored 101 wells (Figure 1-3), including 48 Production Zone (HJ Horizon) monitor wells, 25 Overlying (LFG Sand) monitor wells, 25 Underlying (UKM Sand) monitor wells, 2 monitor wells in the uppermost DE Horizon, and PW-101 (pumping well completed in the HJ Horizon).

4.0 PUMP TEST DESIGN AND PROCEDURES

The following section details pump test design and procedures for the MU1 pump tests conducted at pumping wells PW-102 (north test) and PW-101 (south test). Pumping was conducted for the north test during November 18 – 20, 2008. Pumping was conducted for the south test during December 9 – 12, 2008. Details of pump testing at both locations are summarized separately below.

4.1 TEST DESIGN

The two MU1 tests are the first mine-unit scale hydrologic tests conducted in the LCPA. These tests were conducted in the HJ Horizon on both sides of the Lost Creek Fault and designed to:

1. Demonstrate hydrologic communication between the Production Zone pumping well and the surrounding Production Zone monitor wells;
2. Assess the hydrologic characteristics of the Production Zone aquifer within the test area;
3. Evaluate the presence or absence of hydrologic boundaries in the Production Zone within the LCPA; and
4. Demonstrate sufficient confinement between the Production Zone and the Overlying and Underlying aquifers for the purposes of ISR mining.

The general testing procedures were as follows:

1. Install In-Situ Level TROLL[®] data-logging transducers (vented) in wells to record changes in water levels during tests. Verify setting depths and head readings with manual water level measurements;
2. Measure and record background water levels and barometric pressure for a minimum of 96 hours prior to the test;
3. Run the pumping well at a constant rate (or as close as practical); and
4. Record water levels and barometric pressure throughout background, pumping, and recovery periods.

4.2 PUMP TEST EQUIPMENT

4.2.1 NORTH TEST, PUMPING WELL PW-102

Aquifer testing was performed utilizing a Grundfos 85S100-9, 10 hp, 460V, 3-phase electrical submersible pump powered by a portable diesel generator. At pumping well PW-102, the pump was set at a depth of 345 feet (approximately 122 feet off the bottom). The

static depth to water in PW-102 was approximately 171 feet, providing for approximately 175 feet of head above the pump. Flow from the pump was controlled with a manual gate valve. Surface flow monitoring equipment included two 1.5" turbine meters (Turbines Incorporated FW Series, provided by LC ISR) that display total flow (in gallons) and instantaneous flow rates (in gallons per minute [gpm]). Per discussions with WDEQ/WQD, no Temporary Discharge Permit was required. Discharge water was land applied approximately 350 feet downgradient from PW-102 via a 3" HDPE line.

Water levels in 53 wells (including the pumping well, 28 HJ Horizon observation wells, and 24 wells in the overlying and underlying aquifers) were measured and recorded with In-Situ Level TROLL[®] pressure transducer dataloggers. The pressure rating for the transducers ranged from 15 to 100 psi, and they were programmed to record depth to water at 5 minute intervals at all pumping and observation wells (during background monitoring, and the pumping and recovery periods). A detailed summary of the monitoring equipment used is presented in Table 4-1.

In addition to the wells continuously monitored using the Level TROLLS[®], numerous other wells were periodically measured for depth to water using a manual electronic water level meter. This allowed for a more extensive assessment of the potentiometric surface before, during, and after the pump test. A list of wells that were included in the hand measurement rounds is provided in Table 4-1.

The following is an interval-specific summary of water level monitoring locations recorded during testing at PW-102:

- ❑ HJ Horizon – 29 wells (including the pumping well) were monitored by dataloggers; 16 wells were periodically measured by e-line.
- ❑ Overlying LFG Sand – 12 wells were monitored by dataloggers; 13 wells were periodically measured by e-line.
- ❑ Underlying UKM Sand – 12 wells were monitored by dataloggers; 14 wells were periodically measured by e-line.
- ❑ Overlying DE Horizon – 3 wells were periodically measured by e-line.

Petrotek and LC ISR personnel installed the monitoring equipment prior to testing, verified the datalogger programming and equipment layout, and performed a short-term constant rate pump test at PW-102. Thereafter, Petrotek and LC ISR personnel collected the daily downloads and transferred the data to Petrotek for review/QA/QC for the duration of the long-term pumping test. Table 4-3 contains the drawdown response observed for each well at or near the end of pumping for the north test.

4.2.2 SOUTH TEST, PUMPING WELL PW-101

Aquifer testing was performed utilizing a Grundfos 75S100-16, 10 hp, 460V, 3-phase electrical submersible pump powered by a portable diesel generator. At pumping well PW-

101, the pump was set at a depth of 365 feet (approximately 130 feet off the bottom). The static depth to water in PW-101 was approximately 185 feet, providing for approximately 180 feet of head above the pump. Flow from the pump was controlled with a manual gate valve. Surface flow monitoring equipment included two 1.5" turbine meters (Turbines Incorporated FW Series, provided by LC ISR) that display total flow (in gallons) and instantaneous flow rates (in gallons per minute [gpm]). Per discussions with WDEQ/WQD, no Temporary Discharge Permit was required. Discharge water was land applied approximately 350 feet downgradient from PW-101 via a 1.5" HDPE line.

Water levels in 52 wells (including the pumping well, 31 HJ Horizon observation wells, and 20 wells in the overlying and underlying aquifers) were measured and recorded with In-Situ Level TROLLS[®]. The pressure rating for the Level TROLLS[®] ranged from 15 to 100 psi, and they were programmed to record depth to water at 5 minute intervals at all pumping and observation wells (during background monitoring, and the pumping and recovery periods). A detailed summary of the monitoring equipment used is presented in Table 4-2.

In addition to the wells continuously monitored using the Level TROLLS[®], numerous other wells were periodically measured for depth to water using a hand lowered electronic water level meter. This allowed for a more extensive assessment of the potentiometric surface before, during, and after the pump test. A list of wells that were included in the hand measurement rounds is provided in Table 4-2.

The following is an interval-specific summary of water level monitoring locations recorded during testing at PW-101:

- HJ Horizon – 32 wells (including the pumping well) were monitored by dataloggers; 17 wells were periodically measured by e-line.
- Overlying LFG Sand – 10 wells were monitored by dataloggers; 15 wells were periodically measured by e-line.
- Underlying UKM Sand – 10 wells were monitored by dataloggers; 15 wells were periodically measured by e-line.
- Overlying DE Horizon – 2 wells were periodically measured by e-line.

Petrotek and LC ISR personnel installed the monitoring equipment prior to testing, verified the Level TROLL[®] programming and equipment layout, and performed a step-rate pump test at PW-101. Thereafter, Petrotek and LC ISR personnel collected the daily downloads and transferred the data to Petrotek for review/QA/QC for the duration of the long-term pumping test. Table 4-4 contains the drawdown response observed for each well at or near the end of pumping for the south test.

4.3 POTENTIOMETRIC SURFACES

Figure 4-1 presents potentiometric elevations within the Production Zone (HJ Horizon) within MU1 from water level measurements on December 8, 2008. The data are

considered representative of static conditions within the HJ Horizon because the water levels were collected after an extended period in which there were no drilling activities or pumping tests conducted in the immediate vicinity (i.e., shut-in for the north side pump test at PW-102 occurred on November 20, 2008, allowing approximately 18 days of recovery). The data from December 8 are the most comprehensive set of water levels collected to date as all available monitor wells were included.

Based on potentiometric elevations, the direction of groundwater flow within MU1 in the HJ Horizon on both the north and south sides of the fault is predominantly to the west-southwest. Calculated hydraulic gradients were approximately 0.0052 ft/ft (27.4 ft/mile) on the north side and 0.0087 ft/ft (45.9 ft/mile) on the south side. The potentiometric elevation on the north side of the fault ranges from approximately 5 to 17 feet higher than the south side under static, non-pumping conditions. It is postulated that as the regional groundwater flow is in a southwesterly direction, groundwater mounding is observed on the north side as flow encounters the fault. The steep gradient observed in the potentiometric surface across the fault is likely a manifestation of a lower permeability transition area associated with the fault smear zone (Petrotek 2007a, 2007b). The observed potentiometric surface configuration is consistent with groundwater flow systems impacted by lower permeability zones as studied and modeled by Freeze (1969). Although limited groundwater leakage occurs across the fault, the majority of groundwater flow on both sides of the fault appears to be generally parallel to the fault, to the west-southwest. Water level data used for preparation of this map are presented in Table 3-1.

Figure 4-2 presents potentiometric elevations within the Overlying (LFG Sand) aquifer on December 8, 2008. The direction of groundwater flow within MU1 in the LFG Sand also trends to the west-southwest. The calculated hydraulic gradient on the north side of the fault is approximately 0.006 ft/ft (31.7 ft/mile) and approximately 0.0046 ft/ft (24.3 ft/mile) on the south side. Similar to the HJ Horizon, a steep gradient is also observed in the potentiometric surface from the north to the south side of the fault.

Figure 4-3 presents potentiometric elevations within the Underlying (UKM Sand) aquifer on December 8, 2008. The direction of groundwater flow within MU1 in the UKM Sand trends to the west-southwest, similar to the observed flow directions in the HJ and LFG Sands. The calculated hydraulic gradient on the north side of the fault is approximately 0.006 ft/ft (31.7 ft/mile) and approximately 0.0054 ft/ft (28.5 ft/mile) on the south side of the fault. Unlike the HJ Horizon and LFG Sand, the fault does not appear to impede groundwater flow within the UKM Sand as there is little or no displacement in the potentiometric surface across the fault.

Water level data for the LFG Sand (overlying), HJ Horizon (production), and UKM Sand (underlying) were analyzed in several locations to evaluate vertical hydraulic gradients within MU1. Water level data were analyzed from MU1 well clusters at select locations north and south of the fault, and are presented in Table 4-5. At well cluster locations on the north side of the fault, the potentiometric surface of the HJ Horizon is approximately 10 to 12 feet lower than the potentiometric surface of the overlying LFG Sand. At well cluster locations south of the fault, the potentiometric elevation of the HJ Horizon ranges between

10 and 24 feet lower than the elevation within the LFG Sand. Similarly, the water level elevations in the underlying UKM Sand are lower than the water level elevations within the HJ Horizon (approximately 20 to 22 feet lower on the north side well clusters, and 2 to 19 feet lower within the south side well clusters [Table 4-5]). The downward hydraulic gradients observed in the three horizons are consistent with the regional hydraulic flow characteristics in this portion of the Great Divide Basin. There is at least one location in the southwest corner of the permit area (approximately 12,000 feet from MU1) where the potentiometric head in the HJ Horizon is slightly greater than the potentiometric head in the overlying LFG Sand, indicating an upward vertical gradient at that location. Near Lost Creek, groundwater flows to the southwest towards the center of the basin, from upland areas of regional and local recharge to discharge areas near the basin center.

The data presented in the potentiometric surface maps in Figures 4-1 to 4-3, and Table 4-5 suggest that the FG, HJ, and KM Horizons are not in direct hydraulic communication within MU1, under natural non-stressed conditions. The hydraulic gradients between horizons will influence potential leaks or excursions. The higher head in the overlying FG Horizon will serve to retard or minimize vertical migration of fluid from the underlying HJ Horizon. Similarly, fluid with higher head in the HJ Horizon could potentially drain to the underlying KM Horizon if an artificial pathway were present (e.g., improperly constructed well or improperly abandoned borehole).

4.4 BACKGROUND MONITORING, TEST PROCEDURES, AND DATA COLLECTION

4.4.1 NORTH TEST, PUMPING WELL PW-102

The majority of the testing equipment (e.g., pump, flow meters, Level TROLLS®) for the test conducted at PW-102 was installed and checked by Petrotek on November 5, 2008. A short-term constant rate test was conducted on November 11, 2008, to evaluate potential pumping rates for the long-term test. Initial test plans included a step-rate test, but due to an initial calibration error in the discharge line totalizers, a short-term constant rate test at 86.4 gpm was substituted. The short-term constant rate test was run for 5.8 hours.

Background-monitoring followed the short-term pump test and ran for a period of approximately seven days. Water levels were recorded every 5 minutes during background monitoring.

Level TROLLS® were programmed to record water levels every 5 minutes during the pumping and recovery periods. Pumping was conducted during November 18 – 20, 2008, and water level recovery data was collected through December 2, 2008. Pumping rate data for this test are shown on Table 4-6. A CD containing the water level data for the step test, background monitoring, pumping, and recovery periods is included in Appendix E-1. Manually collected e-line data are included in Appendix E-3.

4.4.2 SOUTH TEST, PUMPING WELL PW-101

The majority of the testing equipment (e.g., pump, flow meters, Level TROLLS®) for the test conducted at PW-101 was installed and checked by Petrotek on December 2 – 3, 2008. A step-rate test was conducted on November 12, 2008. Rates utilized during this step-test were 39.0, 54.4, 72.9, and 80.8 gpm. No losses in well efficiency were observed at the higher pumping rates

The background-monitoring for the south side pump test followed the completion of datalogger installations on December 3, 2008, for a period of approximately 6 days. Water levels were recorded every 5 minutes during background monitoring.

Level TROLLS® were programmed to record water levels every 5 minutes during the pumping and recovery periods. Pumping was conducted during December 9 – 12, 2008, and water level recovery data were collected through December 22, 2008. Pumping rate data for this test are shown on Table 4-7. A CD containing the water level data for the step test, background monitoring, pumping, and recovery periods is included in Appendix E-2. Manually collected e-line data are included in Appendix E-4.

5.0 BAROMETRIC PRESSURE CORRELATIONS AND CORRECTIONS

5.1 MONITORING EQUIPMENT

As previously discussed, all of the In-Situ Level TROLLS[®] used for both pump tests were vented (gauged). In-Situ has stated that if vented transducers are used, the vent eliminates the impact of barometric pressure on the sensor. However, a change in water levels due to barometric changes will occur whether a vented sensor is used or not. Hence, use of vented equipment eliminates the barometric impact on the sensor, but does not correct the water level measurements for barometric effects on the aquifer. In this regard, the vented Level TROLLS[®] are barometrically *compensated*, but not *corrected*. If significant variations in water levels are observed, the data may require correction for fluctuations in water levels associated with changes in barometric pressure.

5.2 BAROMETRIC CORRECTIONS

To demonstrate the effect of barometric pressure on water levels for the pump tests, two different corrections were evaluated. The first correction, referred to as the manual correction, involves evaluating the data based on total head (i.e., depth to water in the well plus barometric pressure as feet of water), and normalizing the values to the initial barometric pressure at the start of each pump test. The manual correction input parameters and calculation follows:

$$WL_c = (WL + BP) - BP_i$$

Where:

- WL_c = Corrected water level elevation (ft)
- WL = Water level elevation (ft)
- BP = Barometric pressure (ft)
- BP_i = Initial barometric pressure (ft)

The second method utilizes a software program entitled BETCO (barometric and earth tide correction) developed to analyze barometric and tidal effects on groundwater levels (Toll & Rasmussen, 2007). BETCO was developed to remove the effects of barometric pressure and earth tides from water level observations from a multiple regression analysis. The BETCO program is publicly available at <http://www.hydrology.uga.edu/tools.html>.

Water level observations from selected wells from the pump tests were evaluated by both correction methods to evaluate the potential impact of barometric pressure on water levels. Wells MP-106 (north test) and MP-109 (south test) were evaluated by the two methods and the graphical results are presented on Figures 5-1 and 5-2, respectively. From well MP-106, the largest magnitude of water level fluctuation by the manual correction was approximately 0.4 ft, and approximately 0.6 ft for the BETCO correction (Figure 5-1). Compared to the approximately 30 feet of observed drawdown in this well, the impact of the corrections is minimal. From well MP-109, the largest magnitude of water level fluctuation

from the manual correction was approximately 0.6 ft, and approximately 0.2 ft for the BETCO correction (Figure 5-2). Observed drawdown in this well was approximately 18 feet.

An analysis of aquifer properties, including transmissivity (T), hydraulic conductivity (K), and storativity (S) were evaluated based on the two corrected water level elevation data sets and compared to the uncorrected data. A more complete discussion of the analytical methods is presented in Section 7. The following table presents a summary of the comparative analysis of aquifer properties evaluated by the Theis (1935) method.

Well	MP-106	MP-106	MP-106	MP-109	MP-109	MP-109
Barometric Pressure Correction	Uncorrected	Manual Correction	BETCO Software	Uncorrected	Manual Correction	BETCO Software
T (ft ² /day)	67.9	68.3	68.6	71.6	69.0	70.4
K (ft/day)	0.57	0.57	0.57	0.60	0.58	0.59
Storativity	1.38 x 10 ⁻⁴	1.36 x 10 ⁻⁴	1.35 x 10 ⁻⁴	8.29 x 10 ⁻⁵	8.30 x 10 ⁻⁵	8.23 x 10 ⁻⁵

Comparison of the two correction methods for the MU1 pump tests indicate that barometric pressure had minimal impact on water levels prior to, during, and after the pumping test in the HJ Horizon observation wells. Additionally, differences between the analytical results of aquifer properties between uncorrected and corrected data were minimal (on the order of 1% to 4% difference). Observed drawdown is approximately two orders of magnitude greater than the potential barometric pressure effects on water levels. These results are in agreement with those of previous pump tests conducted at the LCPA (Petrotek 2007a, 2007b) which showed the effects of barometric pressure were negligible. Due to the negligible impact on water levels and minimal impact on the analytical analysis, uncorrected water levels were utilized in the evaluation of observed drawdown, potentiometric surfaces, and in the analysis of aquifer properties (see Section 7).

6.0 TEST RESULTS

The following section discusses the results of pump testing and details background monitoring, response in the Production Zone aquifer, and responses in the overlying and underlying aquifers for the north and south-side tests conducted at pumping wells PW-102 and PW-101, respectively.

6.1 BACKGROUND TRENDS

6.1.1 NORTH TEST, PUMPING WELL PW-102

Water level stability data were collected prior to the start of the north side pump test. Plots of the background, pumping, and recovery data for wells completed in the HJ Horizon and monitored with transducers are shown in Figures 6-1 through 6-4. Wells completed in the HJ Horizon were grouped into four geographical categories: 1) west side of the pumping well and north of the fault (Figure 6-1), 2) central area near pumping well (approximately 1000 foot radius) and north of the fault (Figure 6-2), 3) east side of the pumping well and north of the fault (Figure 6-3), and all wells located south of the fault (Figure 6-4).

Water level data for the overlying (LFG Sand) and underlying (UKM Sand) wells monitored by transducers are presented in Figures 6-5 through 6-8. Water level graphs on these figures are grouped by location relative to the fault. Wells in the LFG Sand located north and south of the fault are presented on Figures 6-5 and 6-6, respectively. Wells completed in the UKM Sand located north and south of the fault are presented on Figures 6-7 and 6-8, respectively.

Water level versus barometric pressure plots for all wells monitored by transducers during the test are presented in Appendix B-1. Individual well water levels for wells equipped with transducers versus pumping well water levels are presented in Appendices C-1 to C-4.

Prior to conducting the short-term constant rate pump test at pumping well PW-102 on November 11, 2008, water levels were increasing slightly in the HJ Horizon. Subsequent to this short-term test and prior to the start of the long-term pump test, water levels were still equilibrating and had risen to within approximately 1 foot or less of the observed static water level prior to the short-term test. The recovery interval prior to initiation of the long-term pump test at PW-102 was approximately seven days.

It is noted that during background monitoring of HJ wells on the south side of the fault, water levels responded to the step-rate pump test conducted at pumping well PW-101 on November 12, 2008 (Figure 6-4). Water levels were allowed to recover for approximately six days prior to the initiation of pumping at PW-102.

In general, water levels in the LFG Sand and UKM Sand north and south of the fault were increasing slightly prior to the start of the short-term pump test, and generally decreasing or steady prior to the start of the long-term pump test at PW-102.

6.1.2 SOUTH TEST, PUMPING WELL PW-101

Water level stability data were collected prior to the start of the south side pump test. Plots of the background, pumping, and recovery data for wells completed in the HJ Horizon and monitored with transducers are shown in Figures 6-9 through 6-12. Wells completed in the HJ Horizon were grouped into four geographical categories: 1) west side of the pumping well and south of the fault (Figure 6-9), 2) central area near pumping well (approximately 1000 foot radius) and south of the fault (Figure 6-10), 3) east side of the pumping well and south of the fault (Figure 6-11), and all wells located north of the fault (Figure 6-12).

Water level data for the overlying (LFG Sand) and underlying (UKM Sand) wells monitored by transducers are presented in Figures 6-13 to 6-16. Water level depictions on these figures are grouped by location relative to the fault. Wells in the LFG Sand located south and north of the fault are presented on Figures 6-13 and 6-14, respectively. Wells completed in the UKM Sand located south and north of the fault are presented on Figures 6-15 and 6-16, respectively.

Water levels versus barometric pressure plots for all wells monitored by transducers during the test are presented in Appendix B-2. Individual well water levels for wells equipped with transducers versus pumping well water levels are presented in Appendices C-5 to C-8.

Level TROLLS[®] were installed on December 2 – 3, 2008, allowing approximately 6 to 7 days of background monitoring prior to the start of the mine-unit scale pump test on December 9, 2008. In general, water levels in the HJ Horizon on the south side of the fault zone were slightly increasing prior to the pump test. Water levels monitored on the north side of the fault rose approximately 0.5 to 2.0 ft during the course of background monitoring (see Figure 6-12), as these wells were likely equilibrating in response to the pump test previously conducted on the north side of the fault.

In general, water levels in the LFG Sand and UKM Sand north and south of the fault were increasing slightly prior to the start of the short-term pump test, and generally decreasing or steady prior to the start of the long-term pump test at PW-101.

It is also noted that the abrupt spike in water level observed on December 5, 2008 at well M-104 is due to placement of cement to plug and abandon an adjacent well (see Figure 6-11) that failed mechanical integrity testing (MIT). Prior to the start of the south side pump test, LC ISR personnel plugged this older well to ensure hydraulic isolation at well M-104.

6.2 PUMP DURATION AND RATE

6.2.1 NORTH TEST, PUMPING WELL PW-102

The north test was started at 10:30 on November 18, 2008 and was terminated at 10:30 on November 20, 2008. The total length of pumping was approximately 2,880 minutes (2.0 days). The average pumping rate during the PW-102 test was 70.9 gpm.

6.2.2 SOUTH TEST, PUMPING WELL PW-101

The south test was started at 14:00 on December 9, 2008 and was terminated at 11:45 on December 12, 2008. The total length of pumping was approximately 4,185 minutes (2.9 days) and the average pumping rate during the PW-101 test was 58.1 gpm. Due to ice in the 3-inch HDPE discharge line utilized for the step-rate test, the long-term pump test at PW-101 was conducted utilizing 1.5-inch discharge pipe. It is noted that there were several short false starts that occurred on December 9, 2008 at times 10:15, 10:50, and 11:15. These false starts were due to ice in the pump assembly and discharge line. As these false starts were short in duration and produced minimal groundwater volume, the pumping well recovered quickly prior to the initiation of the long-term pump test.

6.3 HJ HORIZON RESPONSE

6.3.1 NORTH TEST, PUMPING WELL PW-102

Drawdown observed in the monitor wells completed in the HJ Horizon is presented on Figure 6-17. Drawdown values presented on this figure are a combination of water levels observed from Level TROLLS[®] and hand measured e-line data collected on November 20, 2008, just prior to shut-in at PW-102. A summary of these data are also included as Table 4-3. It is noted that residual drawdown after the end of pumping was observed in many wells located distant from the pumping well.

The drawdown contour map includes 45 HJ Horizon wells, of which 29 were monitored by Level TROLLS[®] and 16 measured by e-line. As shown in Figure 6-17, considerable drawdown (i.e. greater than 2 feet) was observed prior to shut-in at all wells located north of the fault. The maximum drawdown observed in the pumping well PW-102 was 111.1 feet. At the closest observation well (MP-107), observed drawdown was 48.6 feet. Observed drawdown in the perimeter "ring" observation wells located on the north side of the fault (M-114 to M-126) ranged from 2.8 to 36.5 feet.

As discussed in Section 4.3, the potentiometric level on the north side of the fault ranges from approximately 5 to 17 feet higher than the south side under static, non-pumping conditions. Observed drawdown responses in the 13 wells located south of the fault ranged from 0.0 to 2.7 feet, with the largest responses observed in those wells closest to the fault. The total head difference across the fault just prior to shut-in can be seen by comparing the drawdown responses between wells HJT-101 (34.2 feet, located north of the fault) and MP-109 (2.7 feet, south of the fault), which are located approximately 100 feet apart. Since the total head difference across the fault was on the order of 30 feet, a large hydraulic stress was applied to the aquifer across the fault. Based on the substantial drawdown observed in the HJ Horizon north of the fault in response to pumping at PW-102, and the minimal response observed in wells located south of the fault, the Lost Creek Fault is a partial barrier to groundwater flow within MU1. The drawdown observed in wells south of the fault, although minimal, suggests that some leakage across the fault does occur.

6.3.2 SOUTH TEST, PUMPING WELL PW-101

Drawdown observed in the monitor wells completed in the HJ Horizon is presented on Figure 6-18. Drawdown values presented on this figure are a combination of water levels observed from Level TROLLS® and hand measured e-line data collected on December 12, 2008, just prior to shut-in at PW-101. A summary of these data is included as Table 4-4. It is noted that residual drawdown after the end of pumping was observed in many wells located distant from the pumping well.

The drawdown contour map includes 50 HJ Horizon wells, of which 33 were monitored by transducers and 17 measured by e-line. As shown in Figure 6-18, considerable drawdown (i.e. greater than 2 feet) was observed prior to shut-in at all wells located south of the fault. The maximum drawdown observed in the pumping well PW-101 was 63.5 feet. At the closest observation wells (HJMP-109 and MP-104), observed drawdowns were 41.7 and 48.1 feet, respectively. Observed drawdown in the perimeter "ring" observation wells located on the south side of the fault (M-101 to M-113, and M-127 and M-128) ranged from 4.8 to 34.1 feet.

As discussed in Section 4.3, the potentiometric levels on the south side of the fault range from approximately 5 to 17 feet lower than the north side under static, non-pumping conditions. Observed drawdown responses in the 21 wells located north of the fault ranged from 0.1 to 2.0 feet, with the largest responses generally seen in those wells closest to the fault. The total head difference across the fault just prior to shut-in can be seen by comparing the drawdown responses between wells MP-104 (48.1 feet, located south of the fault) and HJT-104 (2.0 feet, north of the fault), which are located a distance of approximately 190 feet apart. It is also apparent from the relatively steep drawdown contours north and northeast of the pumping well across the fault splay that the splay influences the propagation of drawdown and acts as a minor barrier to flow across the fault (Figure 6-18). Observed drawdowns at the two wells (UKMO-101 and HJT-105) located within the downthrown fault block north of the splay and south of the main fault are 17.4 and 12.2 feet, respectively. Measured drawdowns at monitoring wells south of the pumping well and located a similar distance from the pumping well (e.g. wells M-106, M-107 and M-108) are approximately twice that observed north of the splay.

Similar to results of the north test, a large hydraulic stress was applied to the aquifer across the fault and minimal response was observed on the north side of the fault. Therefore, the fault acts as a partial barrier to groundwater flow, with the minimal responses observed across the fault indicating that some leakage across the fault does occur.

6.4 CONFINING UNITS RESPONSE

6.4.1 NORTH TEST, PUMPING WELL PW-102

During the pump test, small responses were observed in the overlying and underlying aquifer observation wells. The observed responses correlate with the beginning and ending of the PW-102 pump test. The responses ranged from 0.1 to 3.4 feet in the

overlying LFG Sand aquifer, and 0.0 to 2.2 feet (excluding the response observed in MU-108, discussed below) in the underlying UKM Sand aquifer (Table 4-3). Graphical presentations of well response in these aquifers are included as Figures 6-5 to 6-8. Three wells in the uppermost DE Sand aquifer were monitored on the south side of the fault, and e-line measurements indicate no observed response (i.e., greater than 0.1 feet) from pumping in this aquifer (Table 4-3). Drawdown contour maps prior to test shut-in for the overlying LFG Sand and underlying UKM Sand are presented in Figures 6-19 and 6-20, respectively. The water level plots for all wells instrumented with transducers are included in Appendices C-3 and C-4.

The observed drawdown response in well MU-108 (not presented on Figures 6-7 and 6-20), completed in the underlying UKM Sand, was 24.7 feet and was due to damage to the casing and annular seal during well completion operations. Drilling records for this well indicated that the underreamer bit was not fully closed upon withdrawal into the casing. Due to the large observed drawdown at this well, communication between the HJ Horizon and underlying aquifer was present due to this artificial pathway within the casing. Well MU-108 was subsequently plugged and abandoned with cement grout on December 2, 2008. LC ISR tested the hydraulic continuity between the overlying HJ Horizon and the underlying UKM sand during August 2009 to confirm successful abandonment, the details of which are presented in Section 6.5.

While there is a limited degree of communication between the HJ Horizon and overlying and underlying aquifers, the magnitude of response within these adjacent aquifers is generally an order of magnitude less than the observed response within the Production Zone Aquifer. The communication observed at Lost Creek is similar to that observed in other ISR operations where engineering practices were successfully implemented to isolate lixiviant from overlying and underlying aquifers.

In evaluating the response of the overlying and underlying aquifers in those wells instrumented with Level TROLLS[®], many wells exhibited an appreciable rise in water level corresponding to the initiation of pumping at PW-102, followed by a subsequent decline (see Figures 6-5 and 6-7). This response is most prominent in those wells located on the north side of the fault. This phenomenon has been described previously in layered confined aquifer systems as the "Noordbergum effect" or "reverse water-level fluctuation" (Hsieh, 1996). Conventional groundwater theory does not account for this effect, and must be explained by poroelastic theory. Poroelastic theory considers that "drawing down an aquifer produces time-dependent volumetric contraction and, hence, induced increases in pore pressure in the aquifer, adjacent confining layers, and adjacent aquifers" (Wang, 2000). As the aquifer contracts upon pumping, vertical and horizontal strains are transferred to the aquitard and adjacent aquifer via shear. The increase in pore pressure in adjacent aquifers can result in an initial water level rise, which is eventually canceled by pore-pressure diffusion and the later propagation of drawdown.

6.4.2 SOUTH TEST, PUMPING WELL PW-101

During the pump test, small responses were observed in the overlying and underlying aquifer observation wells. The observed responses correlate with the beginning and ending of the PW-101 pump test. The responses ranged from no response to 1.9 feet in the overlying LFG Sand aquifer, and 0.1 to 5.7 feet in the underlying UKM Sand aquifer (Table 4-4). Within the underlying aquifer wells MU-104 and MU-109, drawdown response was 5.7 feet and 3.9 feet, respectively. Drawdown responses in the remainder of the wells monitoring the underlying aquifer were less than 2.0 feet. Two wells in the uppermost DE Sand aquifer were monitored on the south side of the fault, and e-line measurements indicate no observed response from pumping in this aquifer (Table 4-4). Drawdown contour maps prior to test shut-in for the overlying LFG Sand and underlying UKM Sand are presented in Figures 6-21 and 6-22, respectively. Graphical presentations of well response in these aquifers are included as Figures 6-13 to 6-16. The water level plots for all wells are included in Appendices C-7 and C-8.

Similar to the results of the north test, there was a limited degree of communication between the HJ Horizon and overlying and underlying aquifers. These responses are generally an order of magnitude less than the observed response within the HJ Horizon, and these conditions are similar to other ISR operations where engineering practices were successfully implemented to isolate lixiviant from overlying and underlying aquifers.

It is also noted that increases in water level were observed in response to the start of pumping in many of the underlying and overlying aquifer wells (see Figures 6-13 and 6-15). As discussed previously in Section 6.4.1, this is likely a manifestation of the “Noordbergum effect”, which is an aquifer deformation-induced water level response.

6.5 SUPPLEMENTAL TESTING TO CONFIRM ABANDONMENT AT WELL MU-108

During the course of testing during the north test at pumping well PW-102, a dramatic drawdown response of 24.7 feet was observed in well MU-108, which is completed in the UKM Sand. Drilling records for this well indicated that the underreamer bit was not fully closed upon withdrawal into the casing. Due to the large observed drawdown at this well, communication between the HJ Horizon and underlying UKM Sand was present due to this artificial pathway within the casing. Well MU-108 was plugged and abandoned with cement grout on December 2, 2008.

A short-term pump test was conducted at well KPW-2, completed within the entire KM Sand interval, to observe the response in the overlying HJ Horizon at well MP-108, which is located approximately 15 feet from well MU-108. Figure 6-23 presents the locations of these wells. On June 16, 2009, well KPW-2 was pumped for 8 hours at a constant rate of 68.3 gpm, and well MP-108 was monitored for water level. Both wells were instrumented with In-Situ Level TROLLS[®] programmed to record depth to water at 5 minute intervals (as testing was conducted for the north and south tests). A graph of water levels in the observation well MP-108 versus water level in the pumping well KPW-2 is presented in Figure 6-24. Drawdown at the end of pumping in the pumping well was measured at 90.7

feet, and no water level drop was observed in the overlying well MP-108. The initial rise observed in well MP-108 concurrent with the start of pumping is likely a manifestation of the "Noordbergum effect", which is an aquifer deformation-induced water level response.

Due to the fact that no observed water level drop was observed in the HJ Horizon in response to pumping in the underlying aquifer, testing confirms the successful abandonment of well MU-108 and confirms previously existing artificial flow pathways through casing have been sealed.

7.0 ANALYTICAL METHODS AND RESULTS

7.1 ANALYTICAL METHODS

Drawdown data collected from monitor wells (instrumented with Level TROLLS®) were graphically analyzed to determine aquifer properties of Transmissivity and Storativity. The primary analysis method used was Theis (1935). The assumption used in this analysis was that the aquifer is confined and has a saturated thickness of 120 feet (average thickness of the HJ, provided by LC ISR geologists). The use of the Cooper & Jacob time-drawdown (1946) method was evaluated for the pump test data, however, the criteria for validity for this method ($\mu = r^2S / 4Tt < 0.01$ [where r = distance to observation well, S = storativity, T = transmissivity, and t = time since pumping began], Kruseman & de Ridder [1990]) was satisfied by only one well (MP-104, located approximately 331 feet from the pumping well of the south test). The Theis Recovery (1935) analysis was also performed for the pumping well and select observation wells. As noted, minor responses in observation wells across the fault were observed. However, the magnitude of those responses did not warrant quantitative analyses. Water level plots for all the wells are presented in Appendix C.

The test data were analyzed using the Theis method, which is a standard analytical approach to evaluate aquifer characteristics. Assumptions inherent in this method include:

- The aquifer is confined and has apparent infinite extent;
- The aquifer is homogeneous and isotropic, and of uniform effective thickness over the area influenced by pumping;
- The potentiometric surface is horizontal prior to pumping;
- The well is pumped at a constant rate;
- The pumping well is fully penetrating; and,
- Well diameter is small, so well storage is negligible.

These assumptions are reasonably satisfied, with the exception of the uniform thickness of the aquifer and infinite extent of the aquifer due to the presence of boundary conditions (i.e., fault). Locally, the HJ Horizon at LCPA is not homogeneous and isotropic; however, over the scale of both pump tests, the aquifer can be treated in this manner. As previously discussed and verified with the pumping tests, the fault acts as a hydraulic barrier to groundwater flow and therefore limits the effective extent of the aquifer. In this regard, water level responses from all the wells in the HJ Horizon are likely to be impacted by the fault. Due to the presence of the fault, the aquifer is not infinite-acting, and the fault effectively reduces the available aquifer by approximately half. The actual transmissivity of the aquifer, without the impact of the fault, would be higher.

Because of the influence of the fault, the transmissivity determined from this pumping test is viewed as an “effective” transmissivity. The fault will impact all production and restoration operations for this mine unit, therefore the “effective” transmissivity is more suitable for estimating hydraulic impacts of the in-situ operation. A hydraulic conductivity calculated from this “effective” transmissivity will be lower than the actual, or intrinsic, hydraulic conductivity of the aquifer.

The Theis Recovery method was utilized for analysis of recovery data from those wells located relatively close (i.e. within 1000 feet) to the corresponding pumping well. This analysis was not used on the more distant wells because of residual drawdown after the end of pumping.

Because none of the monitor wells were completed within the confining units, a Neuman-Witherspoon (1972) analysis was not performed. Use of the Hantush (1956) leaky aquifer analysis was considered because of the observed response in overlying and underlying aquifers during both the north and south pump tests. The Hantush analysis was not used for the following reasons. The response of underlying and overlying monitor wells indicates some leakage through the confining units during the tests. However, as previously noted, some of the observed responses in the underlying aquifer are directly attributable to an improperly constructed well (MU-108). Also, the Hantush leaky aquifer analysis is designed to evaluate leakage through a single confining unit. In the case of the MU1 pump tests, it is apparent that there is leakage (albeit minor) from above and below the production zone aquifer. Finally, the impact of the fault as a hydraulic barrier dominates the response of the monitor wells in each of the pump tests. The transmissivity calculated from these pump tests is an “effective” transmissivity that reflects the impact of the fault that essentially reduces the available aquifer by approximately one half. The effects of leakage from overlying and underlying units will be negligible compared to the effects of the fault in the calculation of “effective” transmissivity.

The software used to graphically analyze the data was AquiferTest Pro (Version 4.2, Schlumberger Water Services, 2008).

Water level stability data collected during the pre-test and post-test periods along with barometric pressure (Appendices B and C) were used to assess the background trends. No significant trend corrections were warranted for any of the wells.

7.2 ANALYTICAL RESULTS

7.2.1 NORTH TEST, PUMPING WELL PW-102

Transmissivity (T) results from the Theis analysis were calculated using both drawdown and recovery portions of the test data. Transmissivity results from drawdown data for the PW-102 pump test for the HJ Horizon aquifer range from 50.9 to 104.0 ft²/d, with an average T value of 77.9 ft²/d (Table 7-1). A contour map of T values from these analyses is

presented in Figure 7-2. Transmissivity values from recovery data were calculated from eight monitor wells (including PW-102) and were consistently lower than the T values calculated from drawdown data. Transmissivity values for the recovery data range between 52.2 to 57.5 ft²/d, with an average T value of 55.4 ft²/d (Table 7-1).

Based on an average thickness of 120 feet and transmissivity results from drawdown data, hydraulic conductivity (K) ranges from 0.42 to 0.87 ft/day and averages 0.65 ft/day (Table 7-1). Assuming a water viscosity of 1.35 cp (50 degrees F) and a density of 1.0, this equates to a permeability of approximately 320 millidarcies (md). Storativity (S) of the HJ Horizon aquifer ranges from 5.4×10^{-5} to 1.9×10^{-4} , with an average value of 9.3×10^{-5} (Table 7-1). It should be reiterated that these values are considered "effective" because of the impact of the fault on the aquifer response.

Average linear velocity of groundwater flow was also calculated in Table 7-1 from hydraulic conductivity, utilizing an estimated effective porosity of 28% (provided by LC ISR) and the calculated hydraulic gradient from Section 4.3 (0.0052 ft/ft). On the north side of the fault, calculated groundwater velocities ranged from 2.9 to 5.6 ft/year, with an average velocity of 4.4 ft/year.

An example of a type curve match using the Theis method is provided in Figure 7-1. Type curve matches of the HJ Horizon monitor wells analyzed in the pump test are provided in Appendix D-1. Water level data for all monitor wells from background through pumping and recovery are included in Appendix E-1 on a CD ROM. Manually collected e-line data are presented in Appendix E-3.

7.2.2 SOUTH TEST, PUMPING WELL PW-101

Transmissivity (T) results from the Theis analysis were calculated using both drawdown and recovery portions of the test data. Transmissivity results from drawdown data for the PW-101 pump test for the HJ Horizon aquifer range from 69.4 to 129.0 ft²/d, with an average T value of 92.6 ft²/d (Table 7-2). A contour map of T values is presented in Figure 7-3. Transmissivity values from recovery data were calculated from nine monitor wells (including PW-101) and were consistently lower than the T values calculated from drawdown data. Transmissivity values for the recovery data range between 58.3 to 108.0 ft²/d, with an average T value of 70.5 ft²/d (Table 7-2).

Based on an average thickness of 120 feet and transmissivity results from drawdown data, hydraulic conductivity (K) ranges from 0.58 to 1.08 ft/day and averages 0.77 ft/day (Table 7-2). Assuming a water viscosity of 1.35 cp (50 degrees F) and a density of 1.0, this equates to a permeability of approximately 379 millidarcies (md). Storativity (S) of the HJ Horizon aquifer ranges from 3.6×10^{-5} to 4.2×10^{-4} , with an average value of 1.1×10^{-4} (Table 7-2). It should be reiterated that these values are considered "effective" because of the impact of the fault on the aquifer response.

Average linear velocity of groundwater flow was also calculated in Table 7-2 from hydraulic conductivity, utilizing an estimated effective porosity of 28% (provided by LC ISR) and the

calculated hydraulic gradient from Section 4.3 (0.0087 ft/ft). On the south side of the fault, calculated groundwater velocities ranged from 6.6 to 12.1 ft/year, with an average velocity of 8.7 ft/year.

Type curve matches for the HJ Horizon monitor wells analyzed in the pump test are provided in Appendix D-2. Water level data for all monitor wells from background through pumping and recovery are included in Appendix E-2 on a CD ROM. Manually collected e-line data are presented in Appendix E-44.

7.3 TRANSMISSIVITY DISTRIBUTION

The distribution of transmissivity calculated from the MU1 north and south pump tests are presented on Figures 7-2 and 7-3, respectively. For consistency, only transmissivity values determined from the Theis drawdown method are posted. The overall range of transmissivity determined from the north and south tests is relatively small (51 to 129 ft²/d) relative to typical fluvial depositional systems.

The presentation of the distribution of transmissivity (provided in Attachment MU1 2-1, Figures 7-2 and 7-3), indicates a slight directional bias in transmissivity. A southwest decrease in transmissivity observed on the north side of the Fault appears to be correlative with a slight reduction in the thickness of the HJ Horizon. The HJ Horizon thins west of the pumping well PW-102 (Figure 2-3), which generally corresponds to the decreasing trend observed in T values (Figure 7-2). On the south side of the Fault there is an area of slightly lower transmissivity that trends along wells M-106, M105 and M104 to the southeast. This southeast trend of low transmissivity correlates with the elliptical shape of the drawdown observed on the south side of the Fault during hydrologic testing. Transmissivity appears to increase closer to the Fault in the area of the fault splay (wells UKMO-101, HJT-105 and M-127). This increase in transmissivity may be partially the result of impacts of the fault splay during the south hydrologic test in reducing the drawdown in wells located in the downthrown fault block.

On a regional scale, the observed variation in T is not expected to impact ISR mining and has no apparent regulatory implications. Further, field operations will be modified to achieve mine unit balance in light of the variation in T.

As discussed previously, the T results for the HJ Horizon are considered "effective" because of the barrier effect of the fault. Because of the fault, the aquifer is not infinite-acting and the available aquifer is effectively reduced by half. The T results are representative of the HJ Horizon on the scale of the pump test, and directly apply to design calculations such as water balance. However, the actual transmissivity of the aquifer, without impacts from the fault, would be higher (e.g., by an approximate factor of 1.5 to 2.0). In other words, there would be less drawdown at the pumping well at a given pumping rate, if the fault were not restricting flow to the well.

The K results estimated from these tests (0.42 to 1.08 ft/d) are calculated by dividing the T by the saturated thickness of the aquifer. Similar to the higher "effective" T within MU1 due

to the presence of the fault, actual K values are likely higher, on the order of approximately 1.0 to 2.0 ft/d. This range of K values would be most representative for estimating groundwater velocity and travel times with regard to mine unit design, exterior monitor well spacing, excursion control, and excursion recovery.

7.4 RADIUS OF INFLUENCE

7.4.1 NORTH TEST, PUMPING WELL PW-102

Based on the drawdown response observed at the outlying "ring" monitor wells during the north test, the minimum radius of influence (ROI) is greater than 2,600 feet. The ROI is not symmetrical with respect to the pumping well and is truncated due to the presence of the fault. The actual ROI of the test (extending away from the fault) was estimated utilizing distance-drawdown data (i.e., drawdown on an arithmetic scale and distance to the pumping well on a logarithmic scale) (Appendix F). From the distance-drawdown analysis, the ROI for the north test is estimated between 3,100 to 3,300 feet.

Minor drawdown responses in the HJ Horizon were observed on the southern side of the fault (see Table 4-3 and Figure 6-17) that ranged between 0.0 to 2.7 feet, and generally decreased with increasing distance to the pumping well. At distances greater than 2,000 feet, drawdown responses were less than 1 foot.

7.4.2 SOUTH TEST, PUMPING WELL PW-101

Based on the observed drawdown at the outlying "ring" monitor wells during the south test, the minimum ROI is greater than 2900 feet. As observed in the north test, the ROI is truncated by the fault. The actual ROI extending away from the fault was estimated between 3,200 to 3,500 feet utilizing distance-drawdown data (Appendix F).

Minor drawdown responses (less than 1 foot) were observed north of the fault (Table 4-4 and Figure 6-18). Drawdown at well HJT-104 was observed at 2.0 ft, but this well is located north and immediately adjacent to the fault, and only a distance of 400 feet from the pumping well.

7.5 COMPARISON TO PREVIOUS TESTING RESULTS

The following table presents a summary of all hydrologic testing performed in the HJ Horizon on both sides of the fault during 2007 and 2008. Results from the two mine-unit scale pump tests conducted in 2008 compare favorably to previous testing (2007) conducted on both sides of the fault. The table below also shows the larger area of investigation of the 2008 MU1 tests compared to the tests conducted in 2007.

Analytical results of aquifer properties from the MU1 tests were evaluated in observation wells located a distance of approximately three times that of the 2007 tests.

Test	North Regional Test #1	MU1 North Test	South Regional Test #2	MU1 South Test
Pumping Well	LC19M	PW-102	LC16M	PW-101
Date	June – July 2007	November 2008	October – November 2007	December 2008
Relationship to Fault	North	North	South	South
Farthest Observ. Well (feet)*	781	2569	866	2945
Test Duration (days)	5.7	2.0	5.5	2.9
Test Rate (gpm)	42.9	70.9	37.4	58.1
Range of T (ft ² /day)	30 – 76	51 – 104	57 – 110	69 – 129
Average T (ft ² /day)	61	79	76	93
Range of Storativity	$6.6 \times 10^{-5} - 1.5 \times 10^{-4}$	$5.4 \times 10^{-5} - 1.9 \times 10^{-4}$	$3.5 \times 10^{-5} - 9.1 \times 10^{-4}$	$3.6 \times 10^{-5} - 4.2 \times 10^{-4}$
Average Storativity	1.1×10^{-4}	9.3×10^{-5}	2.9×10^{-4}	1.1×10^{-4}

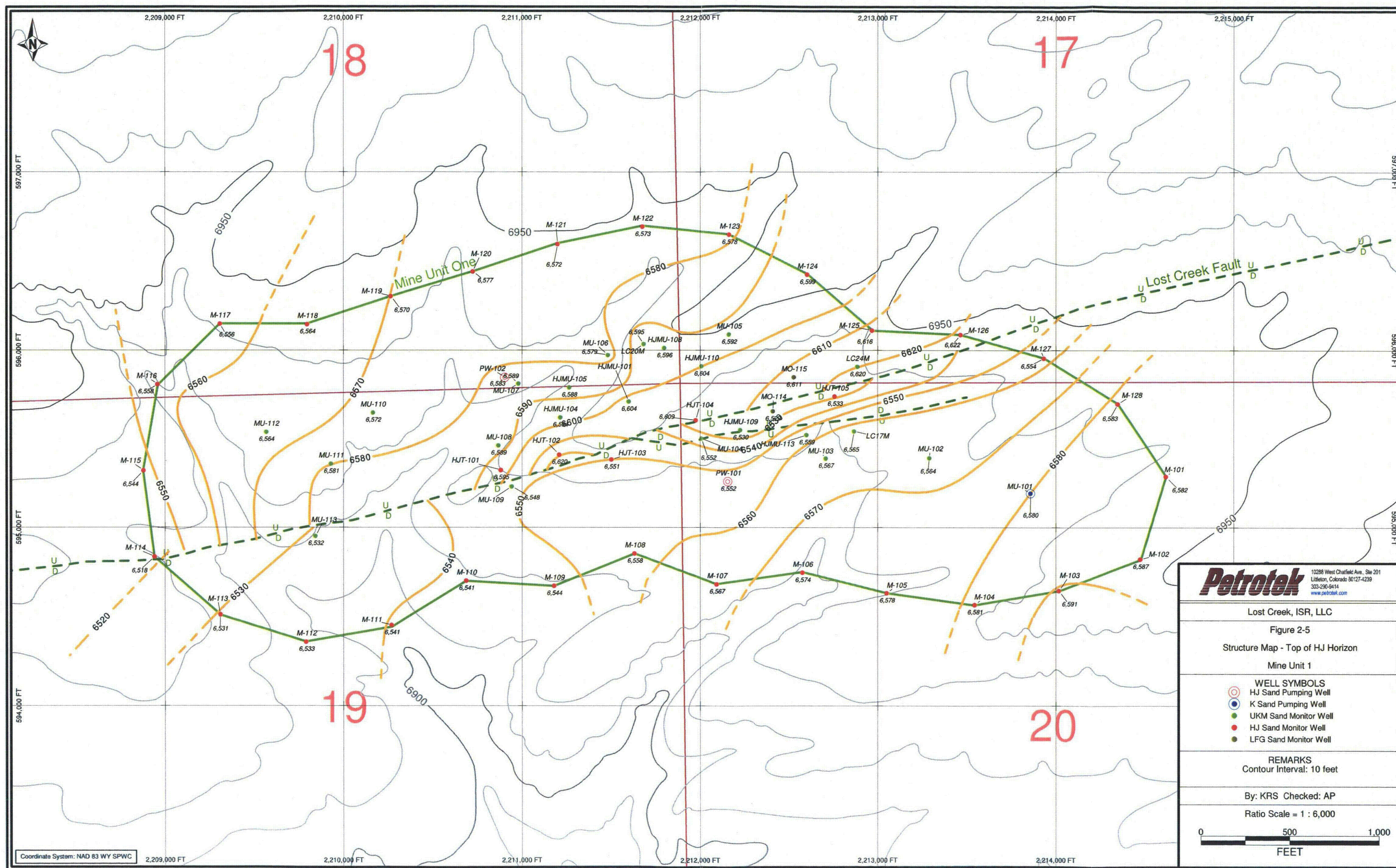
* Distance from farthest observation well to pumping well, on the same side of the fault.

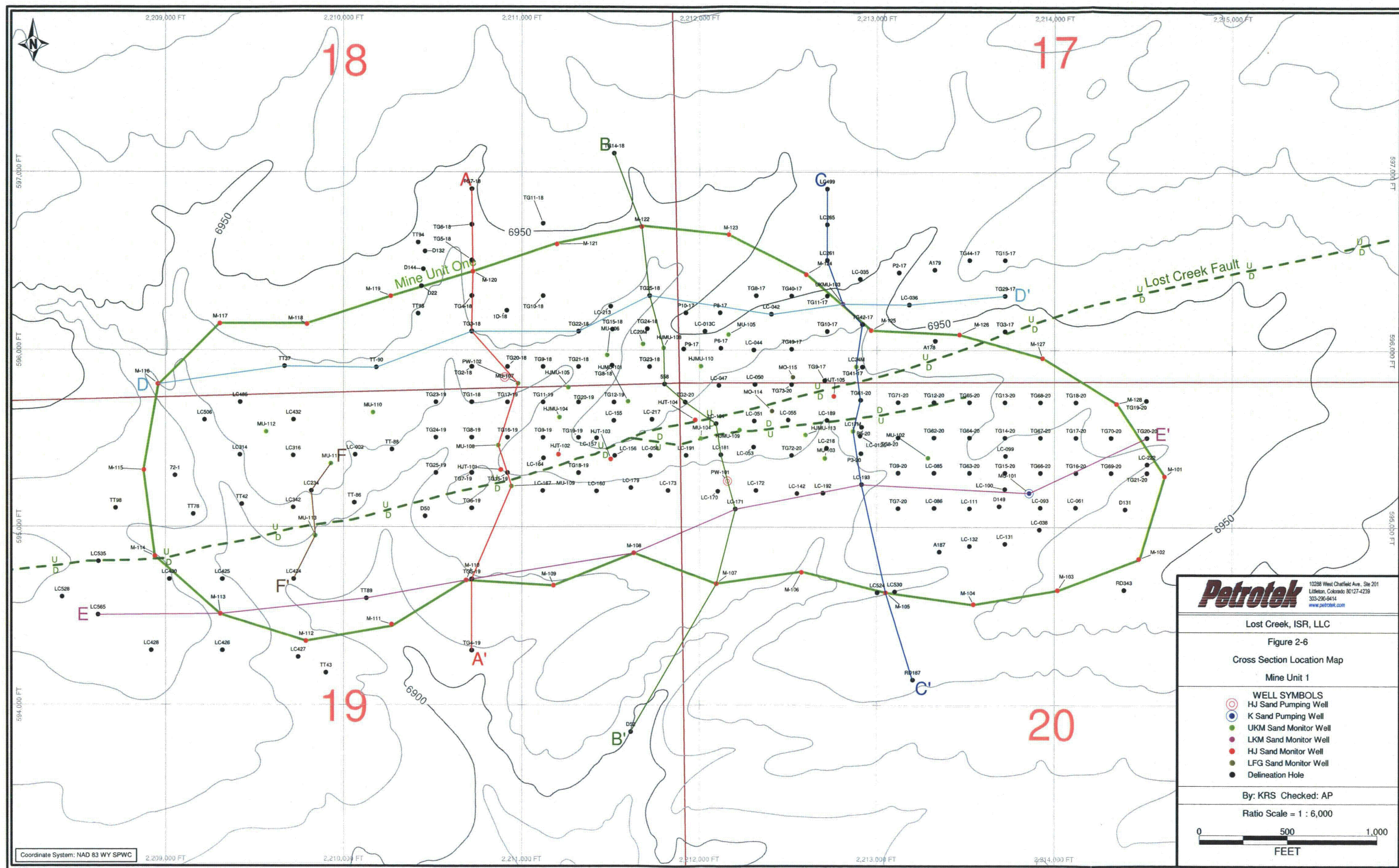
8.0 SUMMARY AND CONCLUSIONS

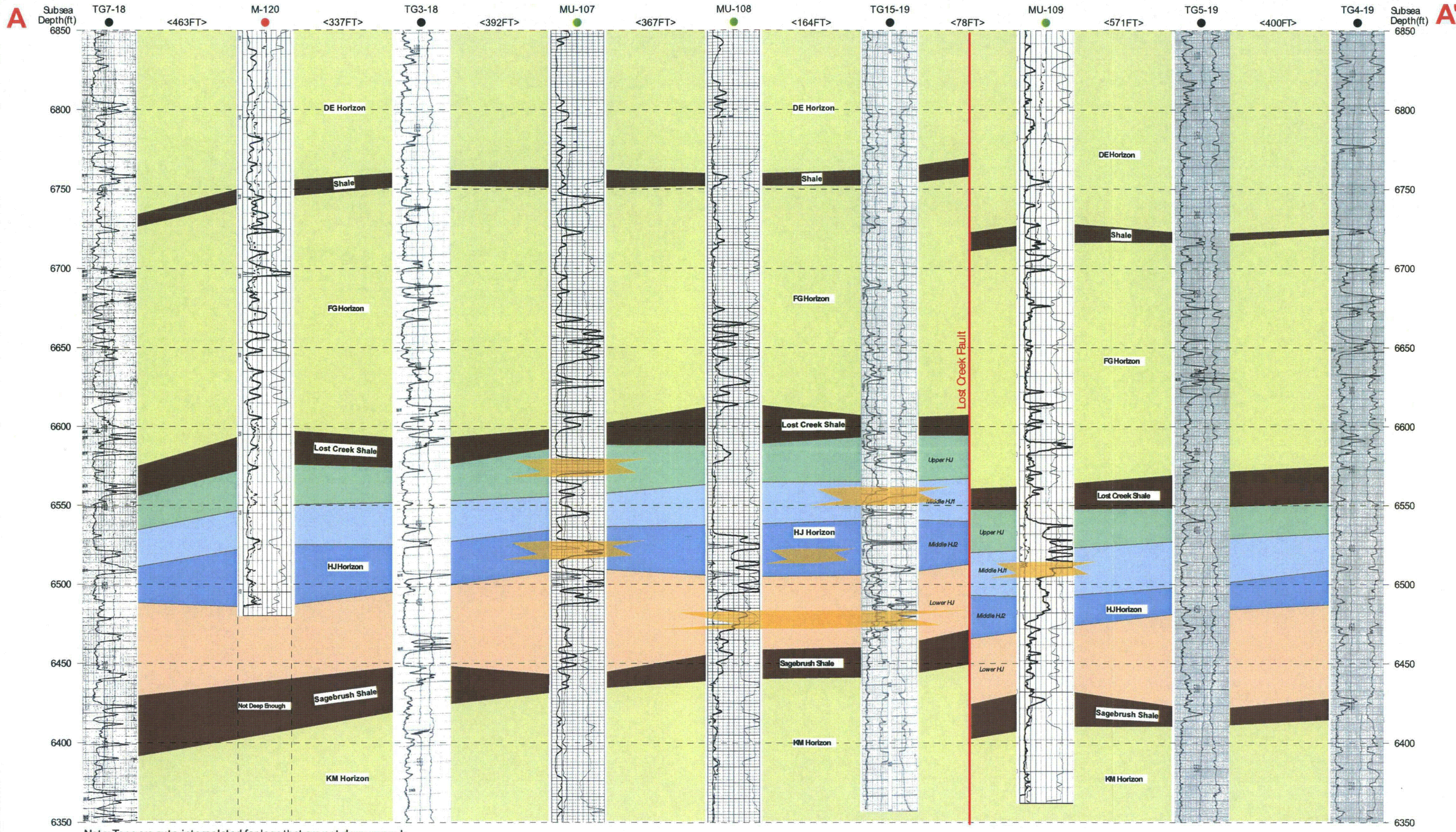
- ❑ The results of the MU1 north and south pump tests conducted on both sides of the Lost Creek Fault demonstrate that the HJ Horizon monitor wells and pumping wells (for the north and south sides of the fault) are in hydraulic communication. Minor communication was observed across the fault during both tests, but responses were an order of magnitude smaller, suggesting that the fault is a partial barrier to groundwater flow within the HJ Horizon. Data from the south test also indicates that the splay to the south of the Lost Creek Fault is a minor barrier to groundwater flow.
- ❑ On a regional scale, the HJ Horizon on both sides of the Lost Creek Fault has been adequately characterized with respect to hydrogeologic conditions within MU1. Results of the MU1 tests demonstrate that the HJ Horizon has sufficient transmissivity for in-situ recovery mining operations.
- ❑ Geological information suggests that the overlying and underlying shales are continuous throughout MU1. Minor responses (order of magnitude or less in relation to responses in wells completed in the HJ Horizon) were observed during the pump test. Communication observed in the LFG and UKM Sands is similar to the responses observed at other ISR facilities where engineering practices are successfully implemented to isolate lixiviant from overlying and underlying aquifers.
- ❑ LC ISR is conducting a program of locating, plugging and abandonment of historic wells within MU1 to mitigate the potential for hydraulic communication through improperly abandoned wells.
- ❑ The observed response during the north test at well MU-108 (completed in the underlying UKM Sand) of 24.7 feet of drawdown was due to damage of the casing and annular seal during well completion. Drilling records indicate that the underreamer bit was not fully closed upon withdrawal into the casing. This well was subsequently plugged and abandoned and additional pump testing conducted within the underlying aquifer confirmed the abandonment was successful, as an immediately adjacent well to MU-108 completed in the HJ Horizon did not respond to pumping.

9.0 REFERENCES

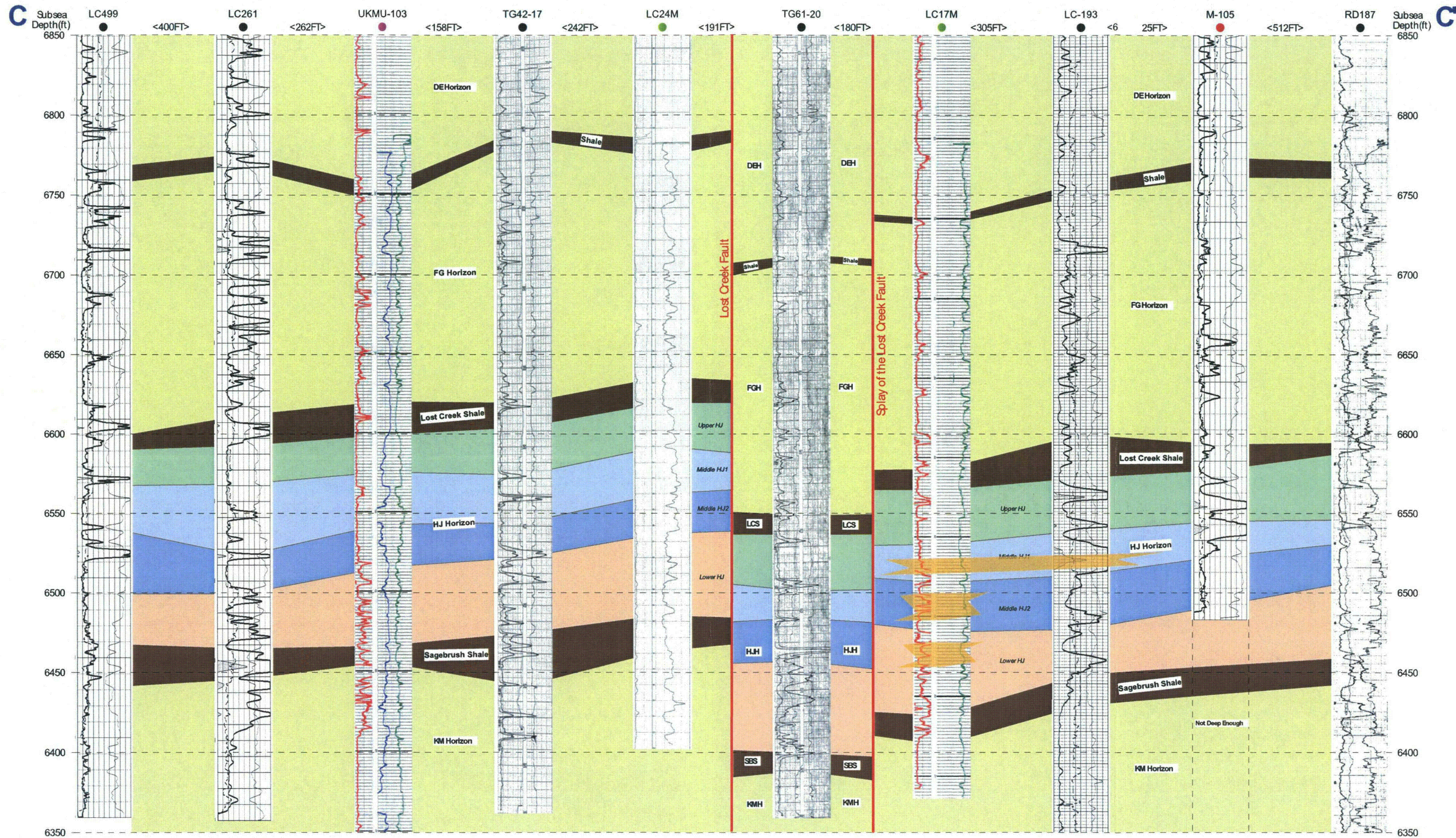
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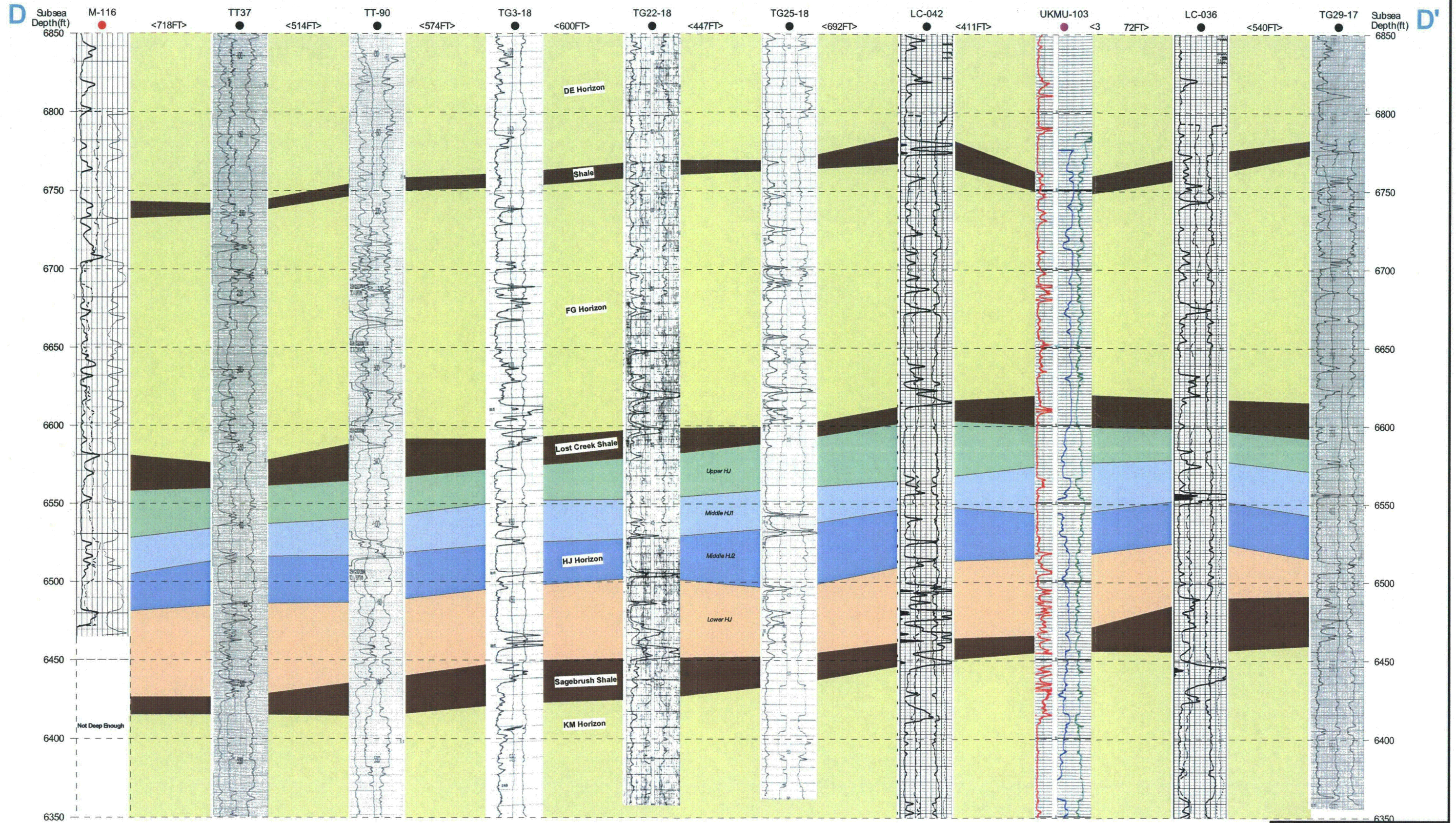


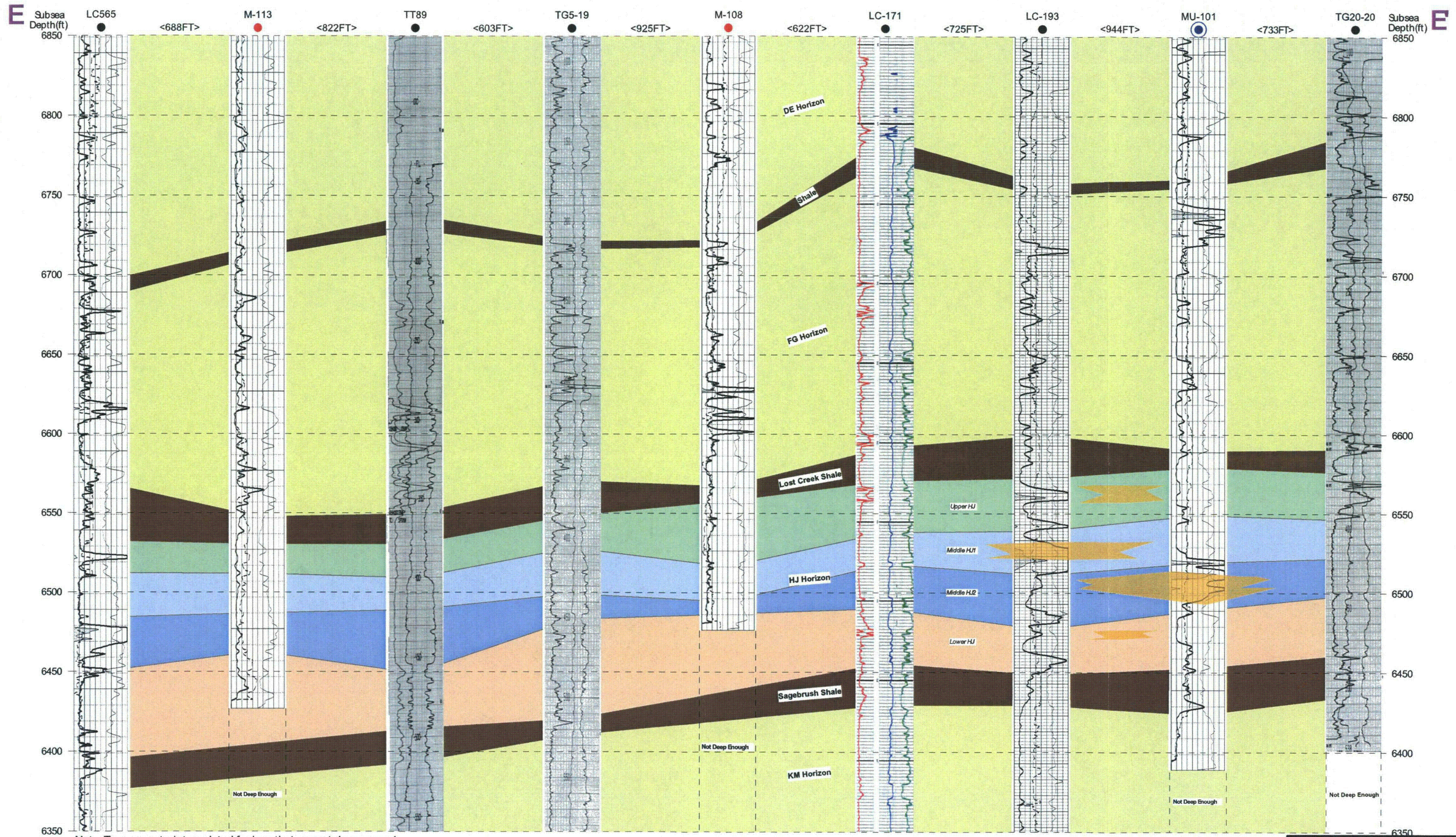


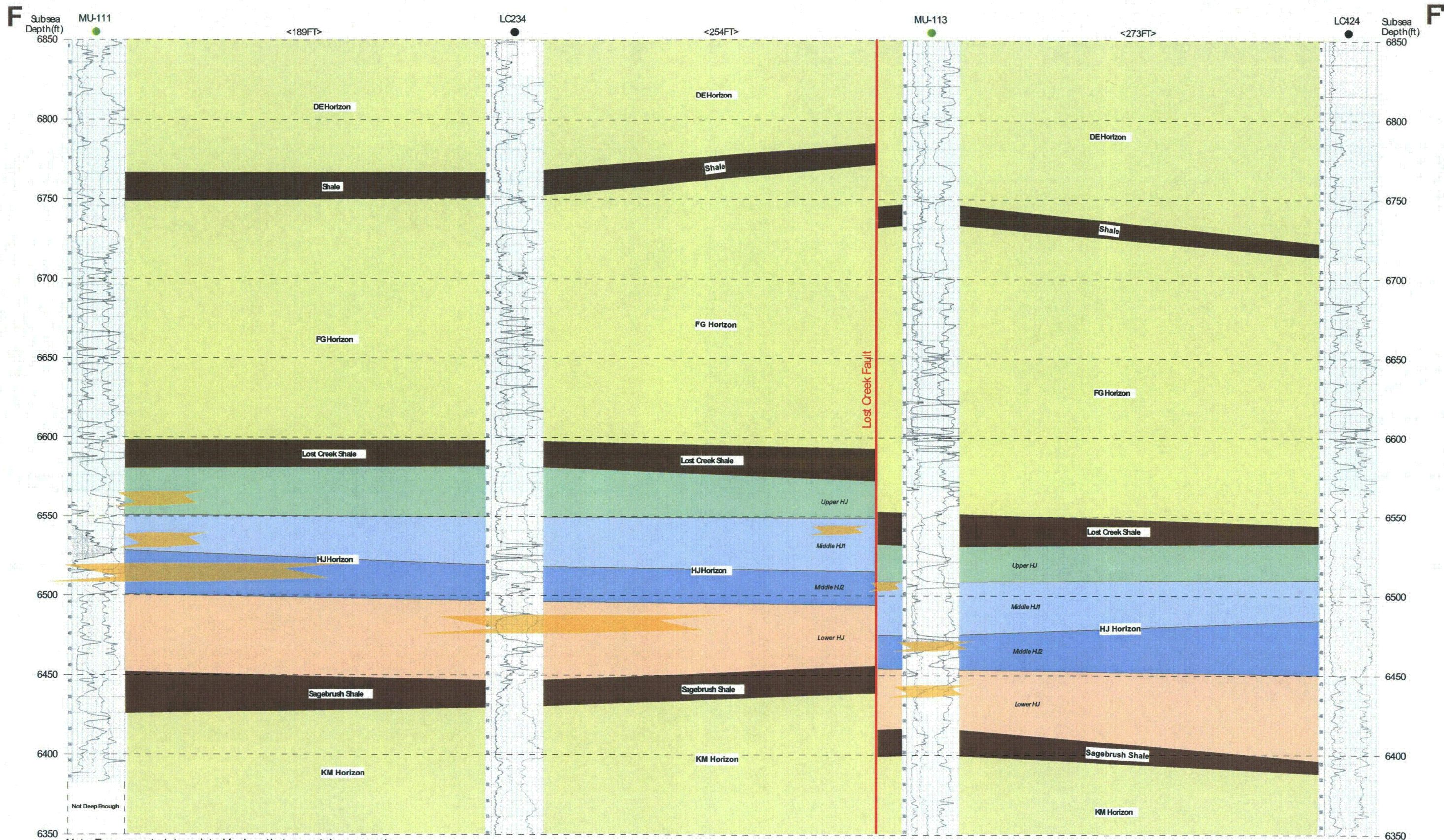


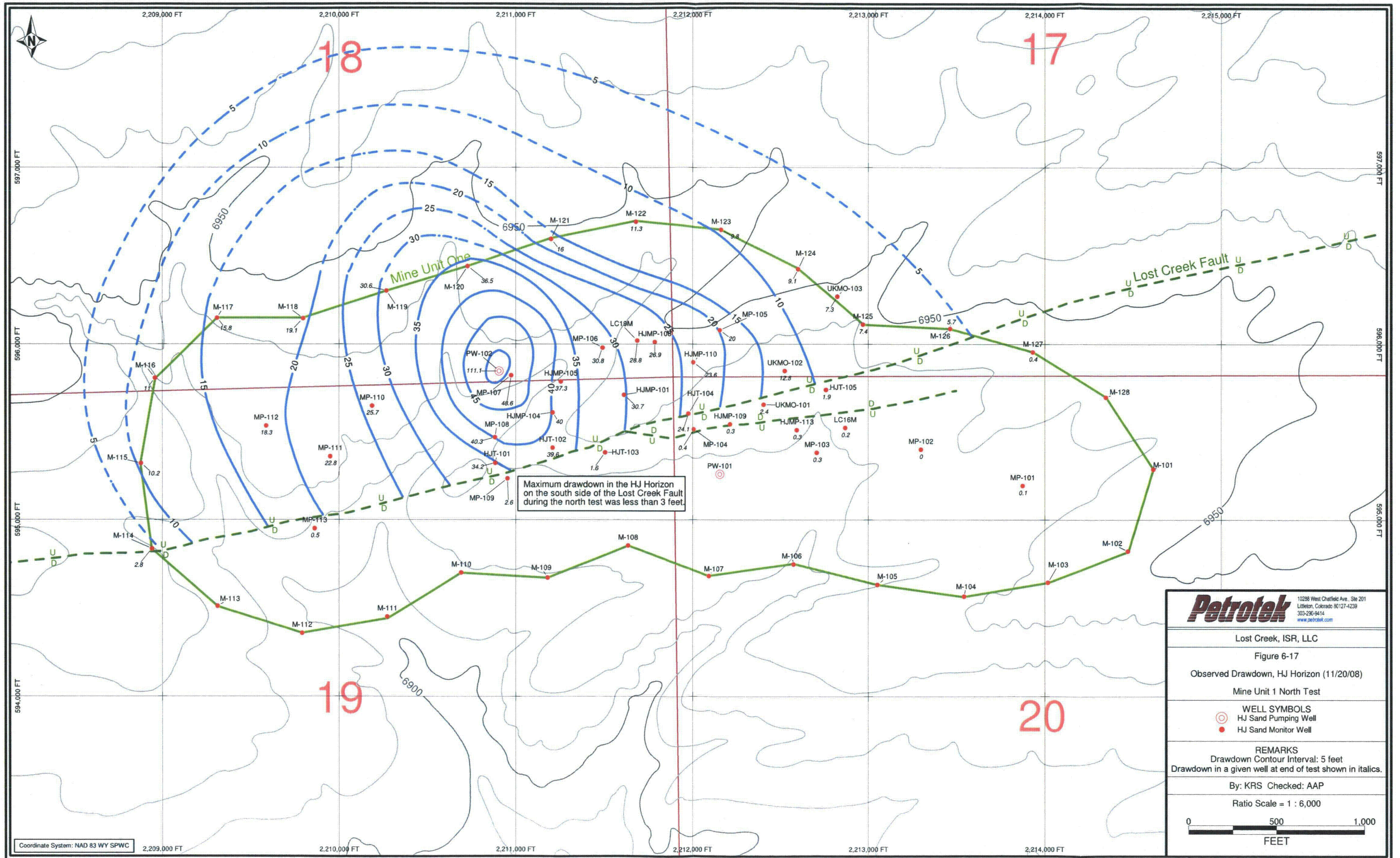
Note: Tops are auto-interpolated for logs that are not deep enough

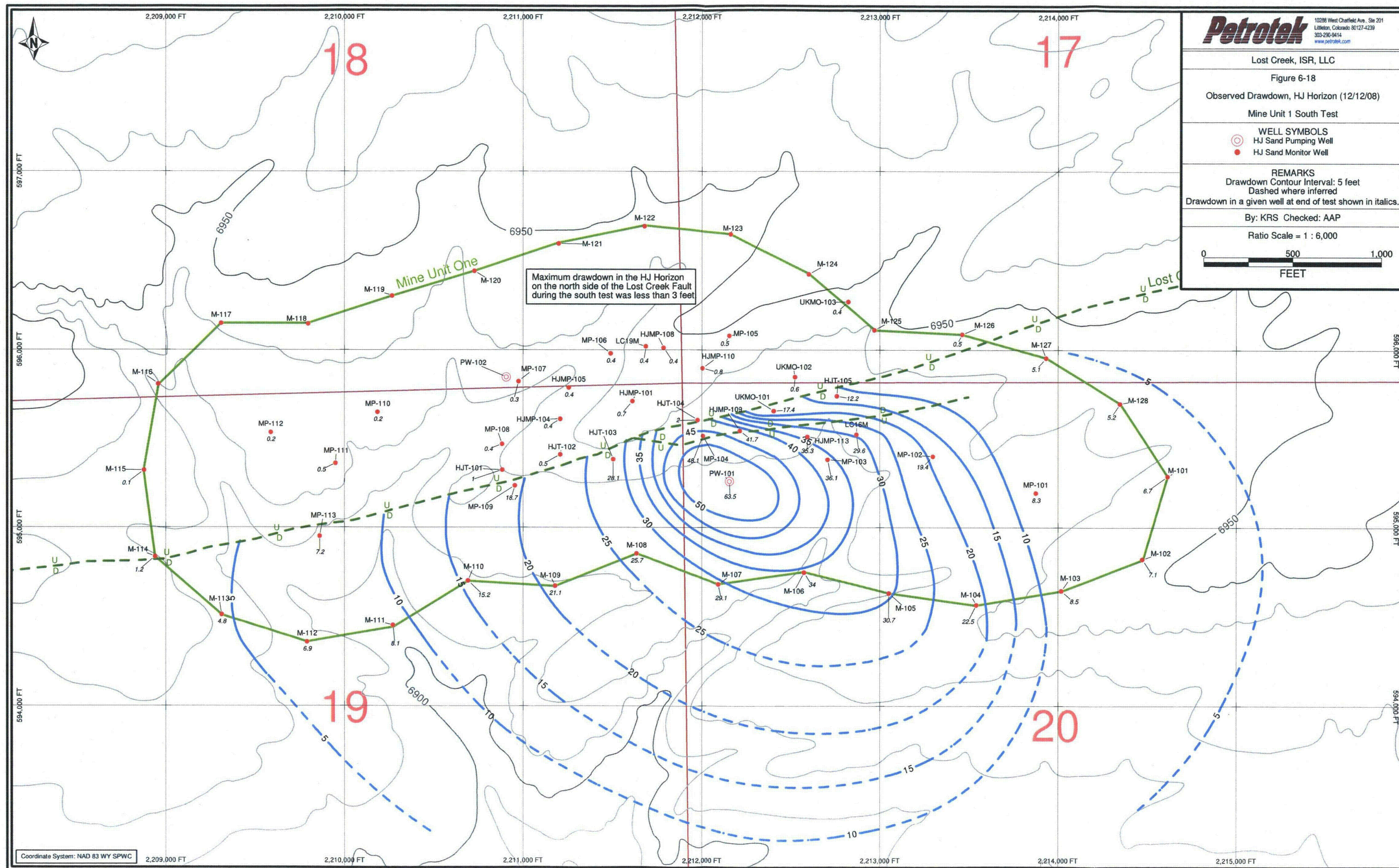












**Table 3-1
Well Information
Mine Unit 1 Aquifer Tests
Lost Creek ISR, LLC**

Well Name	Well Type	Monitored Sand	Ground Surface Elevation [feet amsl]	Top of Casing Elevation [feet amsl]	NAD 83 Easting [feet]	NAD 83 Northing [feet]	Screened Interval(s) [feet bgs]	Total Screen Length	12/08/08 Depth to Water	12/08/08 Water Level Elevation
PW-101	Production Zone Pumping Well	HJ	6936.67	6,938.06	2,212,158	595,259	385 - 473, 482 - 495	101	184.56	6,753.50
PW-102	Production Zone Pumping Well	HJ	6937.16	6,938.58	2,210,906	595,846	360 - 382, 387 - 393, 397 - 467	98	170.58	6,768.00
HJMO-101	Overlying Monitor Well	LFG	6,948.49	6,949.70	2,211,604	595,702	295 - 326	31	169.61	6,780.09
HJMO-104	Overlying Monitor Well	LFG	6,939.51	6,940.77	2,211,220	595,612	296 - 326	30	162.15	6,778.62
HJMO-105	Overlying Monitor Well	LFG	6,936.84	6,938.00	2,211,275	595,787	300 - 320	20	159.24	6,778.76
HJMO-108	Overlying Monitor Well	LFG	6,950.64	6,951.64	2,211,781	596,003	305 - 333	28	170.10	6,781.54
HJMO-109	Overlying Monitor Well	LFG	6,937.79	6,938.95	2,212,227	595,538	345 - 370	25	161.82	6,777.13
HJMO-110	Overlying Monitor Well	LFG	6,945.92	6,947.13	2,211,998	595,907	300 - 330	30	165.23	6,781.90
HJMO-113	Overlying Monitor Well	LFG	6,936.06	6,936.97	2,212,588	595,518	318 - 356	38	159.84	6,777.13
LC15M	Overlying Monitor Well	LFG	6,935.13	6,936.55	2,212,853	595,526	286 - 340	54	158.06	6,778.49
LC18M	Overlying Monitor Well	LFG	6,947.68	6,948.97	2,211,668	596,021	290 - 332	42	168.15	6,780.82
LC25M	Overlying Monitor Well	LFG	6,934.73	6,936.40	2,211,713	595,323	316 - 349	33	163.57	6,772.83
MO-101	Overlying Monitor Well	LFG	6,938.64	6,940.24	2,213,870	595,207	310 - 340	30	156.31	6,783.93
MO-102	Overlying Monitor Well	LFG	6,939.09	6,940.75	2,213,302	595,389	324 - 360	36	161.70	6,779.05
MO-103	Overlying Monitor Well	LFG	6,933.76	6,935.52	2,212,698	595,388	305 - 350	45	157.02	6,778.50
MO-104	Overlying Monitor Well	LFG	6,936.86	6,937.86	2,212,019	595,504	339 - 369	30	165.41	6,772.45
MO-105	Overlying Monitor Well	LFG	6,949.38	6,950.46	2,212,148	596,085	303 - 330	27	166.90	6,783.56
MO-106	Overlying Monitor Well	LFG	6,941.00	6,941.75	2,211,489	595,963	296 - 326	30	161.90	6,779.85
MO-107	Overlying Monitor Well	LFG	6,935.29	6,936.29	2,210,970	595,815	291 - 327	36	158.56	6,777.73
MO-108	Overlying Monitor Well	LFG	6,933.89	6,934.56	2,210,872	595,476	290 - 330	40	157.88	6,776.68
MO-109	Overlying Monitor Well	LFG	6,931.64	6,932.18	2,210,957	595,223	330 - 355	25	165.84	6,766.34
MO-110	Overlying Monitor Well	LFG	6,936.97	6,938.39	2,210,183	595,637	315 - 340	25	167.38	6,771.01
MO-111	Overlying Monitor Well	LFG	6,935.78	6,936.70	2,209,938	595,367	315 - 330	15	166.73	6,769.97
MO-112	Overlying Monitor Well	LFG	6,935.39	6,936.66	2,209,577	595,528	315 - 335	20	167.61	6,769.05
MO-113	Overlying Monitor Well	LFG	6,921.52	6,922.29	2,209,855	594,940	346 - 366	20	159.19	6,763.10
MO-114	Overlying Monitor Well	LFG	6,939.87	6,941.87	2,212,409	595,656	366 - 386	20	165.77	6,776.10
MO-115	Overlying Monitor Well	LFG	6,940.62	6,942.62	2,212,528	595,847	286 - 306	20	157.14	6,785.48
HJT-106	Overlying Monitor Well	DE	6,933.14	6,935.14	2,212,544	595,286	142 - 162	20	153.43	6,781.71
HJT-107	Overlying Monitor Well	DE	6,942.69	6,944.34	2,213,554	595,554	133 - 163	30	159.40	6,784.94
LC29M	Overlying Monitor Well	DE	6,935.25	6,937.55	2,212,854	595,540	140 - 164	24	155.94	6,781.61
HJMP-101	Production Zone Monitor Well	HJ	6,947.36	6,948.64	2,211,610	595,711	438 - 465	27	179.38	6,769.26
HJMP-104	Production Zone Monitor Well	HJ	6,939.04	6,941.04	2,211,208	595,610	402 - 430	28	173.04	6,768.00
HJMP-105	Production Zone Monitor Well	HJ	6,936.84	6,937.38	2,211,255	595,787	425 - 463	38	168.99	6,768.39
HJMP-108	Production Zone Monitor Well	HJ	6,951.12	6,952.20	2,211,784	596,011	400 - 434	34	181.58	6,770.62
HJMP-109	Production Zone Monitor Well	HJ	6,937.89	6,939.10	2,212,218	595,543	478 - 512	34	184.09	6,755.01
HJMP-110	Production Zone Monitor Well	HJ	6,945.81	6,947.02	2,212,004	595,897	431 - 476	45	176.10	6,770.92
HJMP-113	Production Zone Monitor Well	HJ	6,935.26	6,937.27	2,212,596	595,510	416 - 462	46	179.95	6,757.32
HJT-101	Production Zone Monitor Well	HJ	6,937.12	6,937.56	2,210,883	595,323	437 - 477	40	172.98	6,764.58
HJT-102	Production Zone Monitor Well	HJ	6,937.82	6,939.15	2,211,209	595,409	390 - 417	27	171.32	6,767.83
HJT-103	Production Zone Monitor Well	HJ	6,937.56	6,938.22	2,211,502	595,383	291 - 327	36	189.20	6,749.02
HJT-104	Production Zone Monitor Well	HJ	6,937.48	6,940.15	2,211,976	595,605	410 - 460	50	170.63	6,769.52
HJT-105	Production Zone Monitor Well	HJ	6,937.45	6,938.87	2,212,760	595,740	407 - 438	31	171.61	6,767.26
LC16M	Production Zone Monitor Well	HJ	6,934.73	6,936.15	2,212,869	595,523	410 - 467	57	177.45	6,758.70

**Table 3-1
Well Information
Mine Unit 1 Aquifer Tests
Lost Creek ISR, LLC**

Well Name	Well Type	Monitored Sand	Ground Surface Elevation [feet amsl]	Top of Casing Elevation [feet amsl]	NAD 83 Easting [feet]	NAD 83 Northing [feet]	Screened Interval(s) [feet bgs]	Total Screen Length	12/08/08 Depth to Water	12/08/08 Water Level Elevation
LC19M	Production Zone Monitor Well	HJ	6,949.01	6,950.02	2,211,685	596,020	412 - 463	51	179.85	6,770.17
M-101	Production Zone Monitor Well	HJ	6,948.49	6,949.24	2,214,619	595,288	423 - 438	15	175.43	6,773.81
M-102	Production Zone Monitor Well	HJ	6,951.18	6,952.73	2,214,476	594,822	421 - 438	17	179.38	6,773.35
M-103	Production Zone Monitor Well	HJ	6,944.62	6,946.20	2,214,018	594,644	364 - 378, 414 - 434	34	173.87	6,772.33
M-104	Production Zone Monitor Well	HJ	6,940.66	6,942.11	2,213,543	594,565	368 - 382, 400 - 415, 437 - 453	45	182.24	6,759.87
M-105	Production Zone Monitor Well	HJ	6,932.91	6,933.45	2,213,052	594,631	360 - 372, 388 - 404, 410 - 431	49	176.71	6,756.74
M-106	Production Zone Monitor Well	HJ	6,922.20	6,922.85	2,212,578	594,746	356 - 401	45	167.29	6,755.56
M-107	Production Zone Monitor Well	HJ	6,927.03	6,927.93	2,212,095	594,681	373 - 398	25	178.00	6,749.93
M-108	Production Zone Monitor Well	HJ	6,926.33	6,927.87	2,211,633	594,853	405 - 425	20	179.08	6,748.79
M-109	Production Zone Monitor Well	HJ	6,919.90	6,921.72	2,211,180	594,671	379 - 391, 403 - 423	32	174.75	6,746.97
M-110	Production Zone Monitor Well	HJ	6,921.45	6,922.41	2,210,690	594,699	381 - 392, 408 - 427	30	176.62	6,745.79
M-111	Production Zone Monitor Well	HJ	6,907.84	6,909.59	2,210,270	594,451	416 - 429, 445 - 460	28	170.10	6,739.49
M-112	Production Zone Monitor Well	HJ	6,917.18	6,917.97	2,209,790	594,358	388 - 400, 420 - 488	80	179.49	6,738.48
M-113	Production Zone Monitor Well	HJ	6,926.89	6,928.01	2,209,310	594,510	396 - 406, 417 - 439, 447 - 463, 472 - 480	56	190.48	6,737.53
M-114	Production Zone Monitor Well	HJ	6,929.05	6,930.75	2,208,942	594,834	465 - 485	20	188.75	6,742.00
M-115	Production Zone Monitor Well	HJ	6,937.30	6,939.10	2,208,879	595,321	428 - 451	23	184.94	6,754.16
M-116	Production Zone Monitor Well	HJ	6,932.10	6,934.00	2,208,959	595,807	430 - 445	15	178.70	6,755.30
M-117	Production Zone Monitor Well	HJ	6,943.06	6,944.80	2,209,308	596,148	435 - 453	18	185.56	6,759.24
M-118	Production Zone Monitor Well	HJ	6,944.11	6,945.16	2,209,797	596,146	430 - 447, 454 - 467	30	183.33	6,761.83
M-119	Production Zone Monitor Well	HJ	6,947.00	6,948.65	2,210,266	596,303	432 - 450	18	183.51	6,765.14
M-120 ⁽¹⁾	Production Zone Monitor Well	HJ	6,944.98	6,946.52	2,210,727	596,442	410 - 441	31	178.20	6,768.32
M-121	Production Zone Monitor Well	HJ	6,950.21	6,951.71	2,211,199	596,595	436 - 455	19	181.28	6,770.43
M-122	Production Zone Monitor Well	HJ	6,950.74	6,952.39	2,211,677	596,693	433 - 447, 477 - 487	24	180.16	6,772.23
M-123	Production Zone Monitor Well	HJ	6,950.75	6,951.85	2,212,165	596,647	422 - 444	22	178.11	6,773.74
M-124	Production Zone Monitor Well	HJ	6,955.54	6,956.46	2,212,603	596,425	406 - 422	16	181.51	6,774.95
M-125	Production Zone Monitor Well	HJ	6,947.01	6,947.76	2,212,970	596,111	366 - 397, 404 - 419	46	172.01	6,775.75
M-126	Production Zone Monitor Well	HJ	6,948.12	6,949.67	2,213,464	596,087	331 - 348, 365 - 401	53	173.18	6,776.49
M-127	Production Zone Monitor Well	HJ	6,946.21	6,947.66	2,213,932	595,954	408 - 418, 450 - 471	31	172.68	6,774.98
M-128	Production Zone Monitor Well	HJ	6,947.02	6,948.55	2,214,350	595,698	427 - 446	19	173.10	6,775.45
MP-101	Production Zone Monitor Well	HJ	6,938.55	6,940.30	2,213,875	595,194	420 - 438	18	167.93	6,772.37
MP-102	Production Zone Monitor Well	HJ	6,940.18	6,941.02	2,213,299	595,400	408 - 423	15	176.63	6,764.39
MP-103	Production Zone Monitor Well	HJ	6,934.32	6,935.48	2,212,708	595,381	388 - 400	12	177.76	6,757.72
MP-104	Production Zone Monitor Well	HJ	6,936.81	6,938.45	2,212,007	595,515	424 - 440	16	183.29	6,755.16
MP-105	Production Zone Monitor Well	HJ	6,948.99	6,949.49	2,212,158	596,079	402 - 418	16	178.86	6,770.63
MP-106	Production Zone Monitor Well	HJ	6,940.20	6,941.29	2,211,488	595,980	434 - 454	20	172.36	6,768.93
MP-107	Production Zone Monitor Well	HJ	6,935.08	6,936.49	2,210,975	595,822	402 - 420	18	168.42	6,768.07
MP-108	Production Zone Monitor Well	HJ	6,934.15	6,936.15	2,210,882	595,469	424 - 438	14	169.64	6,766.51
MP-109	Production Zone Monitor Well	HJ	6,931.94	6,932.71	2,210,955	595,235	422 - 438	16	184.13	6,748.58
MP-110	Production Zone Monitor Well	HJ	6,937.29	6,938.69	2,210,185	595,648	419 - 438	19	176.91	6,761.78
MP-111	Production Zone Monitor Well	HJ	6,934.86	6,936.28	2,209,951	595,361	391 - 410	19	176.11	6,760.17
MP-112	Production Zone Monitor Well	HJ	6,935.35	6,936.64	2,209,585	595,535	422 - 441	19	177.27	6,759.37
MP-113	Production Zone Monitor Well	HJ	6,921.97	6,923.19	2,209,861	594,950	447 - 466	19	184.03	6,739.16
UKMO-101	Production Zone Monitor Well	HJ	6,940.19	6,942.28	2,212,409	595,656	465 - 487	22	177.76	6,764.52
UKMO-102	Production Zone Monitor Well	HJ	6,940.24	6,940.79	2,212,528	595,847	379 - 420	41	169.20	6,771.59
UKMO-103	Production Zone Monitor Well	HJ	6,949.28	6,950.53	2,212,823	596,269	409 - 430	21	176.35	6,774.18
HJMU-101	Underlying Monitor Well	UKM	6,947.82	6,949.03	2,211,600	595,711	499 - 535	36	200.17	6,748.86

**Table 3-1
Well Information
Mine Unit 1 Aquifer Tests
Lost Creek ISR, LLC**

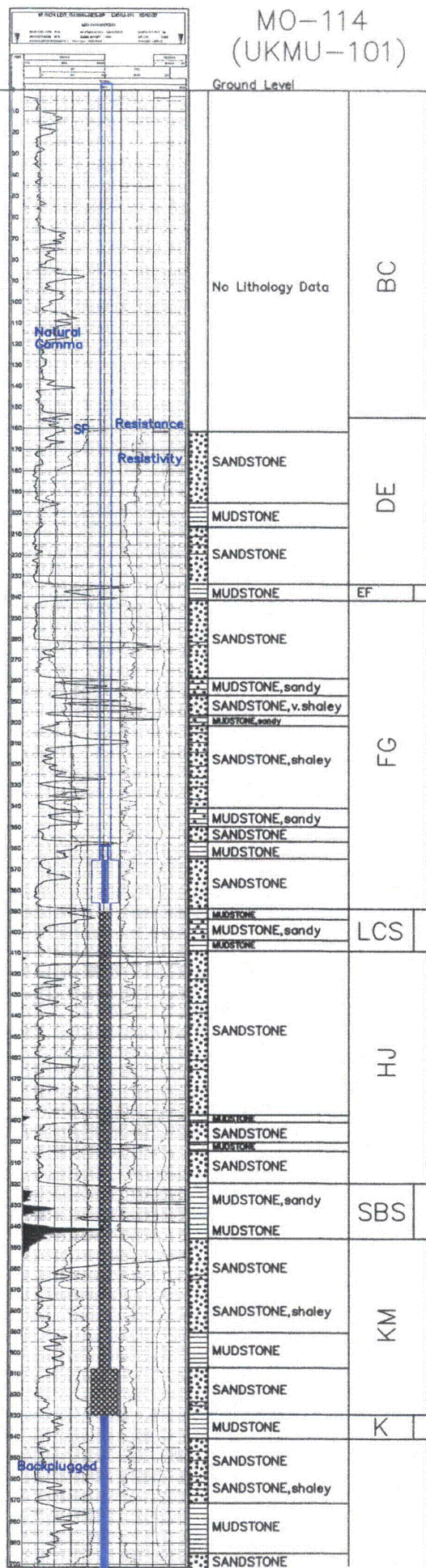
Well Name	Well Type	Monitored Sand	Ground Surface Elevation [feet amsl]	Top of Casing Elevation [feet amsl]	NAD 83 Easting [feet]	NAD 83 Northing [feet]	Screened Interval(s) [feet bgs]	Total Screen Length	12/08/08 Depth to Water	12/08/08 Water Level Elevation
HJMU-104	Underlying Monitor Well	UKM	6,939.01	6,940.52	2,211,214	595,620	512 - 550	38	195.80	6,744.72
HJMU-105	Underlying Monitor Well	UKM	6,936.37	6,937.58	2,211,264	595,790	502 - 542	40	192.35	6,745.23
HJMU-108	Underlying Monitor Well	UKM	6,949.97	6,951.52	2,211,799	596,011	510 - 540	30	202.36	6,749.16
HJMU-109	Underlying Monitor Well	UKM	6,933.92	6,939.38	2,212,228	595,549	524 - 574	50	189.60	6,749.78
HJMU-110	Underlying Monitor Well	UKM	6,945.97	6,947.56	2,212,008	595,909	492 - 532	40	198.16	6,749.40
HJMU-113	Underlying Monitor Well	UKM	6,935.16	6,936.99	2,212,600	595,521	524 - 555	31	185.69	6,751.30
LC17M	Underlying Monitor Well	UKM	6,935.32	6,936.90	2,212,869	595,542	478 - 531	53	185.03	6,751.87
LC20M	Underlying Monitor Well	UKM	6,949.22	6,950.52	2,211,684	596,034	511 - 543	32	201.69	6,748.83
LC24M	Underlying Monitor Well	UKM	6,942.33	6,944.33	2,212,886	595,906	478 - 531	53	190.56	6,753.77
MU-101	Underlying Monitor Well	UKM	6,938.55	6,940.37	2,213,858	595,192	520 - 540	20	186.65	6,753.72
MU-102	Underlying Monitor Well	UKM	6,939.10	6,940.43	2,213,289	595,391	525 - 553	28	187.66	6,752.77
MU-103	Underlying Monitor Well	UKM	6,934.18	6,935.35	2,212,709	595,389	525 - 560	35	182.91	6,752.44
MU-104	Underlying Monitor Well	UKM	6,936.84	6,937.88	2,212,009	595,501	550 - 580	30	191.71	6,746.17
MU-105	Underlying Monitor Well	UKM	6,948.93	6,950.08	2,212,163	596,087	507 - 545	38	201.21	6,748.87
MU-106	Underlying Monitor Well	UKM	6,940.59	6,941.75	2,211,482	595,972	500 - 546	46	193.94	6,747.81
MU-107	Underlying Monitor Well	UKM	6,935.06	6,936.06	2,210,980	595,811	500 - 540	40	191.68	6,744.38
MU-108 ⁽²⁾	Underlying Monitor Well	UKM	6,934.72	6,935.35	2,210,869	595,461	495 - 525	30	NA ¹	NA ¹
MU-109	Underlying Monitor Well	UKM	6,931.92	6,932.78	2,210,944	595,230	525 - 545	20	191.02	6,741.76
MU-110	Underlying Monitor Well	UKM	6,937.11	6,939.23	2,210,165	595,647	520 - 540	20	199.62	6,739.61
MU-111	Underlying Monitor Well	UKM	6,936.09	6,937.05	2,209,930	595,358	512 - 532	20	198.17	6,738.88
MU-112	Underlying Monitor Well	UKM	6,935.42	6,936.75	2,209,567	595,538	515 - 535	20	198.42	6,738.33
MU-113	Underlying Monitor Well	UKM	6,921.83	6,923.75	2,209,842	594,951	530 - 550	20	186.13	6,737.62
UKMP-101	Underlying Monitor Well	UKM	6,940.18	6,941.74	2,212,413	595,642	547 - 575	28	191.33	6,750.41
UKMP-102	Underlying Monitor Well	UKM	6,940.51	6,942.10	2,212,526	595,858	475 - 498	23	190.04	6,752.06
UKMU-103	Underlying Monitor Well	MKM	6,948.75	6,950.92	2,212,811	596,259	558 - 590	32	198.50	6,752.42

Notes:

- Easting/northing are NAD 83 WY State Plane coordinates.
- (1) Well M-120 was plugged and abandoned after the North and South tests. Replaced with Well M-120A for subsequent monitoring.
- (2) Well MU-108 was successfully plugged and abandoned on 12/2/08 due to faulty well completion. Not monitored during South Test.

MO-114
(UKMU-101)

Lost Creek ISR, LLC
WELL COMPLETION REPORT



WELL # MO-114 SEO # 179905 Date Drilled: 5/10/07

Location: E 2,212,424 / N 595,644 (NAD 83)

Ground Elev: 6939.87 Measure Point Elev: 6941.87

TD: 850 ft. Hole Dia.: 7-7/8"

CASED to: 608' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth No Record Elev: _____ (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 366' to 386' / length 20'

from 608' to 630' / length 22' (back-plugged)

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	From - To	
K-pack	359'	6581'	
Screen	366' 386'	6574' 6554'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate Poor

Pilot Hole BACKPLUGGED: 630'-850'

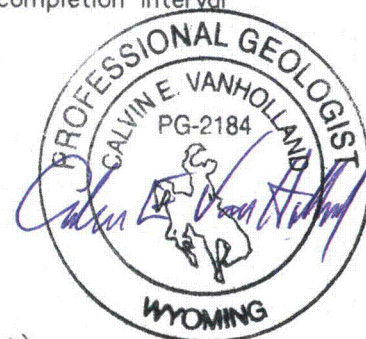
w/ BH Ultragrout slurry - 25% solids

RECOMPLETED: 11/3/08 to monitor LFG

Backplugged: 390'-630' w/ Neat Cement

Underreamed with current completion interval

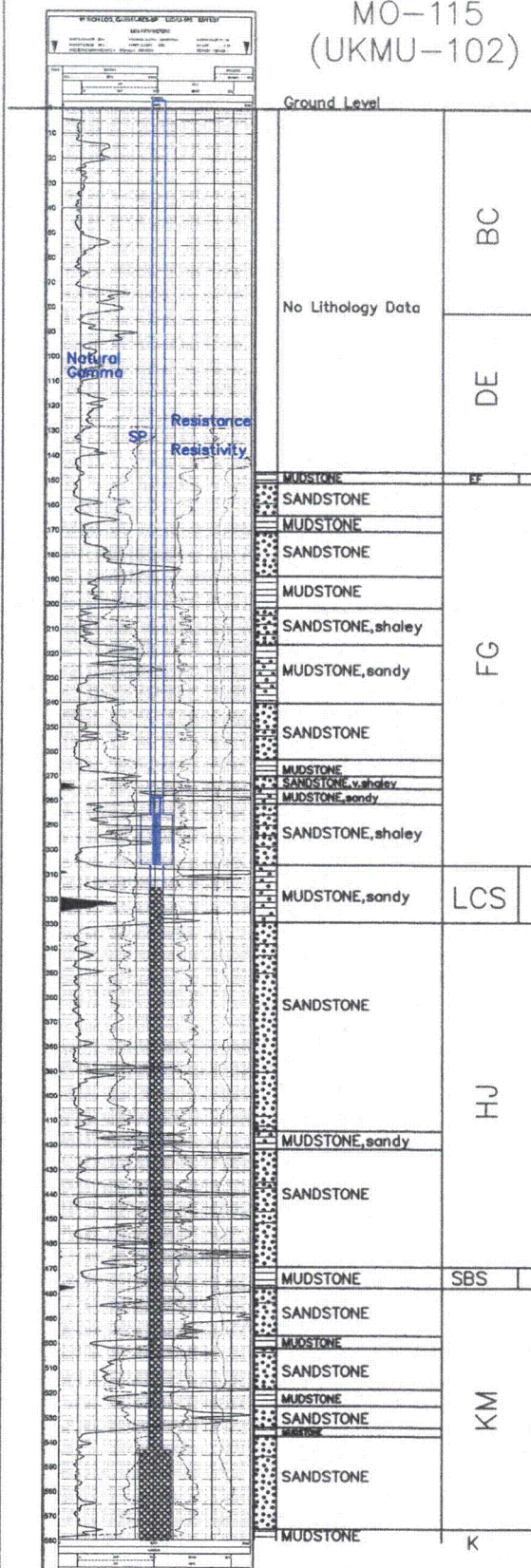
Renamed as MO-114



MO-114
(UKMU-101)

MO-115
(UKMU-102)

Lost Creek ISR, LLC
WELL COMPLETION REPORT



MO-115
(UKMU-102)

WELL # MO-115 SEO # 179908 Date Drilled: 5/11/07

Location: E 2.212.514 / N 595.856 (NAD 83)

Ground Elev: 6941.6' Measure Point Elev: 6942.62'

TD: 583' Hole Dia.: 7-7/8"

CASED to: 543' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LFG Sand

Static Water Level: Depth No Record Elev: _____ (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 286' to 306' / length 20'

from 545' to 570' / length 25' (Back-plugged)

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	279'		6663'		
Screen	286'	306'	6656'	6636'	20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

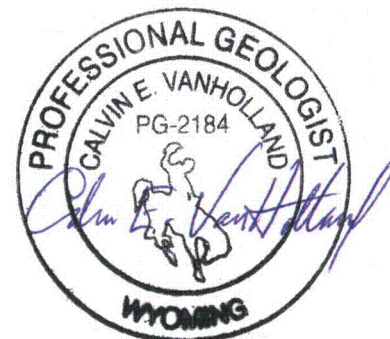
Yield: Good / Moderate / Poor

RECOMPLETED: 11/3/08 to monitor LFG

Backplugged: 315'-583' w/ Neat Cement

Underreamed with current completion interval

Renamed as MO-115

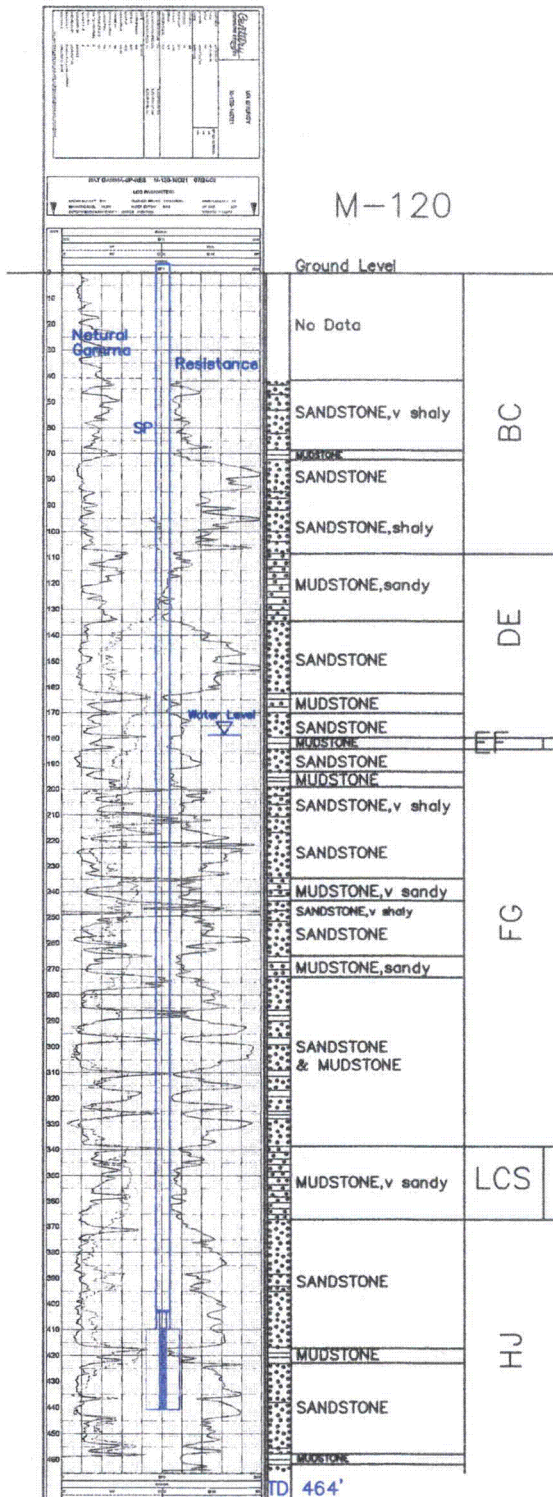


MO-115
(UKMU-102)

M-120

Lost Creek ISR, LLC
WELL COMPLETION REPORT

M-120



WELL # M-120 SEO # 187648 Date Drilled: 7/24/08

Location: E 2,210,727 / N 596,442 (NAD 83)

Ground Elev: 6945.3' Measure Point Elev: 6946.52'

TD: 464' Hole Dia.: 7-7/8"

CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 179' Elev: 6766' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 410' to 441' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.
	From - To	/ From - To
K-packer	403'	6542'
Screen	410' 441'	6535' 6504' 31'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

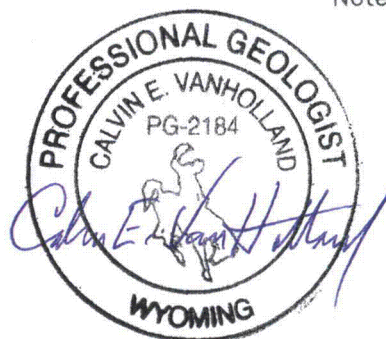
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

Note: Well failed Mechanical Integrity Test (MIT)
Plugged and Abandoned w/Thermal Grout 2-11-09
Replaced by M-120A

M-120



M-120A

Lost Creek ISR, LLC

WELL COMPLETION REPORT

M-120A
(log from M-120)

WELL # M-120A SEO # 187648 Date Drilled: 3-20-09

Location: E 2,210.727 / N 596.442 (NAD 83)

Ground Elev: 6946.3' Measure Point Elev: 6948.63'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 410' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 179' Elev: 6770' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 410' to 441' / length 31'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From - To		From - To	
K-packer	403'		6543'	
Screen	410'	441'	6536'	6505' 31'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

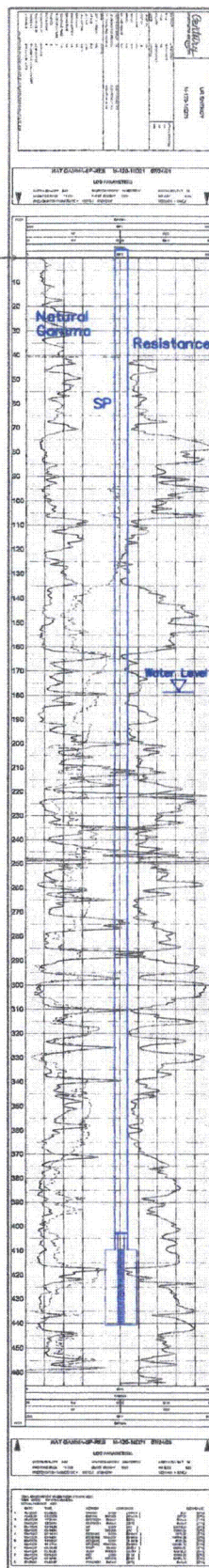
Method: N/A

WELL STIMULATION: Method Airlift

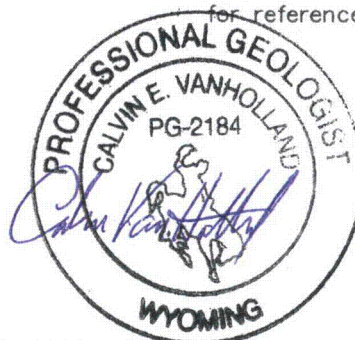
Yield: Good / Moderate / Poor

M-120A Replaces M-120. Offset 18' to SW.

M-120A Not Logged. Log for M-120 used here for reference.



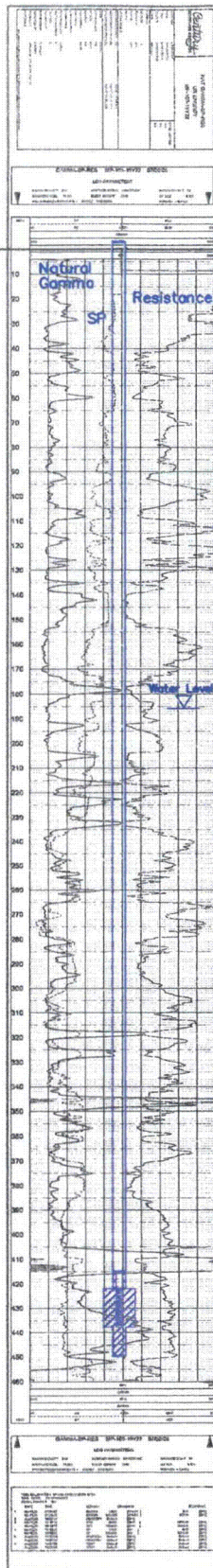
M-120A
(log from M-120)



MP-109

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-109



WELL # MP-109 SEO # 187659 Date Drilled: 7/30/08

Location: E 2,210,955 / N 595,235 (NAD 83)

Ground Elev: 6932.1' Measure Point Elev: 6932.71'

TD: 460' Hole Dia.: 7-7/8"

CASED to: 450' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 186' Elev: 6747' (avg.)

UNDERREAM: Blade Dia: 10"

Intervals: from 422' to 438' / length 16'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	415'	6517'	
Screen	422' 438'	6510' 6494'	16'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

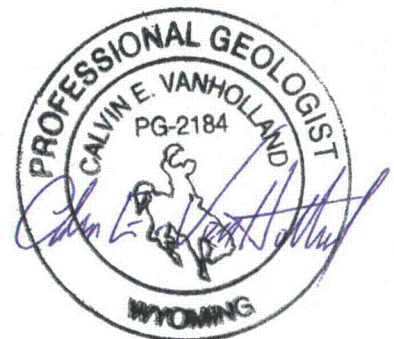
Volume: 17 (bags) Sand Specs. 10/20

Method: Pumped via tremie thru check valve

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

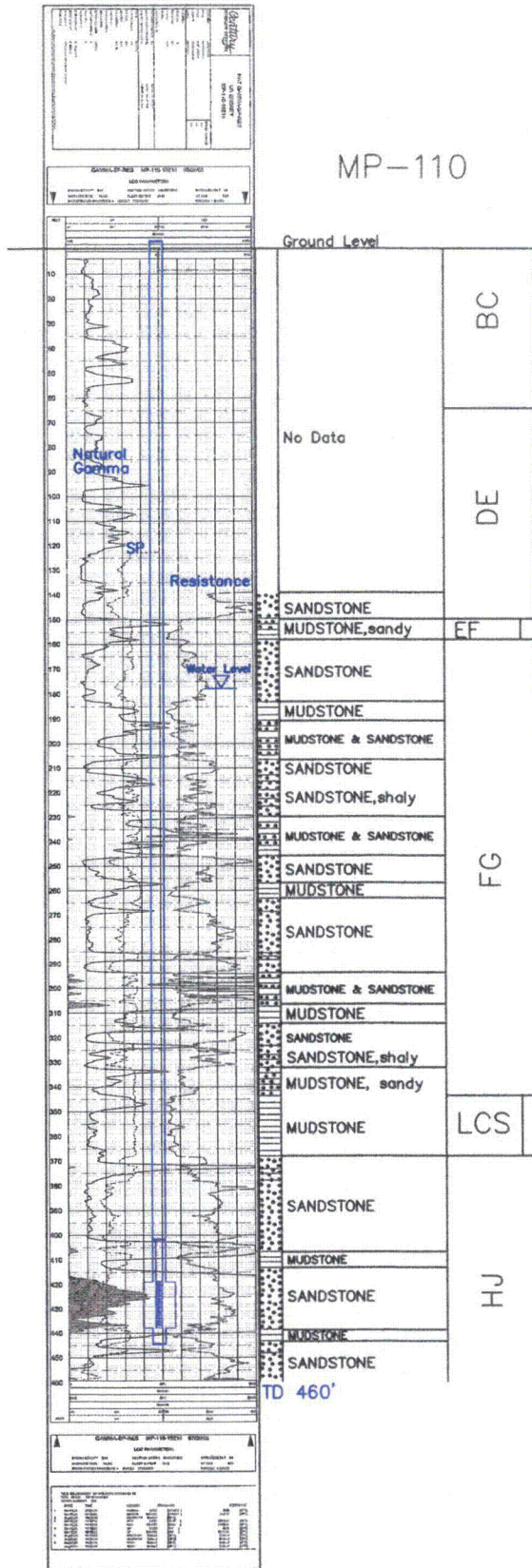
MP-109



MP-110

MP-110

Lost Creek ISR, LLC
WELL COMPLETION REPORT



MP-110

WELL # MP-110 SEO # 187659 Date Drilled: 7/30/08

Location: E 2,210,185 / N 595,648 (NAD 83)

Ground Elev: 6937.6' Measure Point Elev: 6938.69'

TD: 460' ft. Hole Dia.: 7-7/8"

CASED to: 445' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: MHJ Sand

Static Water Level: Depth 178' Elev: 6760' (avg.)

UNDERREAM: Blade Dia: 10"
Intervals: from 419' to 438' / length 19'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	412'		6526'		
Screen	419'	438'	6519'	6500'	19'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

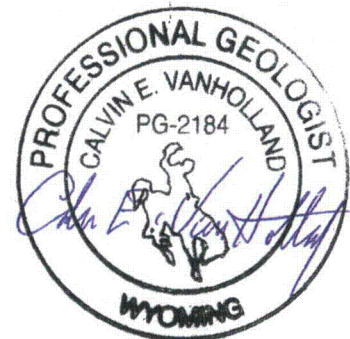
FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

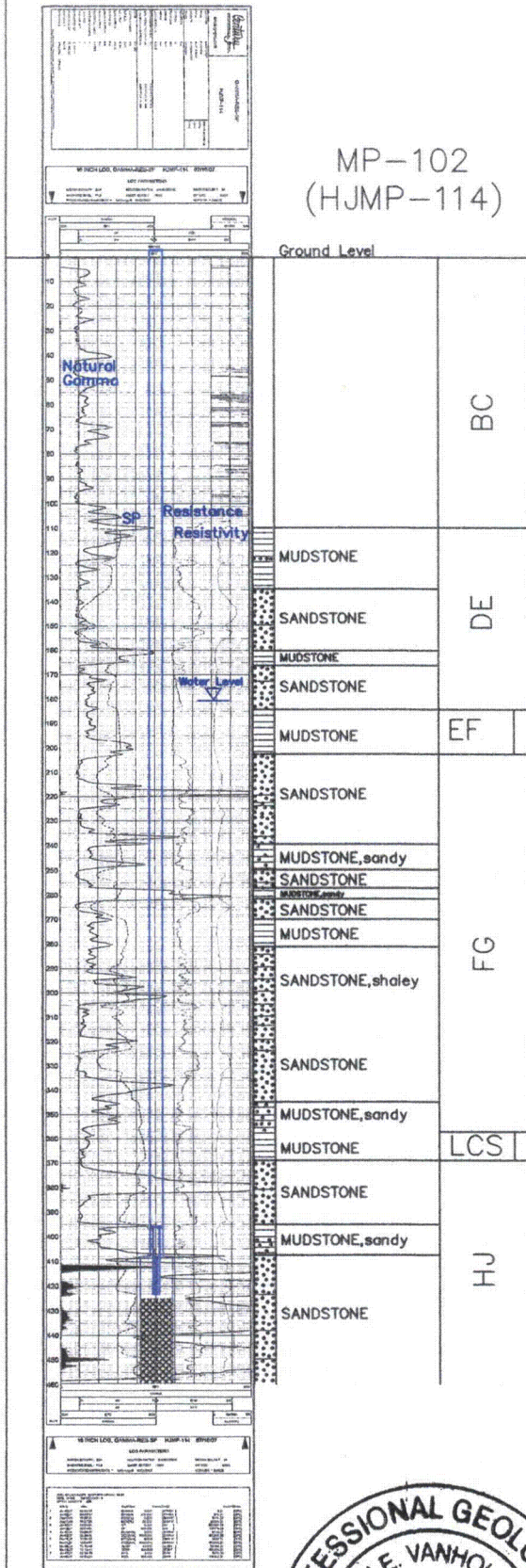
Yield: Good / Moderate / Poor



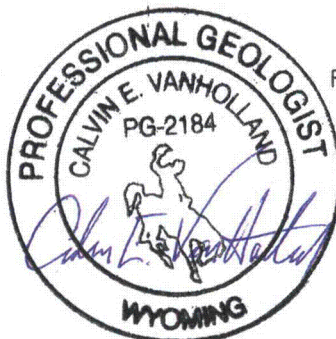
MP-102
(HJMP-114)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-102
(HJMP-114)



MP-102
(HJMP-114)



WELL # MP-102 SEO # 179903 Date Drilled: 7/10/07

Location: E 2,213,299 / N 595,400 (NAD 83)

Ground Elev: 6940.18' Measure Point Elev: 6941.01'

TD: 460' Hole Dia.: 7-7/8"

CASED to: 408' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 181' Elev: 6759' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 408' to 423' / length 15'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	396'	6544'	
Screen	408' 423'	6532' 6517'	15'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

BACK-PLUGGED: 425'-460' Neat Cement

RECOMPLETED: 8/14/08 to make completion interval
consistent with production design.

Hole Backplugged: 425'-460' w/ Neat Cement

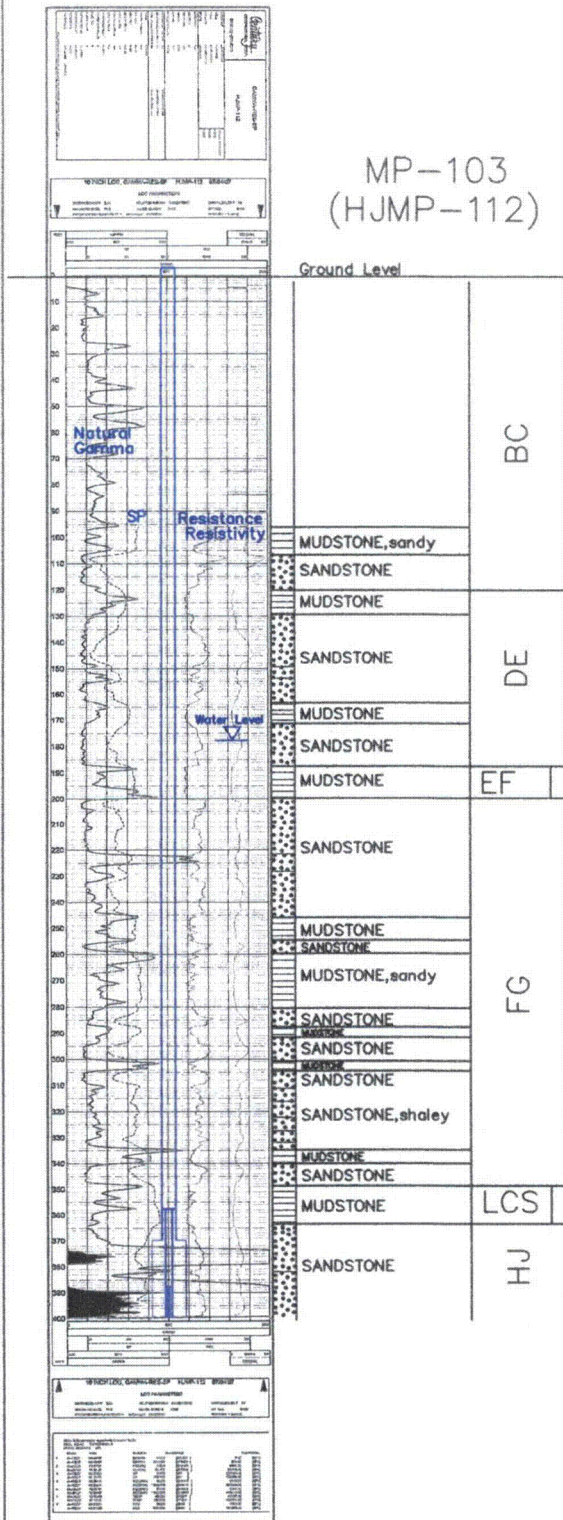
Screen Liner modified to current completion interval

Renamed as MP-102

MP-103
(HJMP-112)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-103
(HJMP-112)



MP-103
(HJMP-112)

WELL # MP-103 SEO # 179897 Date Drilled: 7/4/07

Location: E 2,212,709 / N 595,381 (NAD 83)

Ground Elev: 6934.32' Measure Point Elev: 6935.48'

TD: 400' Hole Dia.: 7-7/8"

CASED to: 370' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 178' Elev: 6756' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 370' to 400' /length 30'
from _____ to _____ /length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From - To	/	From - To	
K-packer	358'		6576'	
Screen	388' 400'		6546' 6534'	12'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

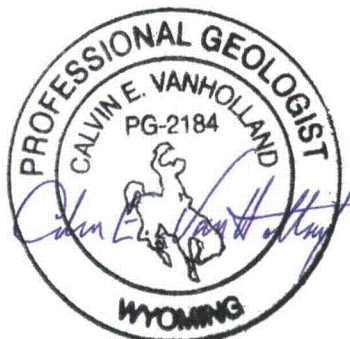
Method: N/A

WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/11/08 to make completion interval
consistent with production design.

Screen Liner modified to current completion interval
Renamed as MP-103



MP-104
(HJMP-107)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-104
(HJMP-107)

WELL # MP-104 SEO # 179882 Date Drilled: 6/8/07

Location: E 2,212,007 / N 595,515 (NAD 83)

Ground Elev: 6936.81 Measure Point Elev: 6938.45

TD: 464 ft. Hole Dia.: 7-7/8"

CASED to: 423' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 184' Elev: 6753' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 423' to 460' / length 37'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From - To		From - To		
K-packer	416'		6521'		
Screen	424'	440'	6513'	6497'	16'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

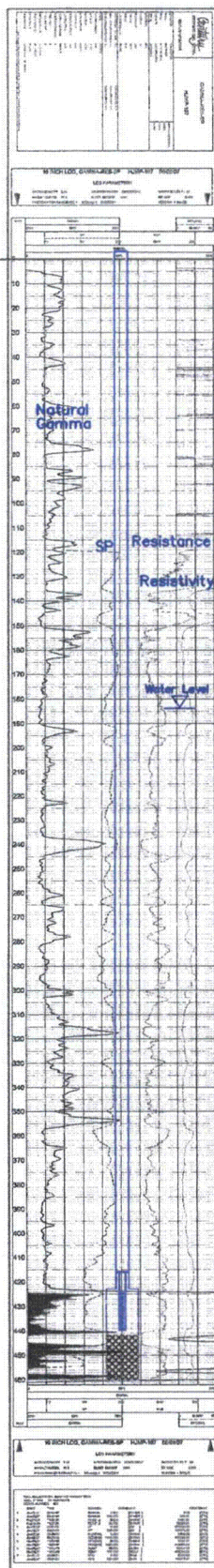
Yield: Good Moderate / Poor

RECOMPLETED: 8/20/08 to make completion interval
consistent with production design.

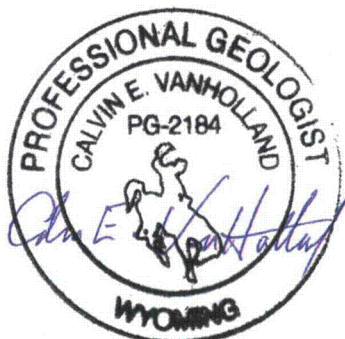
Hole Backplugged: 442'-460' w/ Neat Cement

Screen Liner modified to current completion interval

Renamed as MP-104



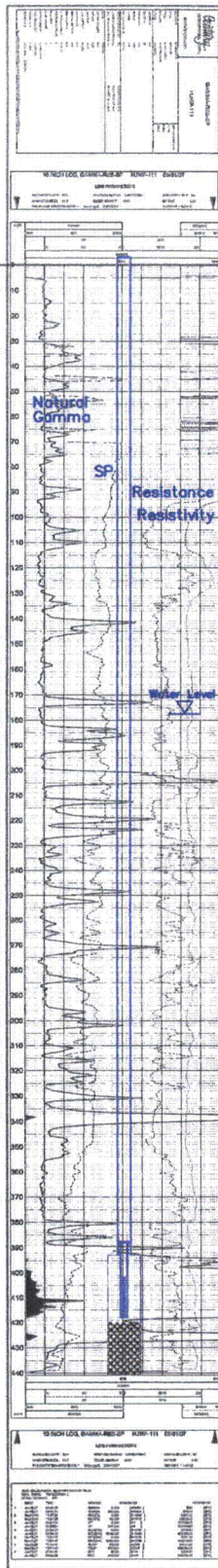
MP-104
(HJMP-107)



MP-105
(HJMP-111)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-105
(HJMP-111)



Ground Level		
No lithology data	BC	
MUDSTONE		
SANDSTONE		
MUDSTONE		
SANDSTONE	DE	
MUDSTONE, sandy	EF	
SANDSTONE		
SANDSTONE		
MUDSTONE		
SANDSTONE, shaley		
MUDSTONE, sandy	FC	
SANDSTONE, shaley		
MUDSTONE		
SANDSTONE		
MUDSTONE		
SANDSTONE, shaley		
MUDSTONE		
SANDSTONE, shaley		
MUDSTONE, sandy	LCS	
SANDSTONE		
MUDSTONE & SANDSTONE	HJ	
SANDSTONE		

WELL # MP-105 SEO # 179894 Date Drilled: 5/1/07

Location: E 2,212,158 / N 596,079 (NAD 83)

Ground Elev: 6948.99 Measure Point Elev: 6949.49

TD: 440 ft. Hole Dia.: 7-7/8"

CASED to: 393' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 178' Elev: 6771' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 393' to 440' / length 47'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth	Elev.	Length
	From - To	/ From - To	
K-packer	388'	6561'	
Screen	402' 418'	6547' 6531'	16'

SCREEN SPECIFICATIONS:

Slot: 0.030" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

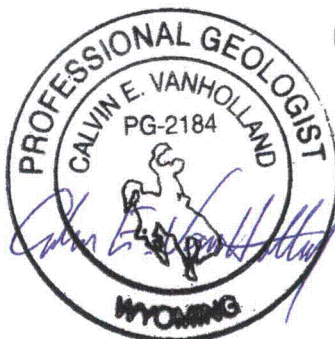
WELL STIMULATION: Method Airlift

Yield: Good / Moderate / Poor

RECOMPLETED: 8/26/08 to make completion interval consistent with production design.

Hole Backplugged: 420'-440' w/ Neat Cement
Screen Liner modified to current completion interval
Renamed as MP-105

MP-105
(HJMP-111)



MP-106
(HJMP-106)

MP-106
(HJMP-106)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MP-106 SEO # 179879 Date Drilled: 8/9/07

Location: E 2,211,488 / N 595,980 (NAD 83)

Ground Elev: 6940.20' Measure Point Elev: 6941.29'

TD: 480' Hole Dia.: 7-7/8"

CASED to: 430' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: LHJ Sand

Static Water Level: Depth 173' Elev: 6767' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 430' to 480' / length 50'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.	
	From - To		From - To	
K-packer	417'		6523'	
Screen	434'	454'	6506'	6486' 20'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

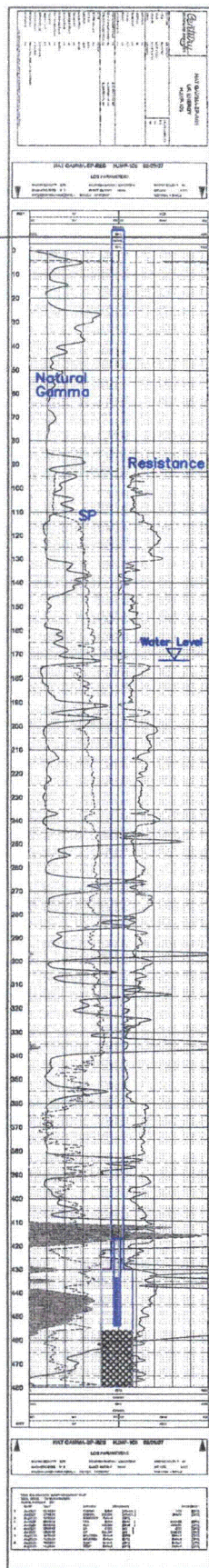
Yield: Good / Moderate / Poor

RECOMPLETED: 8/26/08 to make completion interval
consistent with production design.

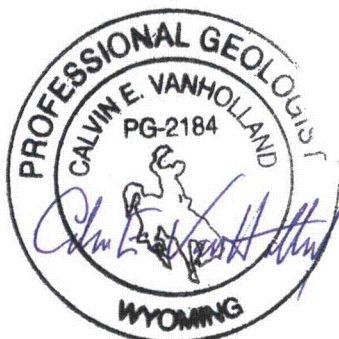
Hole Backplugged: 456'-480' w/ Neat Cement

Screen Liner modified to current completion interval

Renamed as MP-106



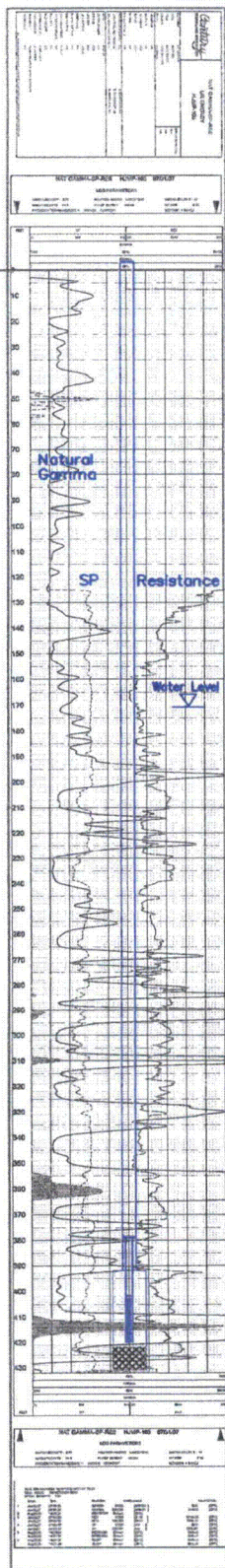
MP-106
(HJMP-106)



MP-107
(HJMP-103)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

MP-107
(HJMP-103)



WELL # MP-107 SEO # 179870 Date Drilled: 7/31/07

Location: E 2,210,976 / N 595,822 (NAD 83)

Ground Elev: 6935.08 Measure Point Elev: 6936.49

TD: 432 ft. Hole Dia.: 7-7/8"

CASED to: 392' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 171' Elev: 6764' (avg.)

UNDERREAM: Blade Dia: 10-1/2"

Intervals: from 392' to 432' / length 38'
from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer	379'		6556'		
Screen	402'	420'	6533'	6515'	18'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition: 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

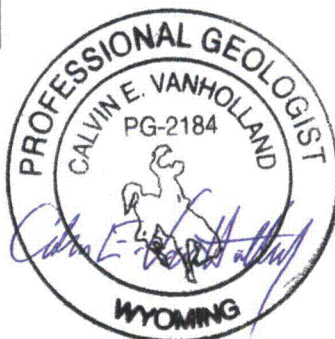
Yield: Good / Moderate / Poor

RECOMPLETED: 8/14/08 to make completion interval
consistent with production design.

Hole Backplugged: 422'-432' w/ Neat Cement

Screen Liner modified to current completion interval

Renamed as MP-107



MP-108
(HJMP-102)

MP-108
(HJMP-102)

Lost Creek ISR, LLC
WELL COMPLETION REPORT

WELL # MP-108 SEO # 179867 Date Drilled: 8/1/07

Location: E 2,210.882 / N 595.469 (NAD 83)

Ground Elev: 6934.2' Measure Point Elev: 6936.15'

TD: 450' Hole Dia.: 7-7/8"

CASED to: 405' Casing: PVC SDR17 ID: 4.5" OD: 5"

GROUT: Portland Cement - Type I/II
Pumped thru casing, displaced to surface with water

COMPLETION Aquifer: HJ Sand

Static Water Level: Depth 175' Elev: 6761' (avg.)

UNDERREAM: Blade Dia: 10.5"

Intervals: from 405' to 435' / length 30'

from _____ to _____ / length _____

SCREEN LINER ASSEMBLY

Description	Depth		Elev.		Length
	From	To	From	To	
K-packer		392'		6542'	
Screen	424'	438'	6510'	6496'	14'

SCREEN SPECIFICATIONS:

Slot: 0.020" Composition 3" PVC

FILTER PACKING:

Volume: _____ (bags)(ft³) Sand Specs. _____

Method: N/A

WELL STIMULATION: Method Airlift

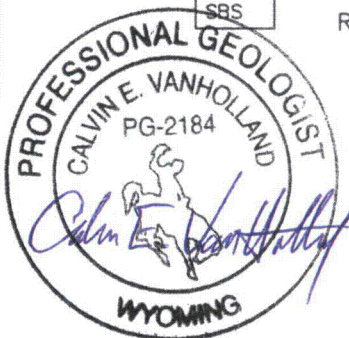
Yield: Good / Moderate / Poor

RECOMPLETED: 8/13/08 to make completion interval
consistent with production design.

Hole Deepened to 450'

Screen Liner modified to current completion interval
Renamed as MP-108

MP-108
(HJMP-102)



APPENDIX F
RADIUS OF INFLUENCE (ROI)
ESTIMATE

Figure F-1 Distance-Drawdown Estimate of Radius of Influence- End of North Test

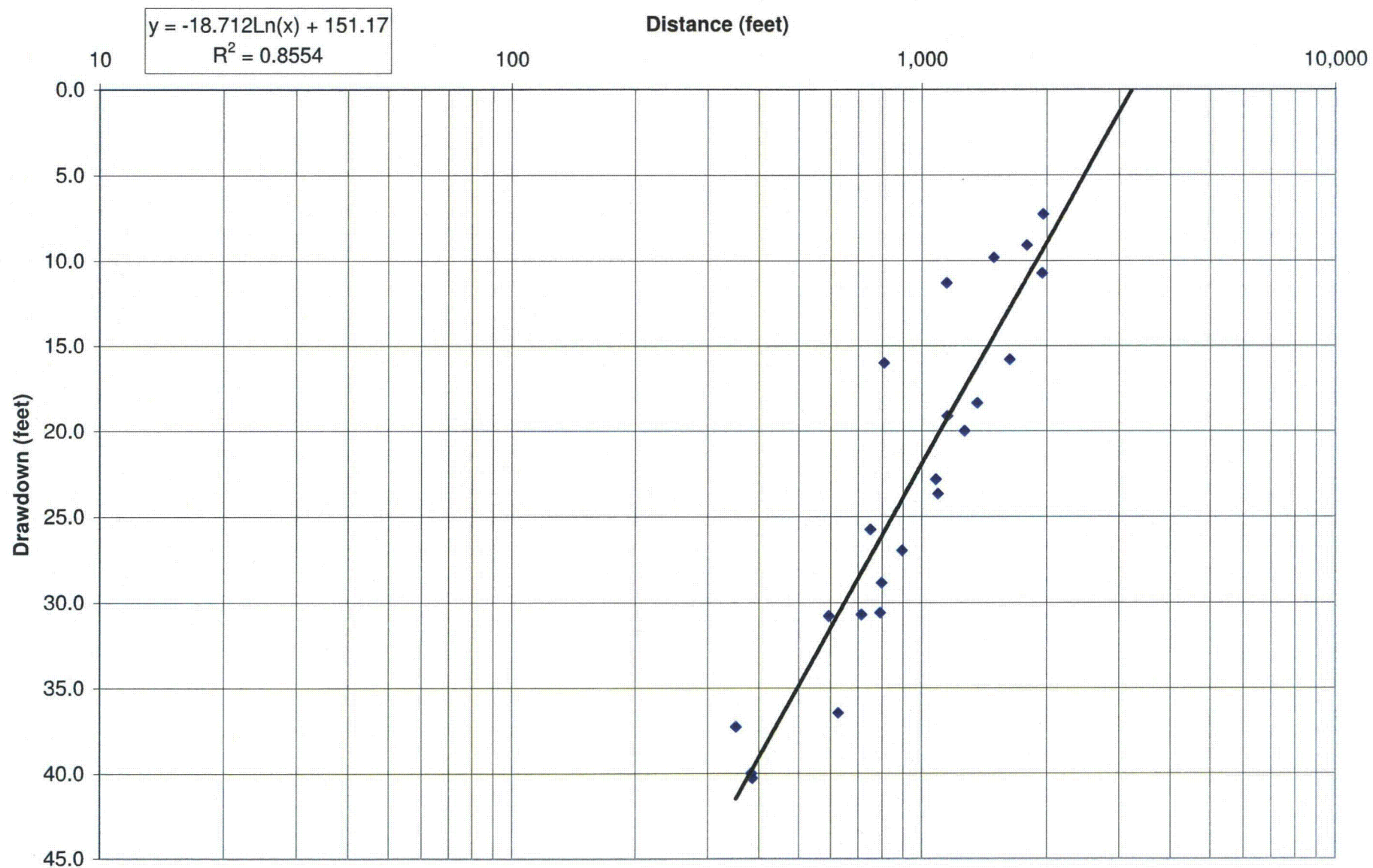


Figure F-2 Distance Drawdown Estimate of Radius of Influence- End of South Test

