

Appendix A

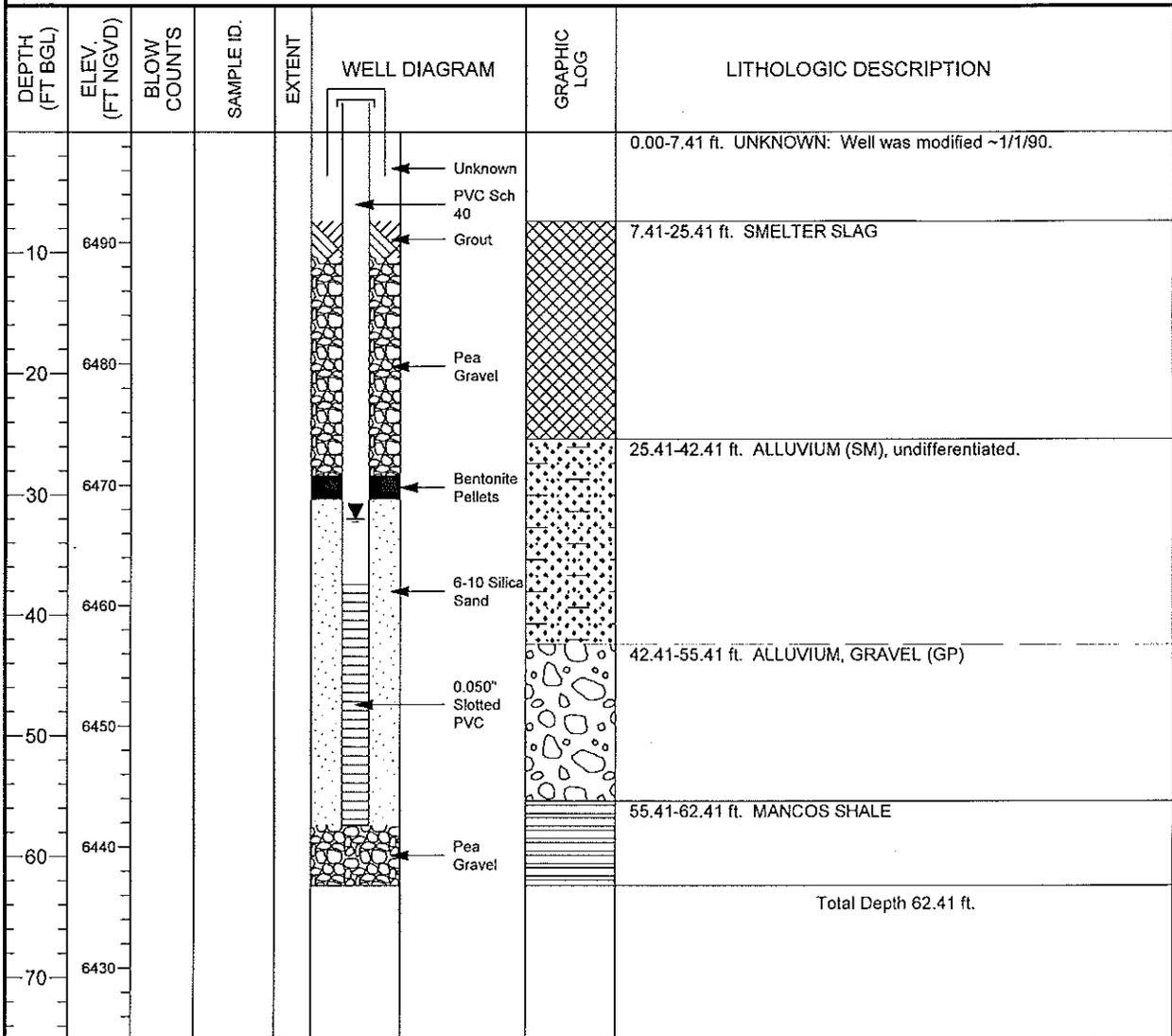
Monitor Well Logs

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MONITORING WELL COMPLETION LOG DUR01-0612

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226429.30</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306866.69</u>	SURFACE ELEV. (FT NGVD) <u>6499.21</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>62.41</u>	TOP OF CASING (FT) <u>6500.94</u>
WELL NUMBER <u>0612</u>	WELL DEPTH (FT) <u>57.41</u>	MEAS. PT. ELEV. (FT) <u>6500.94</u>
		SLOT SIZE (IN) <u>0.050</u>
		BIT SIZE(S) (IN) <u>6.25</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-1.73 to 37.41	DRILLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	37.41 to 57.41	SAMPLING METHOD _____
SUMP/END CAP:			DATE DEVELOPED _____
SURFACE SEAL:	Grout	7.41 to 10.41	WATER LEVEL (FT BGS) <u>32.0 on 04/18/1983</u>
GROUT:	Pea Gravel	10.41 to 28.41	LOGGED BY _____
SEAL:	Bentonite Pellets	28.41 to 30.41	REMARKS <u>Well was modified sometime after</u>
UPPER PACK:			<u>11/14/89, calculated depths based on new survey.</u>
LOWER PACK:	6-10 Silica Sand	30.41 to 57.41	

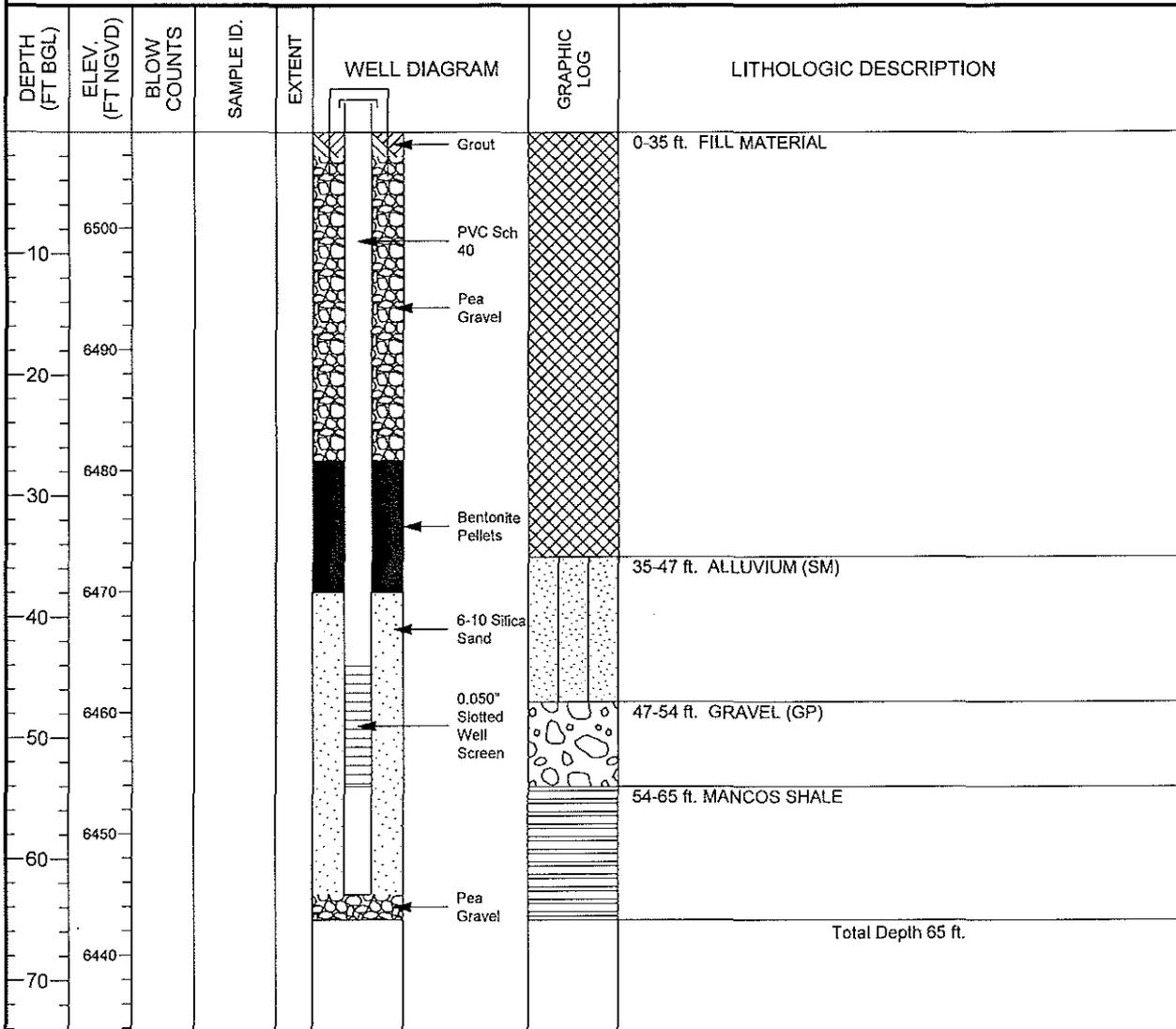


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MONITORING WELL COMPLETION LOG DUR01-0614

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226612.34</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306764.21</u>	SURFACE ELEV. (FT NGVD) <u>6507.90</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>65.00</u>	TOP OF CASING (FT) <u>6508.80</u>
WELL NUMBER <u>0614</u>	WELL DEPTH (FT) <u>62.90</u>	MEAS. PT. ELEV. (FT) <u>6508.80</u>

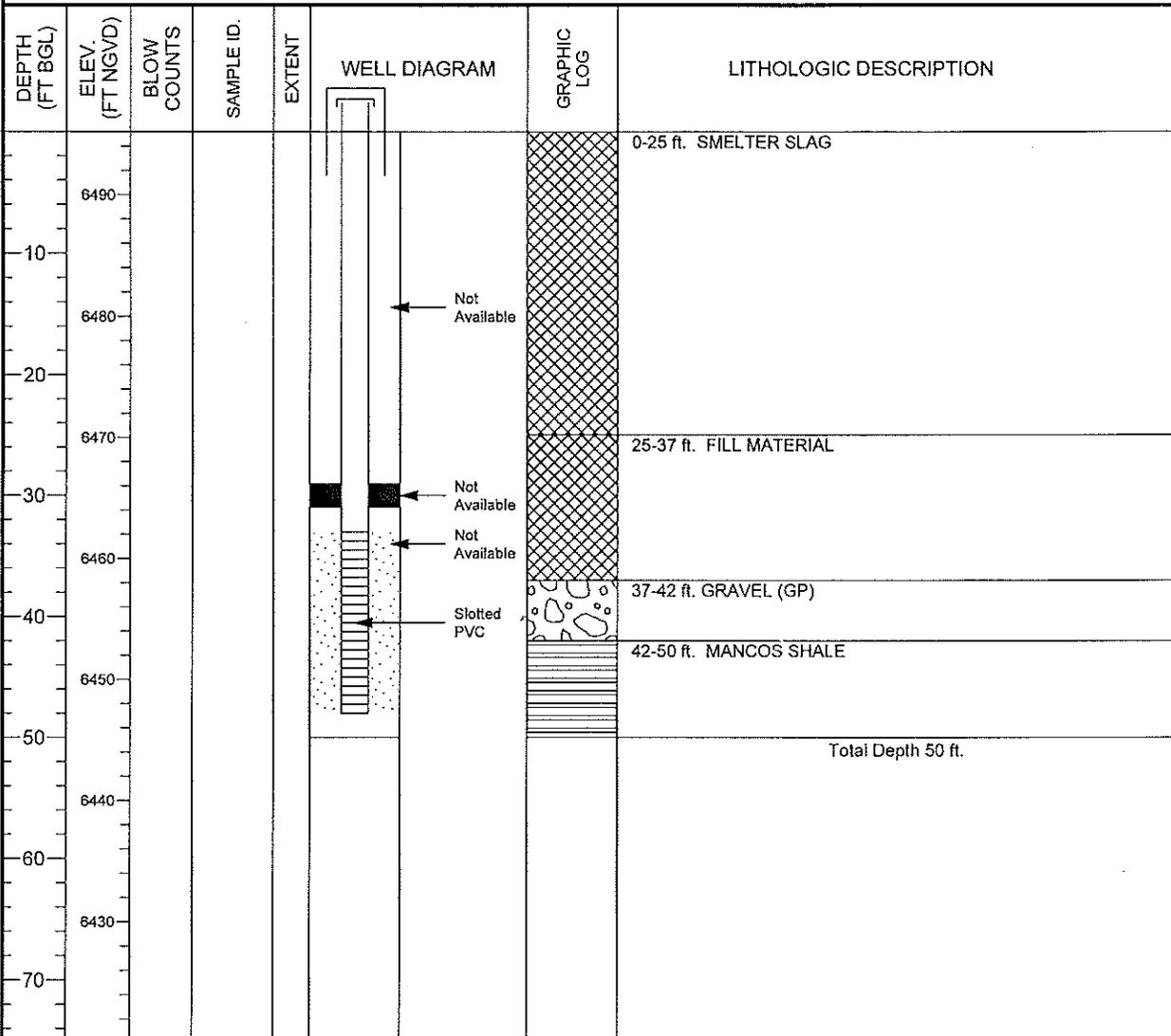
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.050</u>
BLANK CASING:	4 in. PVC Sch 40	-0.9 to 44.0	BIT SIZE(S) (IN) <u>6.25</u>
WELL SCREEN:	4 in. Slotted PVC	44.0 to 54.0	DRILLING METHOD _____
SUMP/END CAP:	4 in. PVC Sch 40	54.0 to 62.9	SAMPLING METHOD _____
SURFACE SEAL:	Grout	0.0 to 2.0	DATE DEVELOPED _____
GROUT:	Pea Gravel	2.0 to 27.0	WATER LEVEL (FT BGS) _____
SEAL:	Bentonite Pellets	27.0 to 38.0	LOGGED BY _____
UPPER PACK:			REMARKS _____
LOWER PACK:	6-10 Silica Sand	38.0 to 62.9	



MONITORING WELL COMPLETION LOG DUR01-0615

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226862.73</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306786.91</u>	SURFACE ELEV. (FT NGVD) <u>6495.20</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>50.00</u>	TOP OF CASING (FT) <u>6495.60</u>
WELL NUMBER <u>0615</u>	WELL DEPTH (FT) <u>48.00</u>	MEAS. PT. ELEV. (FT) <u>6495.60</u>

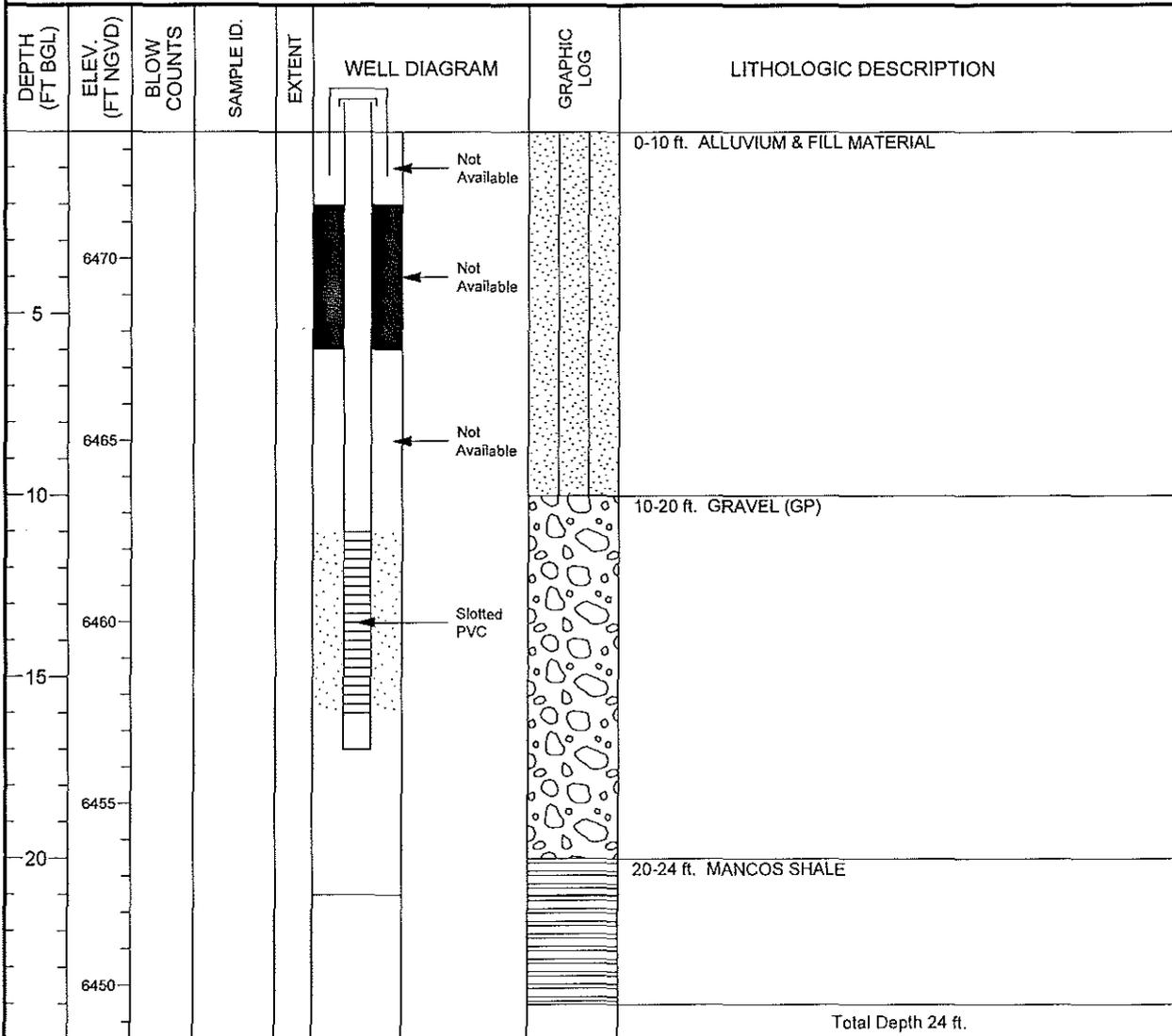
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-0.4 to 33.0	DRILLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	33.0 to 48.0	SAMPLING METHOD _____
SUMP/END CAP:			DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) _____
GROUT:		0.0 to 29.0	LOGGED BY _____
SEAL:		29.0 to 31.0	REMARKS <u>Well construction data is incomplete.</u>
UPPER PACK:			
LOWER PACK:		31.0 to 48.0	



MONITORING WELL COMPLETION LOG DUR01-0616

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227024.06</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308761.15</u>	SURFACE ELEV. (FT NGVD) <u>6473.50</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>21.00</u>	TOP OF CASING (FT) <u>6474.40</u>
WELL NUMBER <u>0616</u>	WELL DEPTH (FT) <u>17.00</u>	MEAS. PT. ELEV. (FT) <u>6474.40</u>

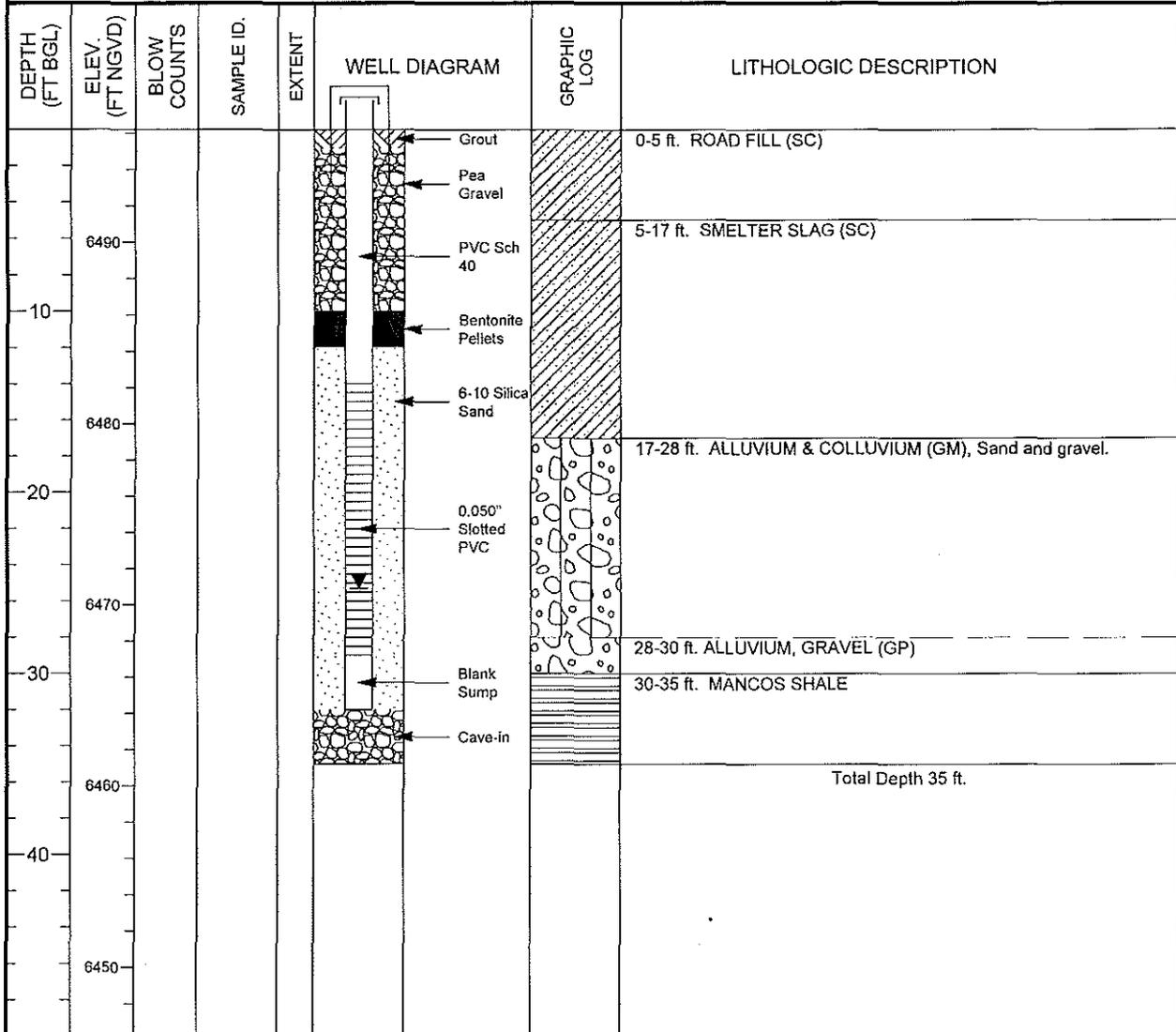
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	4 in. PVC Sch 40	-0.9 to 11.0	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	11.0 to 16.0	DATE DEVELOPED _____
SUMP/END CAP:	4 in. PVC Sch 40	16.0 to 17.0	WATER LEVEL (FT BGS) _____
SURFACE SEAL:			LOGGED BY _____
GROUT:		0.0 to 2.0	REMARKS <u>Well construction data is incomplete.</u>
SEAL:		2.0 to 6.0	
UPPER PACK:			
LOWER PACK:		6.0 to 17.0	



MONITORING WELL COMPLETION LOG DUR01-0617

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227262.02</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306023.82</u>	SURFACE ELEV. (FT NGVD) <u>6496.20</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>35.00</u>	TOP OF CASING (FT) <u>6497.40</u>
WELL NUMBER <u>0617</u>	WELL DEPTH (FT) <u>32.00</u>	MEAS. PT. ELEV. (FT) <u>6497.40</u>

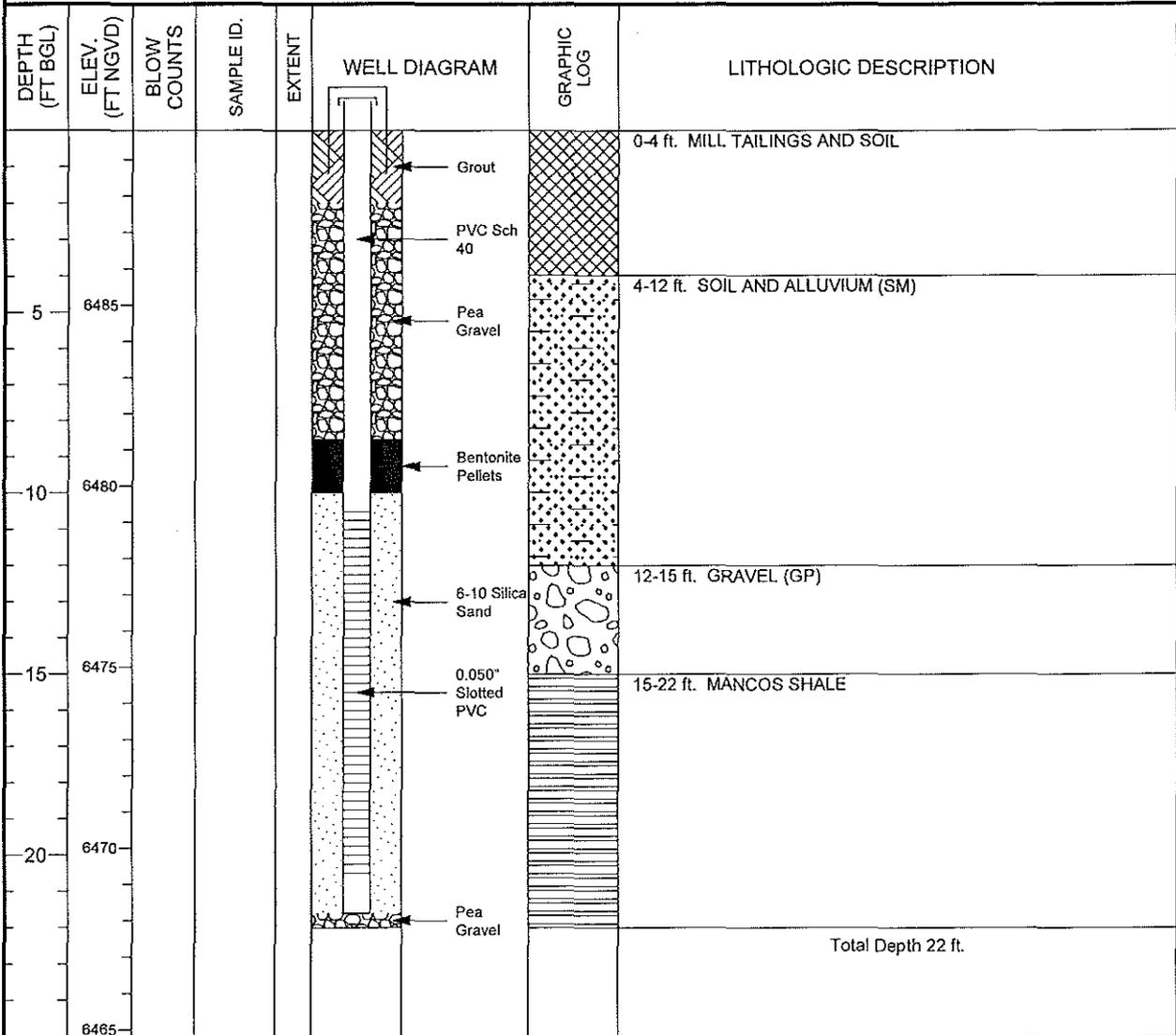
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.050</u>
BLANK CASING: 4 in. PVC Sch 40	-1.2 to 14.0		BIT SIZE(S) (IN) <u>6.75</u>
WELL SCREEN: 4 in. Slotted PVC	14.0 to 29.0		DRILLING METHOD _____
SUMP/END CAP: 4 in. PVC Sch 40	29.0 to 32.0		SAMPLING METHOD _____
SURFACE SEAL: Grout	0.0 to 1.0		DATE DEVELOPED _____
GROUT: Pea Gravel	1.0 to 10.0		WATER LEVEL (FT BGS) <u>25.3 on 04/18/1983</u>
SEAL: Bentonite Pellets	10.0 to 12.0		LOGGED BY _____
UPPER PACK:			REMARKS _____
LOWER PACK: 6-10 Silica Sand	12.0 to 32.0		



MONITORING WELL COMPLETION LOG DUR01-0618

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227423.54</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305752.61</u>	SURFACE ELEV. (FT NGVD) <u>6489.80</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>22.00</u>	TOP OF CASING (FT) <u>6490.90</u>
WELL NUMBER <u>0618</u>	WELL DEPTH (FT) <u>21.60</u>	MEAS. PT. ELEV. (FT) <u>6490.90</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	4 in. PVC Sch 40	-1.1 to 10.5	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	10.5 to 20.5	DATE DEVELOPED _____
SUMP/END CAP:	4 in. PVC Sch 40	20.5 to 21.6	WATER LEVEL (FT BGS) _____
SURFACE SEAL:	Grout	0.0 to 2.0	LOGGED BY _____
GROUT:	Pea Gravel	2.0 to 8.5	REMARKS _____
SEAL:	Bentonite Pellets	8.5 to 10.0	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	10.0 to 21.6	

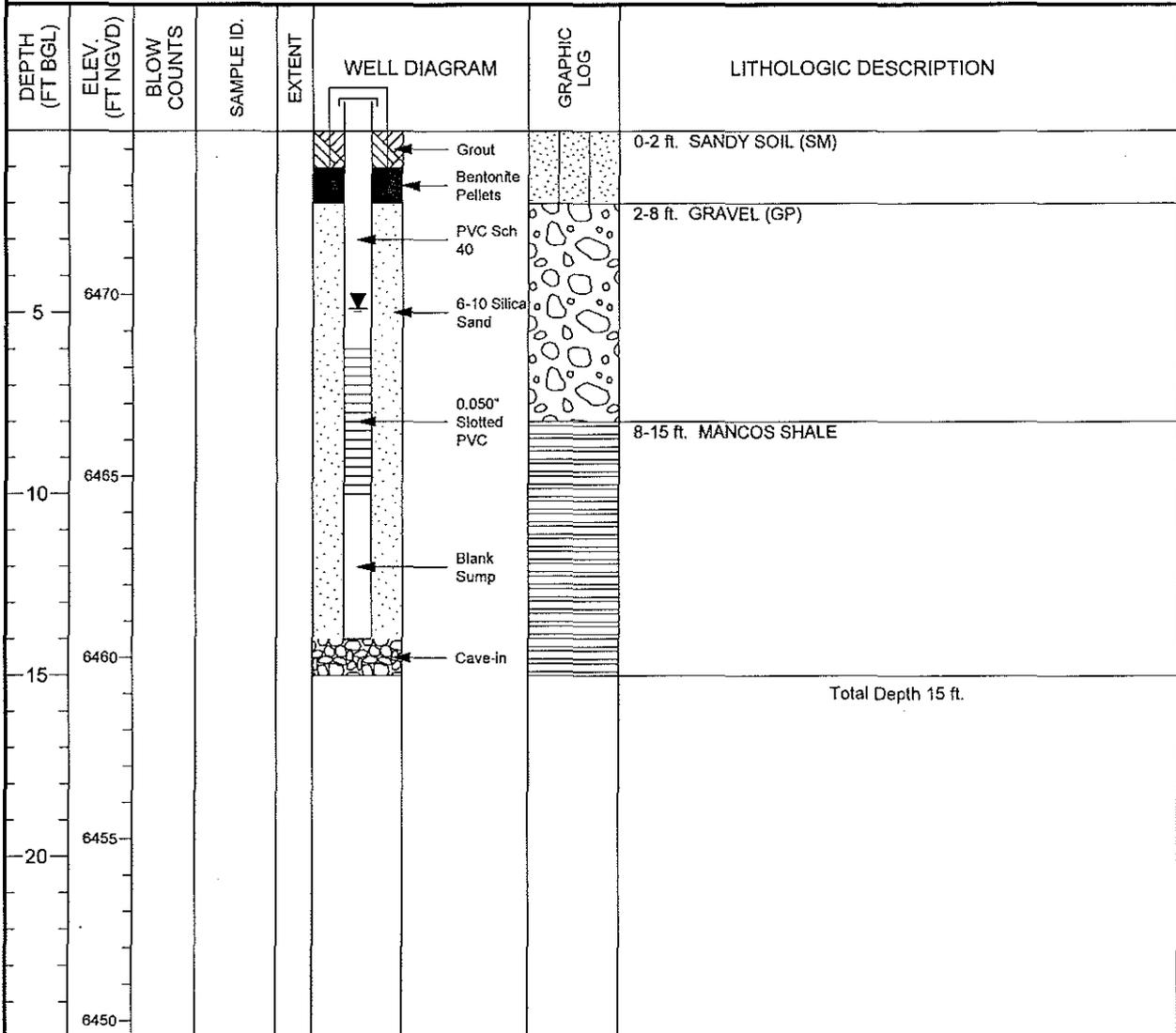


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MONITORING WELL COMPLETION LOG DUR01-0619

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227637.53</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305782.45</u>	SURFACE ELEV. (FT NGVD) <u>6474.50</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>15.00</u>	TOP OF CASING (FT) <u>6474.90</u>
WELL NUMBER <u>0619</u>	WELL DEPTH (FT) <u>14.00</u>	MEAS. PT. ELEV. (FT) <u>6474.90</u>

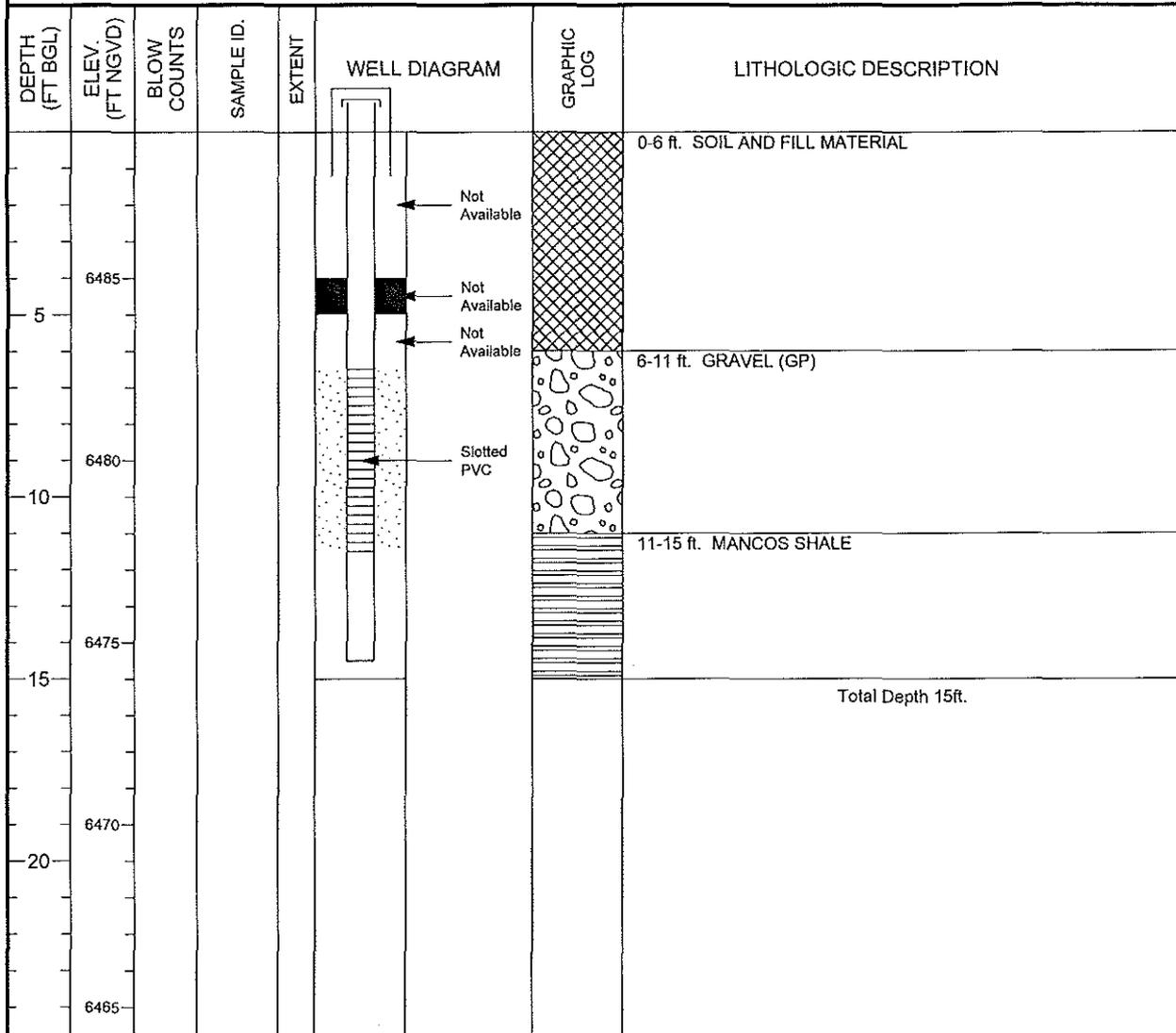
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	4 in. PVC Sch 40	-0.4 to 6.0	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	6.0 to 10.0	DATE DEVELOPED _____
SUMP/END CAP:	4 in. PVC Sch 40	10.0 to 14.0	WATER LEVEL (FT BGS) <u>4.9 on 04/18/1983</u>
SURFACE SEAL:	Grout	0.0 to 1.0	LOGGED BY _____
GROUT:			REMARKS _____
SEAL:	Bentonite Pellets	1.0 to 2.0	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	2.0 to 14.0	



MONITORING WELL COMPLETION LOG DUR01-0620

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227827.65</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305198.95</u>	SURFACE ELEV. (FT NGVD) <u>6489.00</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>15.00</u>	TOP OF CASING (FT) <u>6490.50</u>
WELL NUMBER <u>0620</u>	WELL DEPTH (FT) <u>14.50</u>	MEAS. PT. ELEV. (FT) <u>6490.50</u>

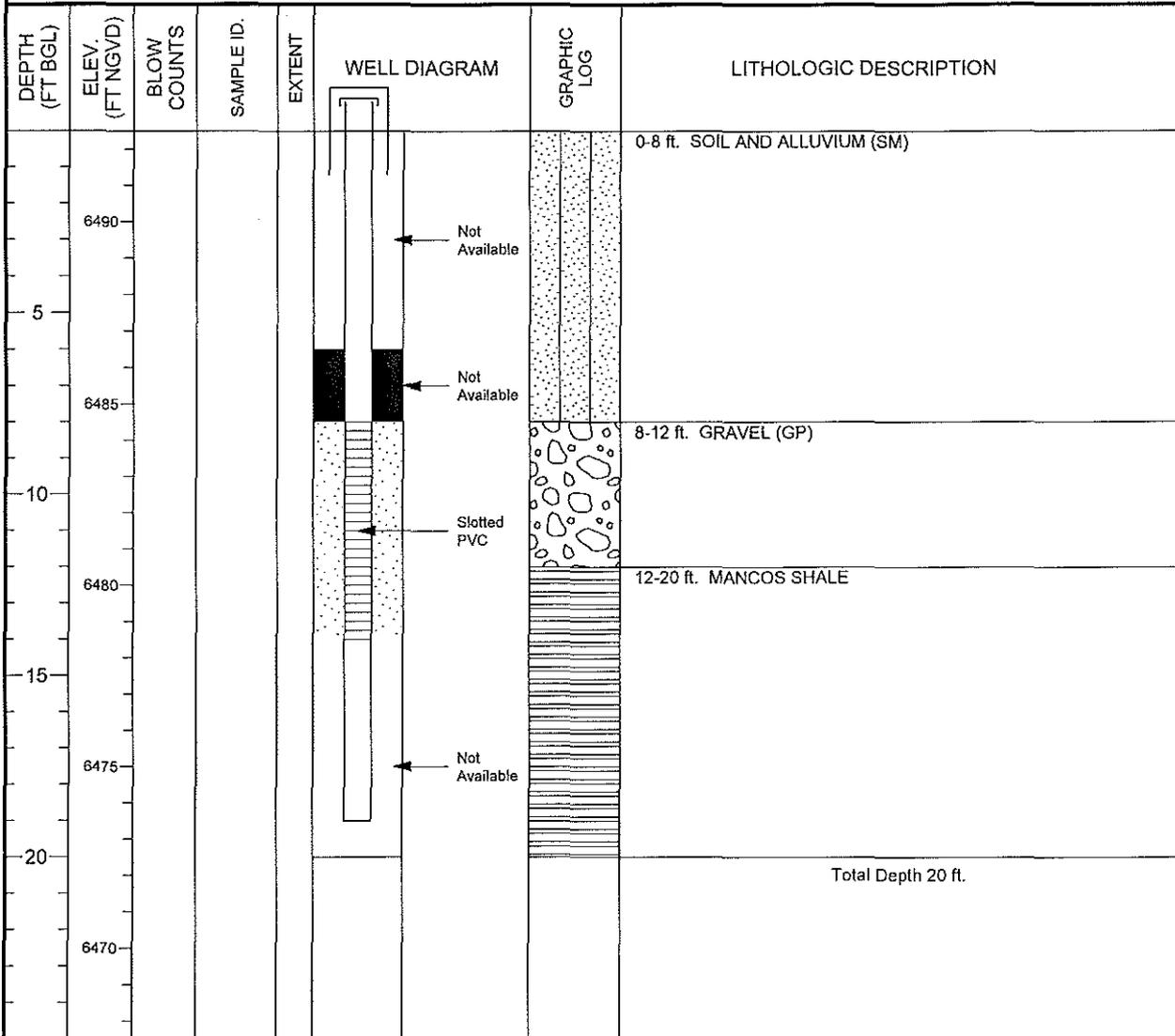
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	4 in. PVC Sch 40	-1.5 to 6.5	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	6.5 to 11.5	DATE DEVELOPED _____
SUMP/END CAP:	4 in. PVC Sch 40	11.5 to 14.5	WATER LEVEL (FT BGS) _____
SURFACE SEAL:			LOGGED BY _____
GROUT:		0.0 to 4.0	REMARKS <u>Well construction data is incomplete.</u>
SEAL:		4.0 to 5.0	
UPPER PACK:			
LOWER PACK:		5.0 to 14.5	



MONITORING WELL COMPLETION LOG DUR01-0621

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227831.08</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305034.49</u>	SURFACE ELEV. (FT NGVD) <u>6492.50</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>20.00</u>	TOP OF CASING (FT) <u>6493.60</u>
WELL NUMBER <u>0621</u>	WELL DEPTH (FT) <u>19.00</u>	MEAS. PT. ELEV. (FT) <u>6493.60</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING: 4 in. PVC Sch 40	-1.1 to 8.0		SAMPLING METHOD _____
WELL SCREEN: 4 in. Slotted PVC	8.0 to 14.0		DATE DEVELOPED _____
SUMP/END CAP: 4 in. PVC Sch 40	14.0 to 19.0		WATER LEVEL (FT BGS) _____
SURFACE SEAL:			LOGGED BY _____
GROUT:	0.0 to 6.0		REMARKS <u>Well construction data is incomplete.</u>
SEAL:	6.0 to 10.0		
UPPER PACK:			
LOWER PACK:	10.0 to 20.0		

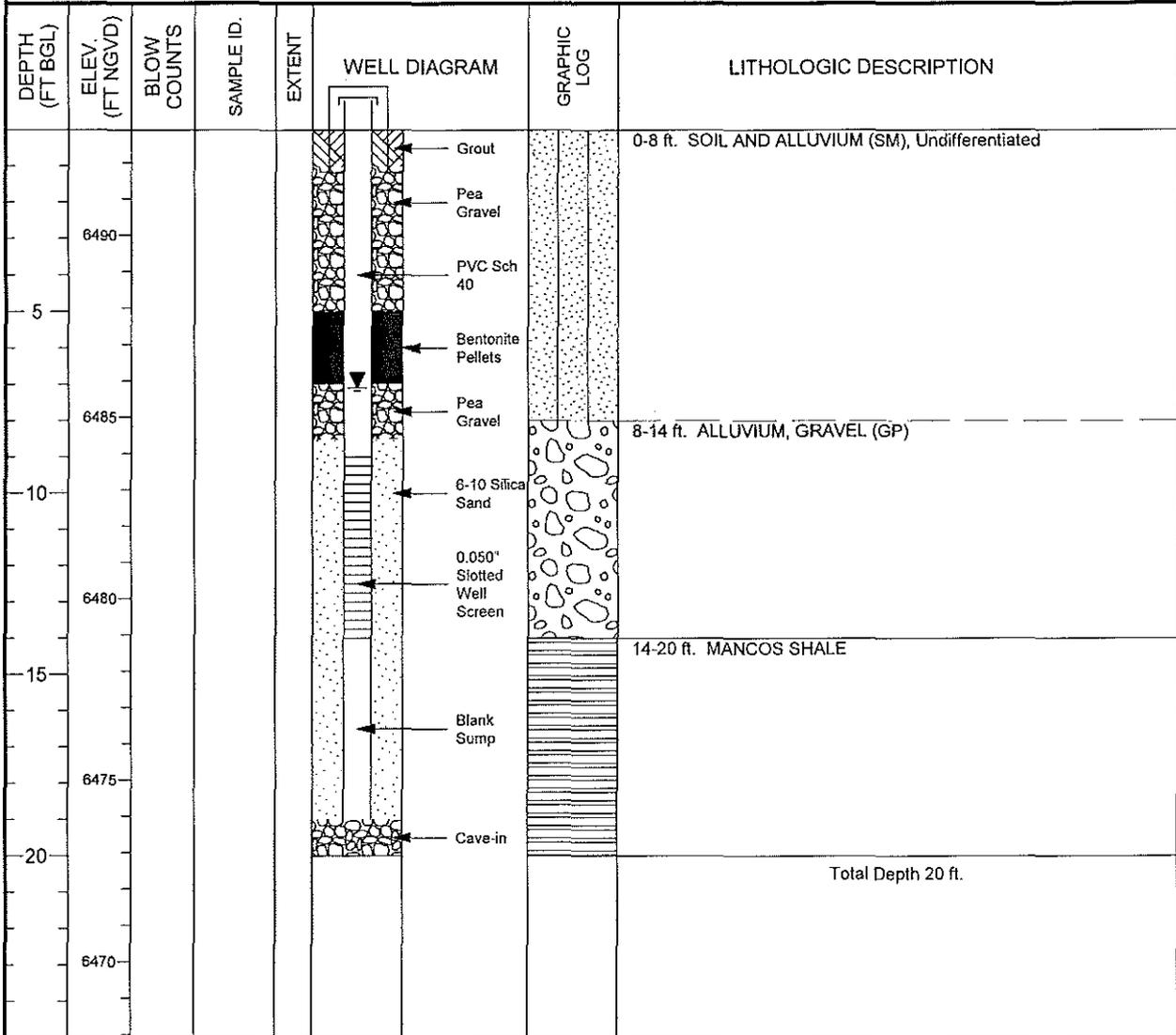


MONITORING WELL COMPLETION LOG DUR01-0622

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227884.27</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2304949.79</u>	SURFACE ELEV. (FT NGVD) <u>6492.90</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>20.00</u>	TOP OF CASING (FT) <u>6493.90</u>
WELL NUMBER <u>0622</u>	WELL DEPTH (FT) <u>19.00</u>	MEAS. PT. ELEV. (FT) <u>6493.90</u>

WELL INSTALLATION	INTERVAL (FT)	DRILLING METHOD
SURFACE CASING:		
BLANK CASING:	4 in. PVC Sch 40 -1.0 to 9.0	
WELL SCREEN:	4 in. Slotted PVC 9.0 to 14.0	
SUMP/END CAP:	4 in. PVC Sch 40 14.0 to 20.0	
SURFACE SEAL:	Grout 0.0 to 1.0	
GROUT:	Pea Gravel 1.0 to 5.0	
SEAL:	Bentonite Pellets 5.0 to 7.0	
UPPER PACK:	Pea Gravel 7.0 to 8.5	
LOWER PACK:	6-10 Silica Sand 8.5 to 19.0	

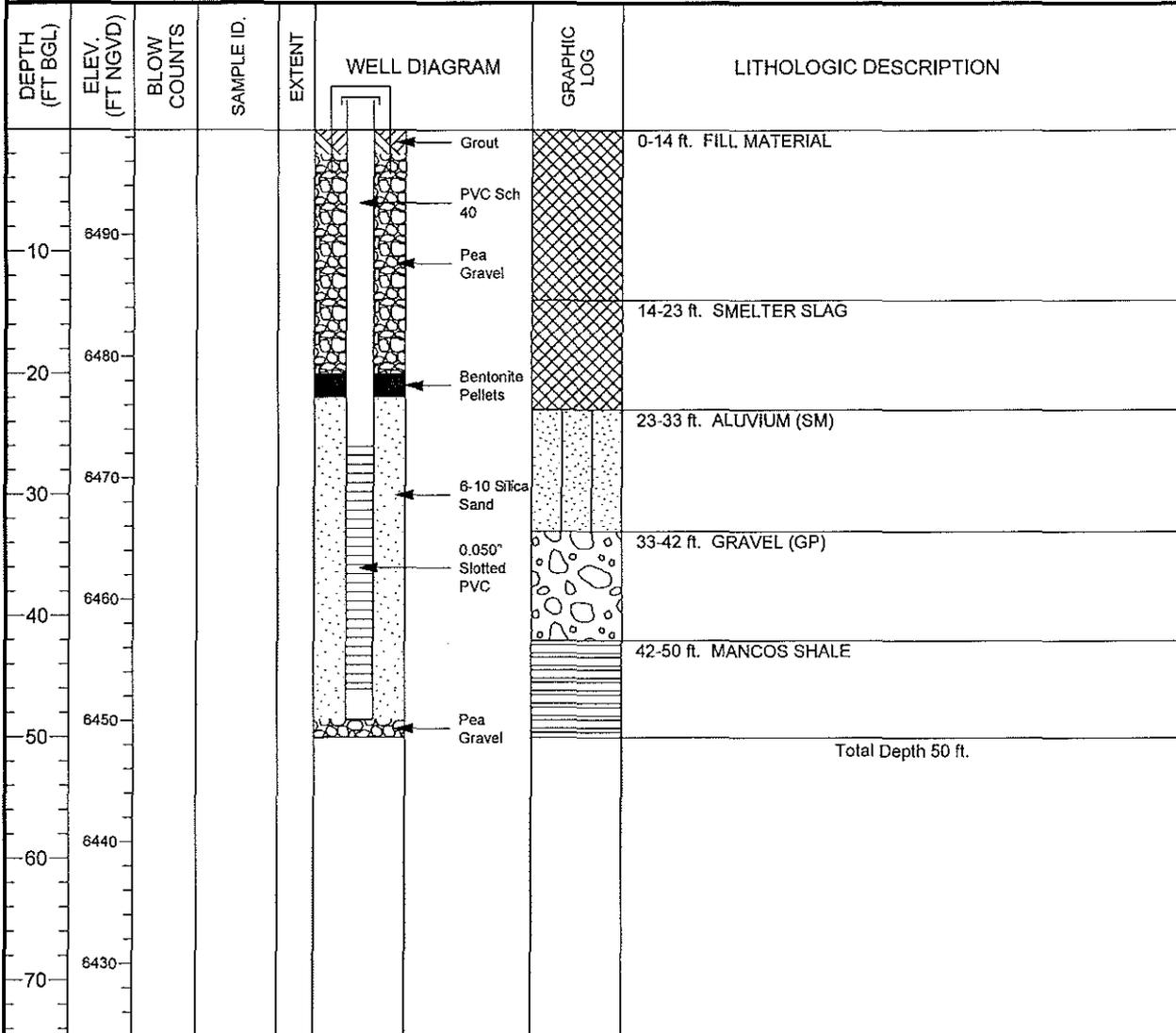
SLOT SIZE (IN) 0.050
 BIT SIZE(S) (IN) 7.88
 DRILLING METHOD _____
 SAMPLING METHOD _____
 DATE DEVELOPED _____
 WATER LEVEL (FT BGS) 7.1 on 04/18/1983
 LOGGED BY _____
 REMARKS _____



MONITORING WELL COMPLETION LOG DUR01-0626

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226832.27</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308674.77</u>	SURFACE ELEV. (FT NGVD) <u>6498.60</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>50.00</u>	TOP OF CASING (FT) <u>6499.10</u>
WELL NUMBER <u>0626</u>	WELL DEPTH (FT) <u>48.50</u>	MEAS. PT. ELEV. (FT) <u>6499.10</u>

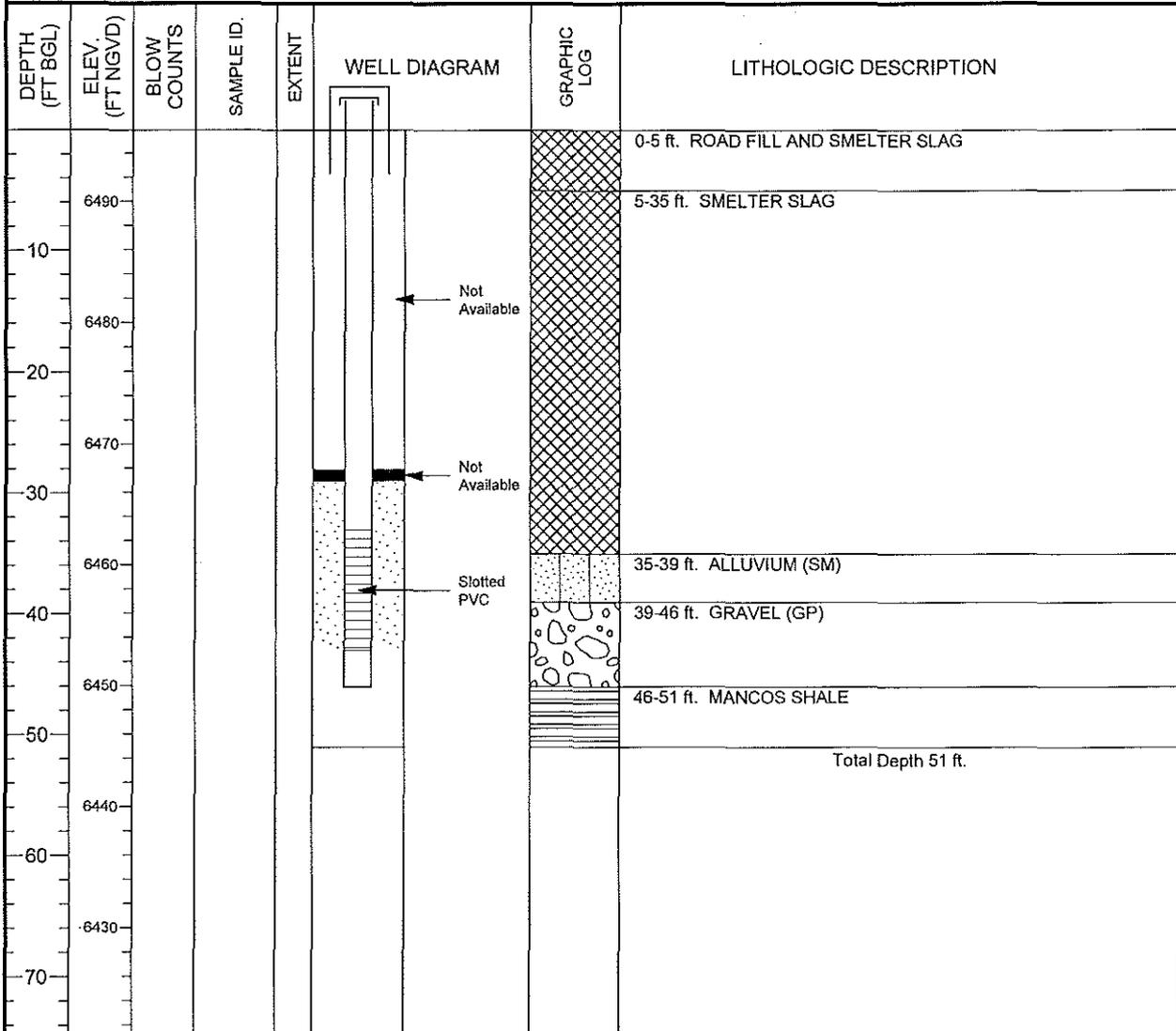
	WELL INSTALLATION	INTERVAL (FT)			
SURFACE CASING:				SLOT SIZE (IN)	<u>0.050</u>
BLANK CASING:	4 in. PVC Sch 40	-0.5 to 26.0		BIT SIZE(S) (IN)	<u>7.88</u>
WELL SCREEN:	4 in. Slotted PVC	26.0 to 46.0		DRILLING METHOD	_____
SUMP/END CAP:	4 in. PVC Sch 40	46.0 to 48.5		SAMPLING METHOD	_____
SURFACE SEAL:	Grout	0.0 to 2.0		DATE DEVELOPED	_____
GROUT:	Pea Gravel	2.0 to 20.0		WATER LEVEL (FT BGS)	_____
SEAL:	Bentonite Pellets	20.0 to 22.0		LOGGED BY	_____
UPPER PACK:				REMARKS	_____
LOWER PACK:	6-10 Silica Sand	22.0 to 48.5			



MONITORING WELL COMPLETION LOG DUR01-0627

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1228679.51</u>	DATE DRILLED <u>04/18/1983</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306903.13</u>	SURFACE ELEV. (FT NGVD) <u>6495.90</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>51.00</u>	TOP OF CASING (FT) <u>6496.90</u>
WELL NUMBER <u>0627</u>	WELL DEPTH (FT) <u>46.00</u>	MEAS. PT. ELEV. (FT) <u>6496.90</u>

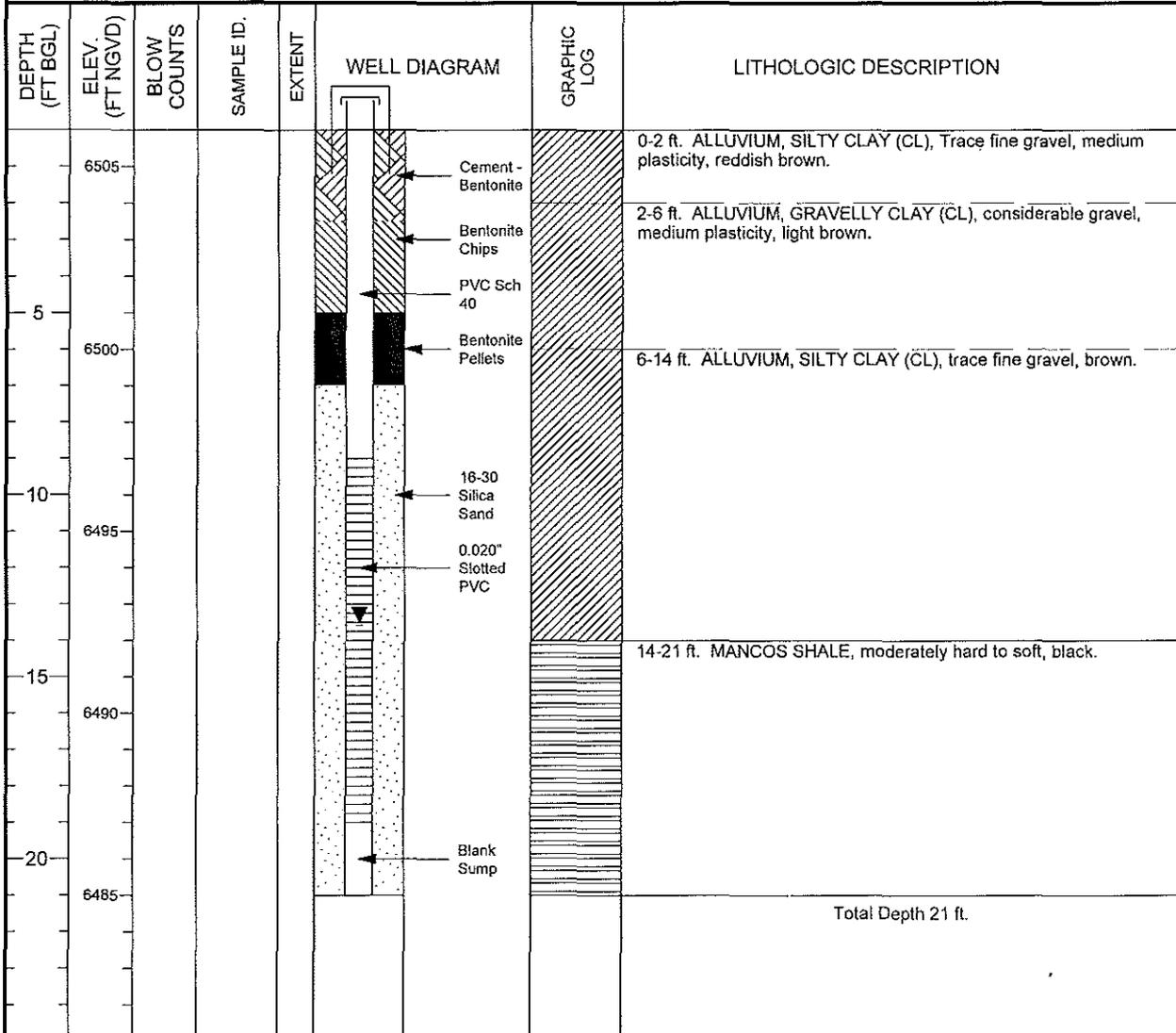
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-1.0 to 33.0	DRILLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	33.0 to 43.0	SAMPLING METHOD _____
SUMP/END CAP:	4 in. PVC Sch 40	43.0 to 46.0	DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) _____
GROUT:		0.0 to 28.0	LOGGED BY _____
SEAL:		28.0 to 29.0	REMARKS <u>Well construction data is incomplete.</u>
UPPER PACK:			
LOWER PACK:		29.0 to 46.0	



MONITORING WELL COMPLETION LOG DUR01-0629

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1228142.57</u>	DATE DRILLED <u>10/12/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2304611.69</u>	SURFACE ELEV. (FT NGVD) <u>6506.00</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>21.00</u>	TOP OF CASING (FT) <u>6507.97</u>
WELL NUMBER <u>0629</u>	WELL DEPTH (FT) <u>21.00</u>	MEAS. PT. ELEV. (FT) <u>6507.97</u>

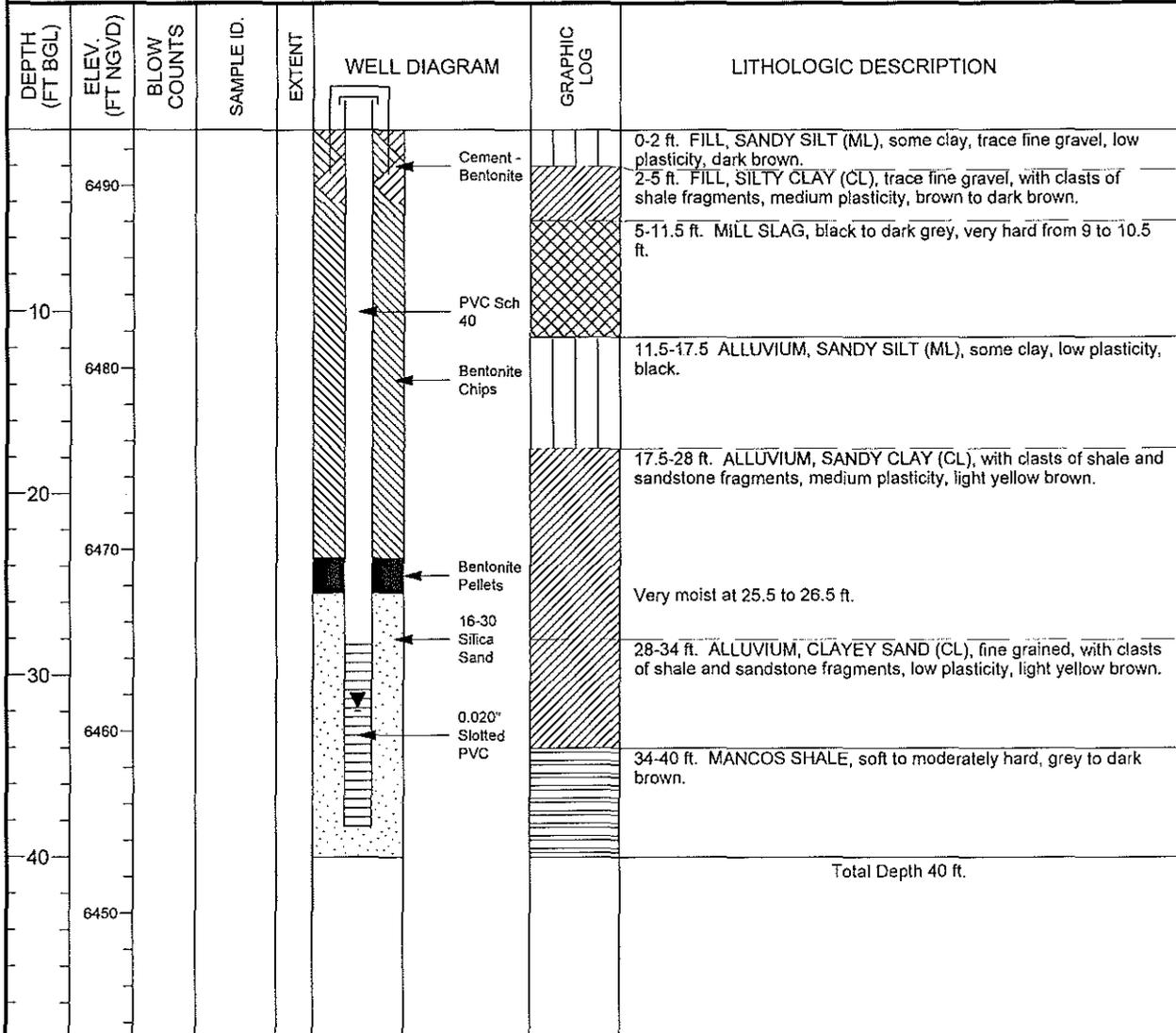
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>HOLLOW STEM AUGER</u>
BLANK CASING:	2 in. PVC Sch 40	-1.97 to 9.0	SAMPLING METHOD <u>SPLIT SPOON</u>
WELL SCREEN:	2 in. Slotted PVC	9.0 to 19.0	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	19.0 to 21.0	WATER LEVEL (FT BGS) <u>13.5 on 10/12/1993</u>
SURFACE SEAL:			LOGGED BY <u>W. Wood</u>
GROUT:		0.0 to 2.5	REMARKS
SEAL:	Bentonite Chips	2.5 to 7.0	
UPPER PACK:			
LOWER PACK:		7.0 to 21.0	



MONITORING WELL COMPLETION LOG DUR01-0630

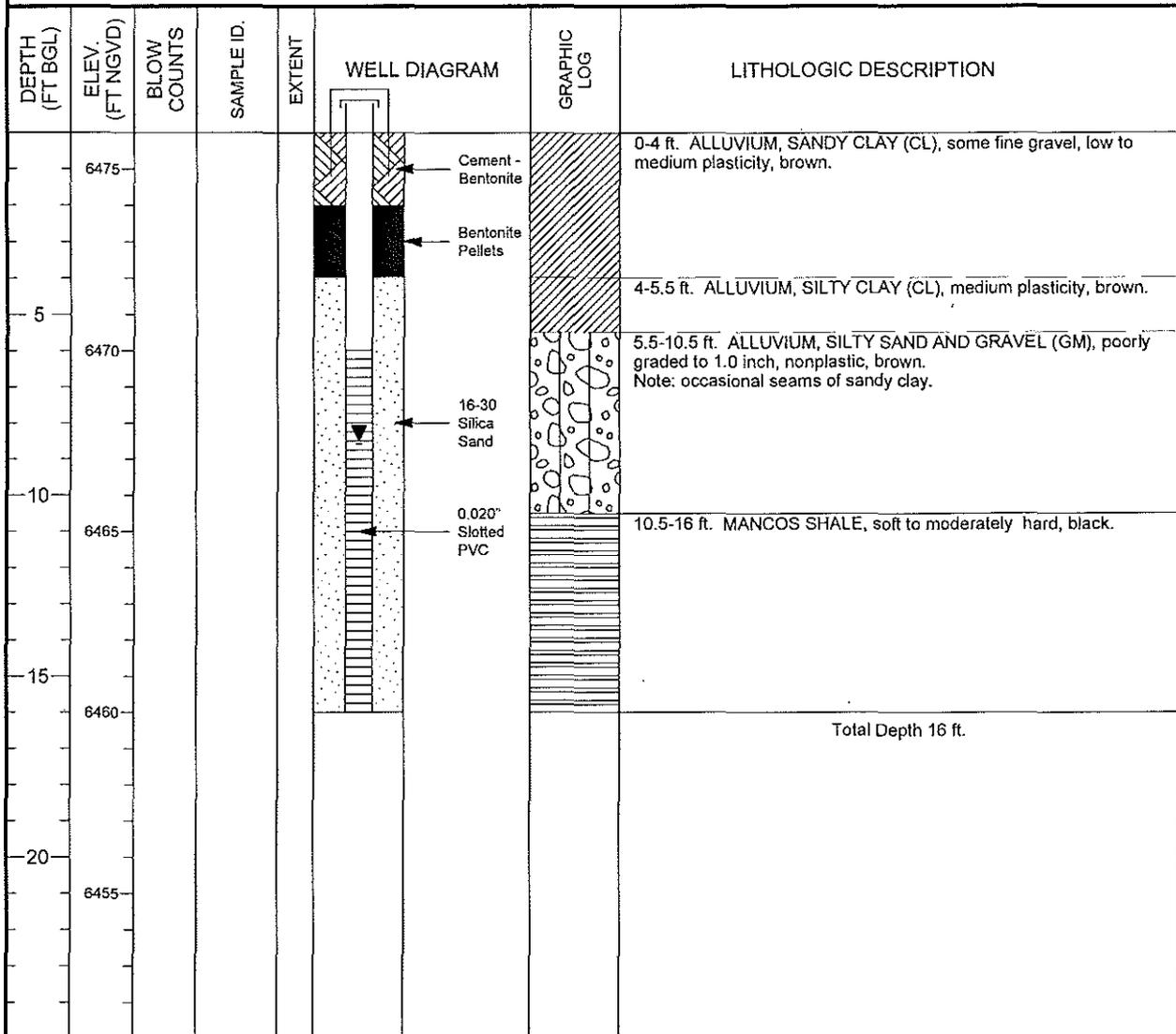
PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226916.09</u>	DATE DRILLED <u>10/08/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306592.09</u>	SURFACE ELEV. (FT NGVD) <u>6493.10</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>40.00</u>	TOP OF CASING (FT) <u>6494.70</u>
WELL NUMBER <u>0630</u>	WELL DEPTH (FT) <u>38.30</u>	MEAS. PT. ELEV. (FT) <u>6494.70</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING: 2 in. PVC Sch 40	-1.6	to 28.3	BIT SIZE(S) (IN) <u>6.5</u>
WELL SCREEN: 2 in. Slotted PVC	28.3	to 38.3	DRILLING METHOD <u>HOLLOW STEM AUGER</u>
SUMP/END CAP:			SAMPLING METHOD <u>SPLIT SPOON</u>
SURFACE SEAL: Grout	0.0	to 4.0	DATE DEVELOPED
GROUT: Bentonite Chips	4.0	to 23.5	WATER LEVEL (FT BGS) <u>31.8 on 10/08/1993</u>
SEAL: Bentonite Pellets	23.5	to 25.5	LOGGED BY <u>W. Wood</u>
UPPER PACK:			REMARKS
LOWER PACK: 16-30 Silica Sand	25.5	to 38.3	



MONITORING WELL COMPLETION LOG DUR01-0631

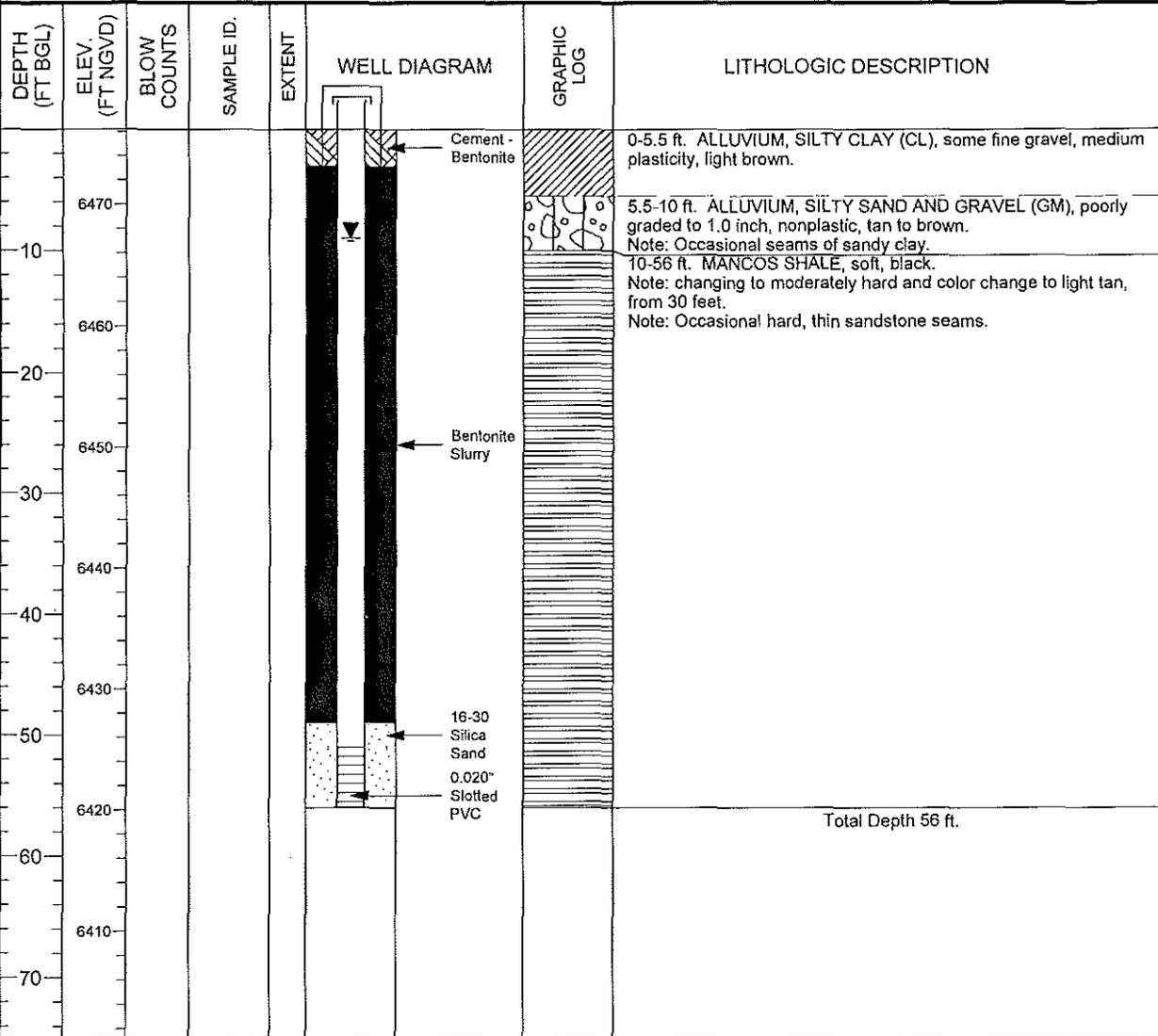
PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1227530.56	DATE DRILLED	10/09/1993
LOCATION	DURANGO, CO	EAST COORD. (FT)	2305863.70	SURFACE ELEV. (FT NGVD)	6476.00
SITE	DURANGO MILL TAILINGS	HOLE DEPTH (FT)	16.00	TOP OF CASING (FT)	6478.05
WELL NUMBER	0631	WELL DEPTH (FT)	16.00	MEAS. PT. ELEV. (FT)	6478.05
				SLOT SIZE (IN)	0.020
				BIT SIZE(S) (IN)	6.5
SURFACE CASING:		WELL INSTALLATION	INTERVAL (FT)	DRILLING METHOD	HOLLOW STEM AUGER
BLANK CASING:	2 in. PVC Sch 40		-2.05 to 3.0	SAMPLING METHOD	SPLIT SPOON
WELL SCREEN:	2 in. Slotted PVC		6.0 to 16.0	DATE DEVELOPED	
SUMP/END CAP:				WATER LEVEL (FT BGS)	8.5 on 10/09/1993
SURFACE SEAL:				LOGGED BY	W. Wood
GROUT:	Cement - Bentonite		0.0 to 2.0	REMARKS	
SEAL:	Bentonite Pellets		2.0 to 4.0		
UPPER PACK:					
LOWER PACK:	16-30 Silica Sand		4.0 to 16.0		



MONITORING WELL COMPLETION LOG DUR01-0632

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1227523.44	DATE DRILLED	10/12/1993 to 10/15/1993
LOCATION	DURANGO, CO	EAST COORD. (FT)	2305860.81	SURFACE ELEV. (FT NGVD)	6476.20
SITE	DURANGO MILL TAILINGS	HOLE DEPTH (FT)	56.00	TOP OF CASING (FT)	6478.13
WELL NUMBER	0632	WELL DEPTH (FT)	56.00	MEAS. PT. ELEV. (FT)	6478.13

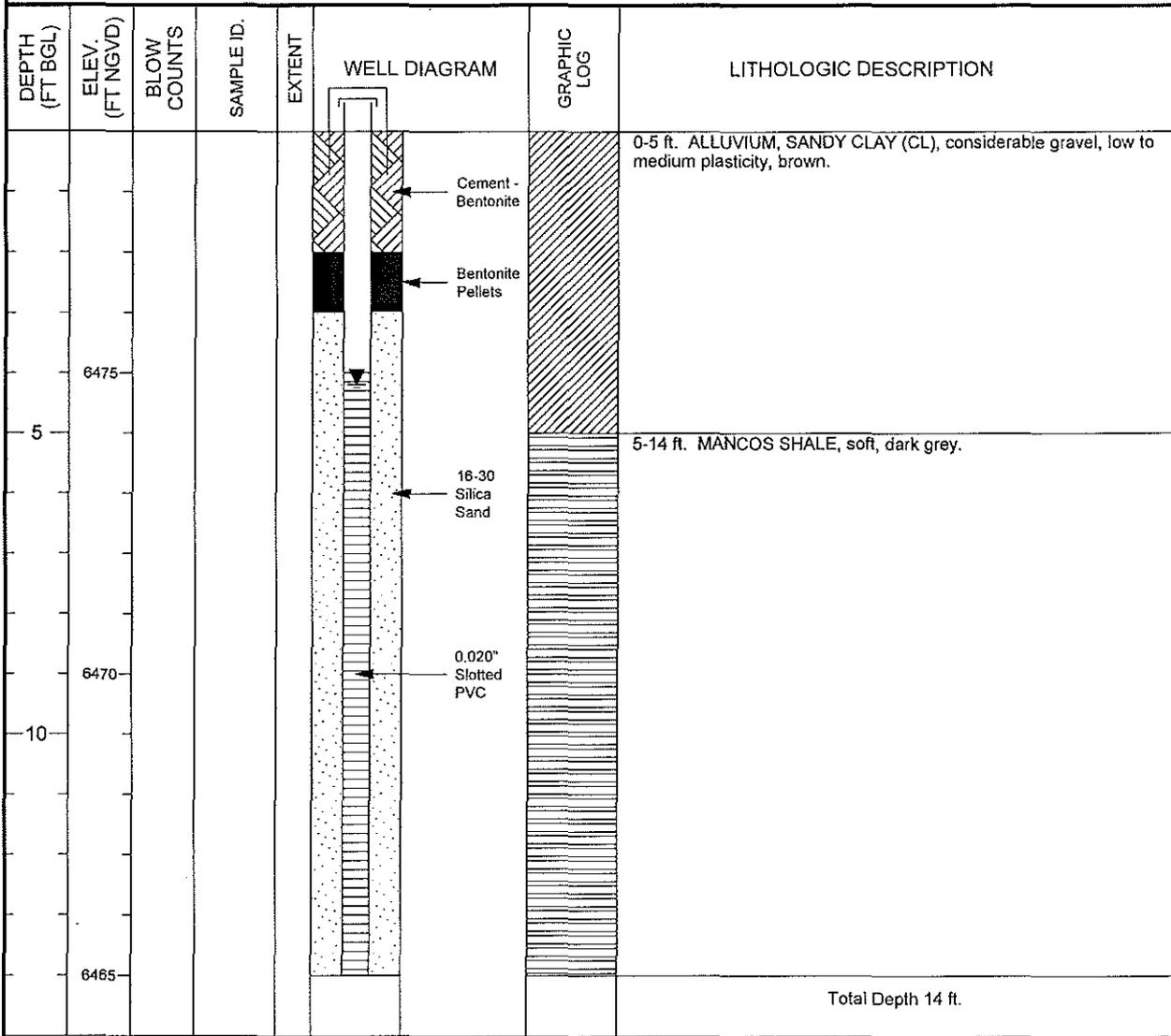
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	-1.93 to 51.0	DRILLING METHOD HOLLOW STEM AUGER
WELL SCREEN:	2 in. Slotted PVC	51.0 to 56.0	SAMPLING METHOD SPLIT SPOON
SUMP/END CAP:			DATE DEVELOPED
SURFACE SEAL:			WATER LEVEL (FT BGS) 9.0 on 10/09/993
GROUT:	Cement - Bentonite	0.0 to 3.0	LOGGED BY W. Wood
SEAL:	Bentonite Slurry	3.0 to 49.0	REMARKS
UPPER PACK:			
LOWER PACK:	16-30 Silica Sand	49.0 to 56.0	



MONITORING WELL COMPLETION LOG DUR01-0633

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227438.88</u>	DATE DRILLED <u>10/13/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305749.60</u>	SURFACE ELEV. (FT NGVD) <u>6479.00</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>14.00</u>	TOP OF CASING (FT) <u>6482.02</u>
WELL NUMBER <u>0633</u>	WELL DEPTH (FT) <u>14.00</u>	MEAS. PT. ELEV. (FT) <u>6482.02</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	-3.02 to 4.0	BIT SIZE(S) (IN) <u>6.5</u>
WELL SCREEN:	2 in. Slotted PVC	4.0 to 14.0	DRILLING METHOD <u>HOLLOW STEM AUGER</u>
SUMP/END CAP:			SAMPLING METHOD <u>SPLIT SPOON</u>
SURFACE SEAL:			DATE DEVELOPED _____
GROUT:	Cement - Bentonite	0.0 to 2.0	WATER LEVEL (FT BGS) <u>4.2 on 10/13/1993</u>
SEAL:	Bentonite Pellets	2.0 to 3.0	LOGGED BY <u>W. Wood</u>
UPPER PACK:			REMARKS _____
LOWER PACK:	16-30 Silica Sand	3.0 to 14.0	

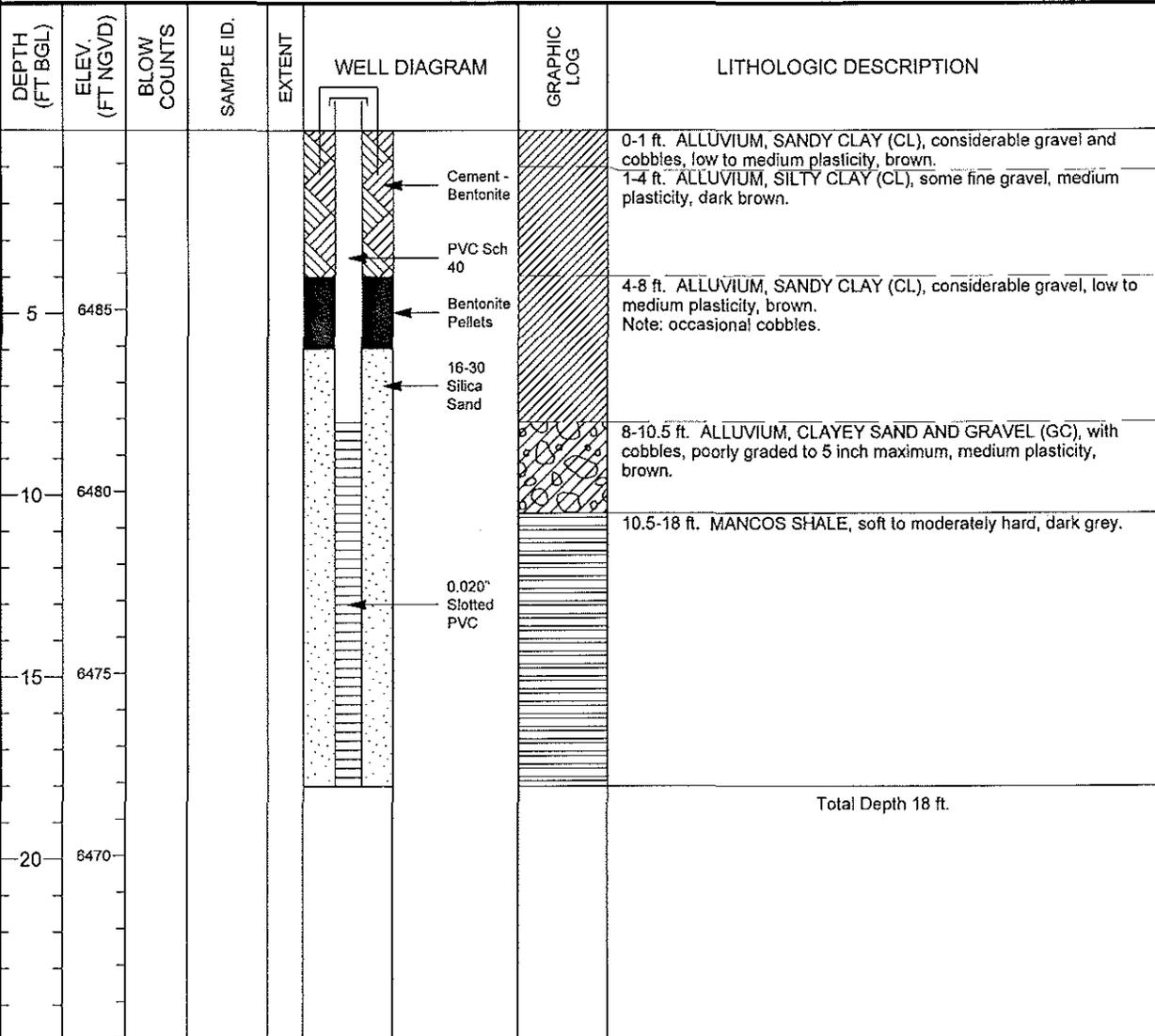


MONITORING WELL COMPLETION LOG DUR01-0634

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227718.79</u>	DATE DRILLED <u>10/10/1993 to 10/15/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305456.62</u>	SURFACE ELEV. (FT NGVD) <u>6489.90</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>18.00</u>	TOP OF CASING (FT) <u>6491.89</u>
WELL NUMBER <u>0634</u>	WELL DEPTH (FT) <u>18.00</u>	MEAS. PT. ELEV. (FT) <u>6491.89</u>

	WELL INSTALLATION	INTERVAL (FT)
SURFACE CASING:		
BLANK CASING:	2 in. PVC Sch 40	-1.99 to 8.0
WELL SCREEN:	2 in. Slotted PVC	8.0 to 18.0
SUMP/END CAP:		
SURFACE SEAL:		
GROUT:	Cement - Bentonite	0.0 to 4.0
SEAL:	Bentonite Pellets	4.0 to 6.0
UPPER PACK:		
LOWER PACK:	16-30 Silica Sand	6.0 to 18.0

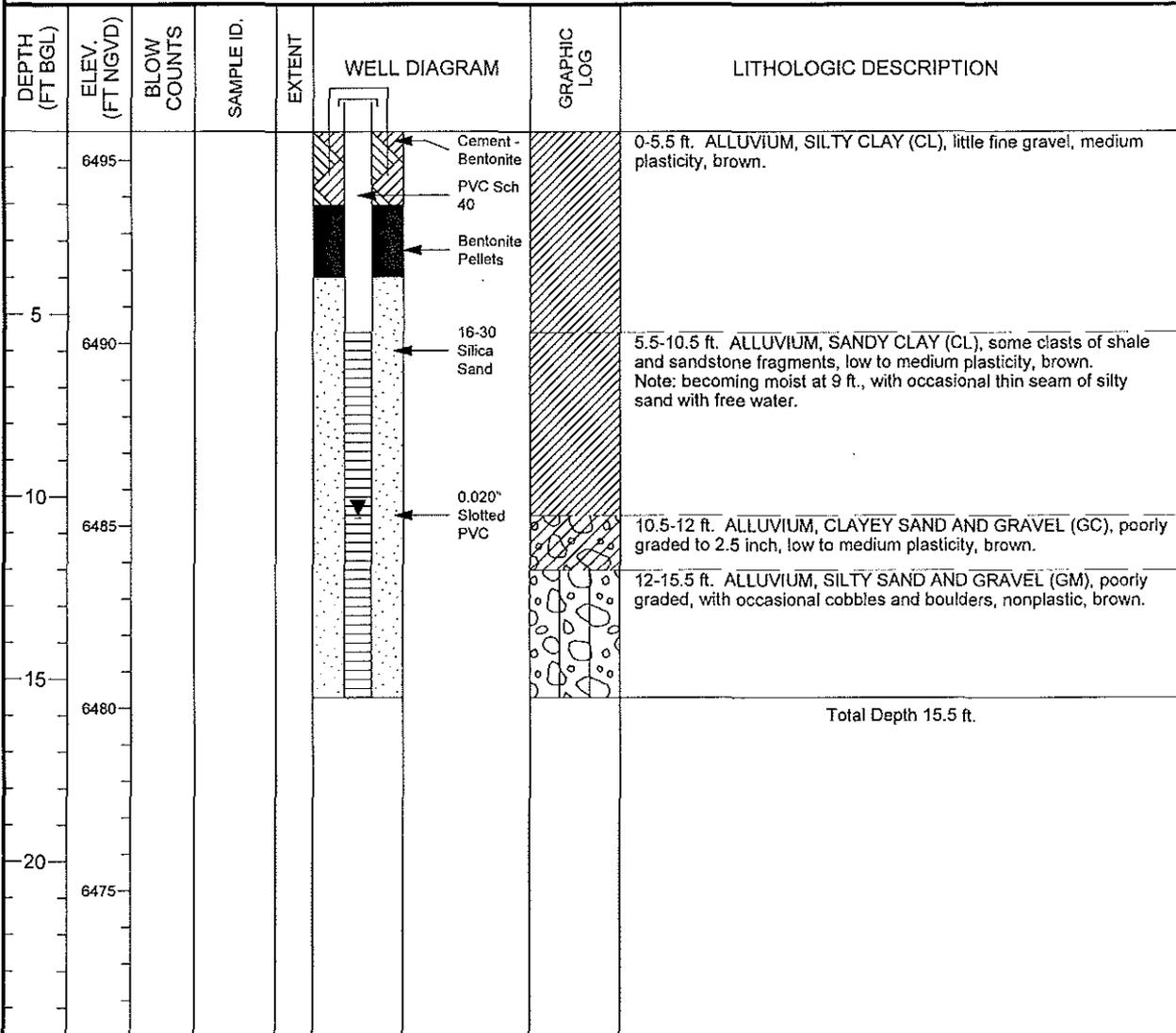
DRILLING METHOD <u>HOLLOW STEM AUGER</u>
SAMPLING METHOD <u>SPLIT SPOON</u>
DATE DEVELOPED _____
WATER LEVEL (FT BGS) _____
LOGGED BY <u>W. Wood</u>
REMARKS <u>Hole was dry at time of well installation.</u>



MONITORING WELL COMPLETION LOG DUR01-0635

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227808.13</u>	DATE DRILLED <u>10/13/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2304902.06</u>	SURFACE ELEV. (FT NGVD) <u>6495.80</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>15.50</u>	TOP OF CASING (FT) <u>6497.90</u>
WELL NUMBER <u>0635</u>	WELL DEPTH (FT) <u>15.50</u>	MEAS. PT. ELEV. (FT) <u>6497.90</u>

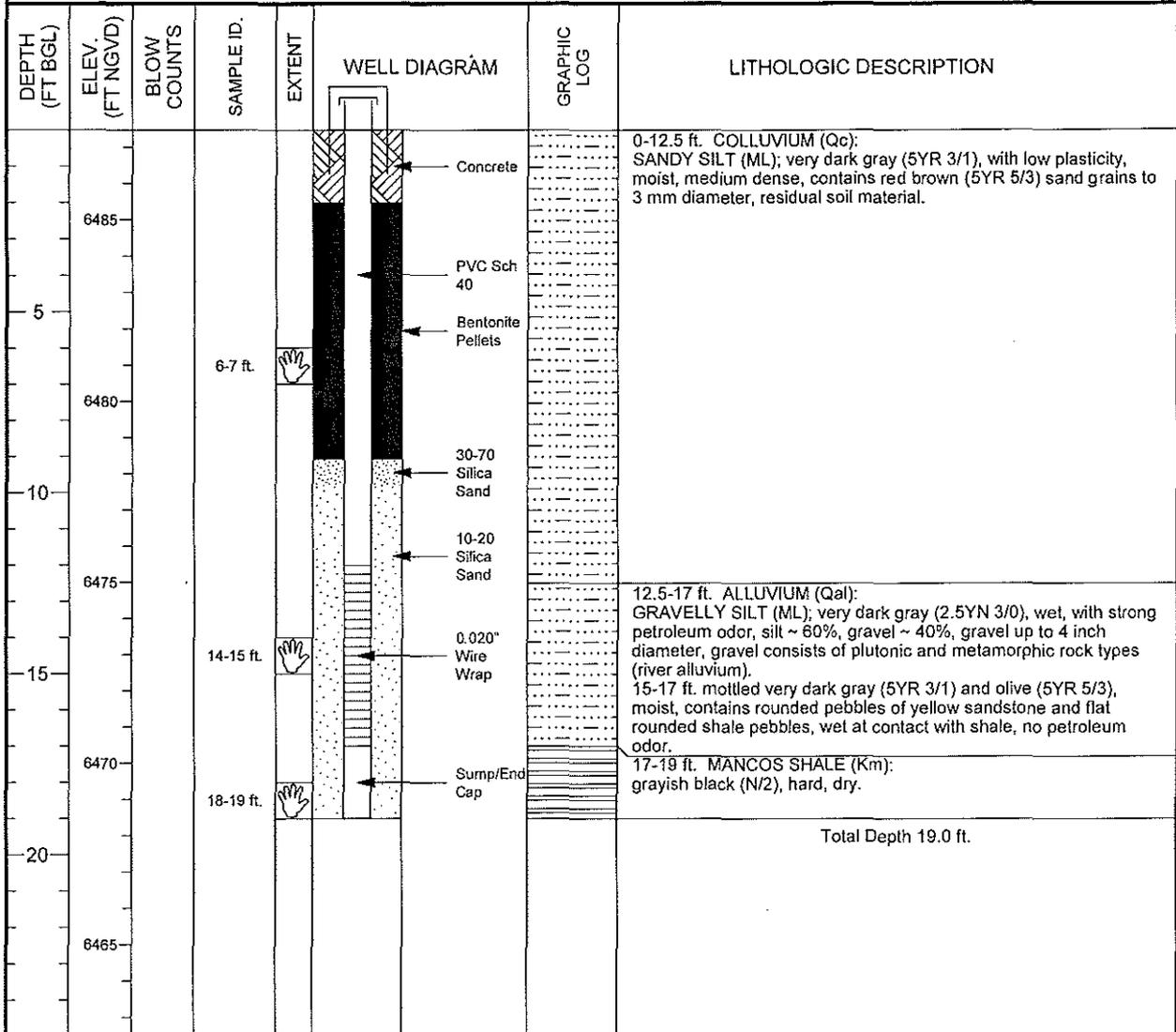
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING: 2 in. PVC Sch 40	-2.1	to 5.5	BIT SIZE(S) (IN) <u>6.5</u>
WELL SCREEN: 2 in. Slotted PVC	5.5	to 15.5	DRILLING METHOD <u>HOLLOW STEM AUGER</u>
SUMP/END CAP:			SAMPLING METHOD <u>SPLIT SPOON</u>
SURFACE SEAL:			DATE DEVELOPED
GROUT: Cement - Bentonite	0.0	to 2.0	WATER LEVEL (FT BGS) <u>10.5 on 10/13/1993</u>
SEAL: Bentonite Pellets	2.0	to 4.0	LOGGED BY <u>W. Wood</u>
UPPER PACK:			REMARKS
LOWER PACK: 16-30 Silica Sand	4.0	to 15.5	



MONITORING WELL COMPLETION LOG DUR01-0857

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1228116.93</u>	DATE DRILLED <u>10/18/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2305477.03</u>	SURFACE ELEV. (FT NGVD) <u>6487.47</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>19.00</u>	TOP OF CASING (FT) <u>6490.08</u>
WELL NUMBER <u>0857</u>	WELL DEPTH (FT) <u>19.00</u>	MEAS. PT. ELEV. (FT) <u>6490.08</u>

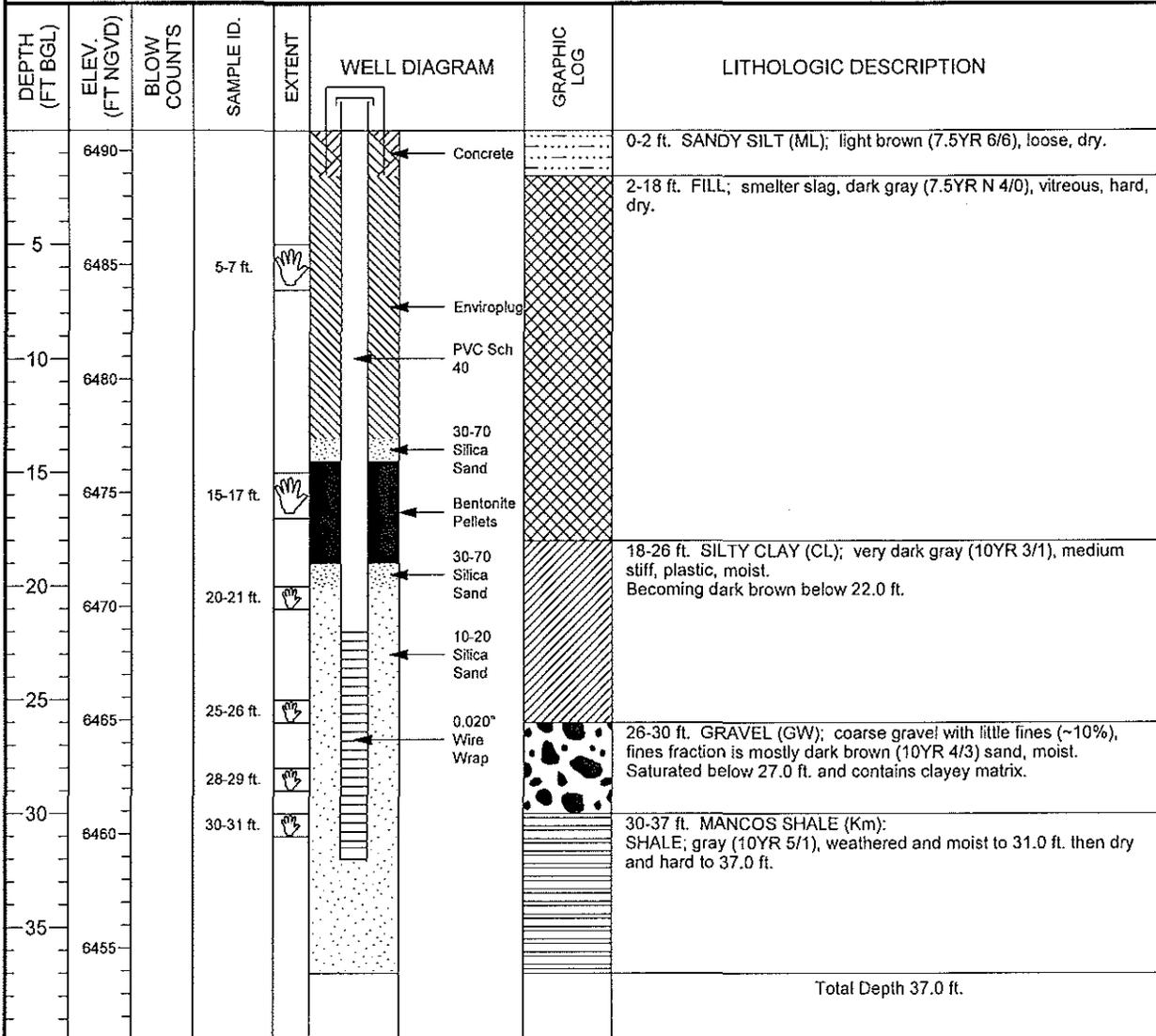
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	-2.61 to 12.0	BIT SIZE(S) (IN) <u>6.0</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	12.0 to 17.0	DRILLING METHOD <u>ROTASONIC</u>
SUMP/END CAP:	2 in. PVC Sch 40	17.0 to 19.0	SAMPLING METHOD <u>GRAB</u>
SURFACE SEAL:	Concrete	0.0 to 2.0	DATE DEVELOPED _____
GROUT:			WATER LEVEL (FT BGS) _____
SEAL:	Bentonite Pellets	2.0 to 9.08	LOGGED BY <u>Kautsky, M.</u>
UPPER PACK:	30-70 Silica Sand	9.08 to 9.83	REMARKS _____
LOWER PACK:	10-20 Silica Sand	9.83 to 19.0	



MONITORING WELL COMPLETION LOG DUR01-0859

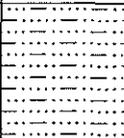
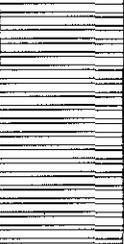
PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227099.92</u>	DATE DRILLED <u>09/22/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306584.43</u>	SURFACE ELEV. (FT NGVD) <u>6490.89</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>37.00</u>	TOP OF CASING (FT) <u>6490.58</u>
WELL NUMBER <u>0859</u>	WELL DEPTH (FT) <u>32.00</u>	MEAS. PT. ELEV. (FT) <u>6490.58</u>
		SLOT SIZE (IN) <u>0.020</u>
		BIT SIZE(S) (IN) <u>6.0</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	0.31 to 22.0	DRILLING METHOD <u>ROTASONIC</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	21.5 to 31.5	SAMPLING METHOD <u>GRAB</u>
SUMP/END CAP:	2 in. PVC Sch 40	31.5 to 32.0	DATE DEVELOPED _____
SURFACE SEAL:	Concrete	0.0 to 2.0	WATER LEVEL (FT BGS) _____
GROUT:	Enviroplug	2.0 to 13.5	LOGGED BY <u>Kautsky, M.</u>
SEAL:	Bentonite Pellets	14.5 to 19.0	REMARKS <u>30-70 sand pack from 13.5 to 14.5 ft.</u>
UPPER PACK:	30-70 Silica Sand	19.0 to 20.0	
LOWER PACK:	10-20 Silica Sand	20.0 to 37.0	



BOREHOLE LOG DUR01-0860

PROJECT <u>UMTRA GROUND WATER</u>	SURFACE ELEV. (FT NGVD) <u>6505.23</u>
LOCATION <u>DURANGO, CO</u>	BIT SIZE(S) (IN) <u>6.0</u>
SITE <u>DURANGO MILL TAILINGS</u>	DRILLING METHOD <u>ROTASONIC</u>
WELL NUMBER <u>0860</u>	SAMPLING METHOD <u>GRAB</u>
NORTH COORD. (FT) <u>1227511.39</u>	WATER LEVEL (FT BGS) _____
EAST COORD. (FT) <u>2305489.35</u>	LOGGED BY <u>Kautsky, M.</u>
HOLE DEPTH (FT) <u>37.00</u>	REMARKS _____
DATE DRILLED <u>09/22/2000</u>	

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
5	6505		3-5 ft.			0-24 ft. COLLUVIUM (Qc): SANDY SILT (ML); dark gray brown (2.5YR 4/2), moist, dense with 20% angular sandstone rock fragments to 1 inch diameter, sandstone clasts are yellow brown (10YR 5/4), and deeply weathered.
10	6495		15-17 ft.			
15	6490		25-27 ft.			24-28 ft. ALLUVIUM (Qal): GRAVEL (GW); coarse, yellowish brown (10YR 5/4), dense, dry, and moist, gravel clasts are rounded and consists of crystalline lithologies.
20	6485		28-30 ft.			28-37 ft. MANCOS SHALE (Km): SHALE; dark gray (N4/0), hard, dry.
25	6480					
30	6475					
35	6470					
Total Depth 37.0 ft.						



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BOREHOLE LOG DUR01-0861

PROJECT <u>UMTRA GROUND WATER</u>	SURFACE ELEV. (FT NGVD) <u>6521.55</u>
LOCATION <u>DURANGO, CO</u>	BIT SIZE(S) (IN) <u>6.0</u>
SITE <u>DURANGO MILL TAILINGS</u>	DRILLING METHOD <u>ROTASONIC</u>
WELL NUMBER <u>0861</u>	SAMPLING METHOD <u>GRAB</u>
NORTH COORD. (FT) <u>1226984.26</u>	WATER LEVEL (FT BGS) _____
EAST COORD. (FT) <u>2306193.58</u>	LOGGED BY <u>Kautsky, M.</u>
HOLE DEPTH (FT) <u>67.00</u>	REMARKS _____
DATE DRILLED <u>09/21/2000</u>	

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
5	6520			4-6 ft.		0-20 ft. COLLUVIUM (Qc): SANDY SILT (ML); mottled, very dark brown (10YR 2/2) and dark yellow brown (10YR 4/4), moist, medium dense, contains ~30% angular sandstone clasts, olive gray (5Y 4/2), soft and weathered, derived from Point Lookout Sandstone.
10	6515					
15	6510			14-17 ft.		20-30 ft. SANDY SILT (ML); dark brown (10 YR 3/3), moist, medium dense, below 20 ft., the material is uniformly dark brown (10 YR 3/3) and gravel/rock fragments are absent.
20	6505					
25	6500			22-27 ft.		30-59 ft. COLLUVIUM (Qc)/TERACE ALLUVIUM (Qt): SANDY GRAVEL (GW); mottled, red yellow (5 YR 6/6), dark yellow brown (10 YR 4/4), and subrounded, dark brown (10 YR 3/3), moist, dense, subrounded, contains rock fragments of granodiorite, all sizes up to boulder, colluvium (Qt) <10% fines, terrace alluvium (Qt).
30	6495					
35	6490			34-37 ft.		
	6485					

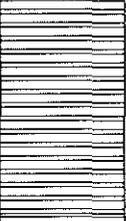


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BOREHOLE LOG DUR01-0861

PROJECT	UMTRA GROUND WATER	BOREHOLE NUMBER	0861
SITE	DURANGO MILL TAILINGS	DATES DRILLED	09/21/2000

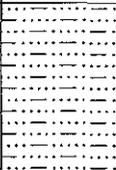
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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
45	6480		42-47 ft.			45 ft. increasing moisture and fines below.
50	6475		50-53 ft.			50-53 ft. clean, coarse gravel (GW), no fines, composed of various Precambrian lithologies up to 1.0 ft. diameter.
60	6465		60-67 ft.			59-67 ft. MANCOS SHALE (Km): SHALE; gray (5Y 5/1), hard, dry.
65	6460					Total Depth 67.0 ft.
70	6455					
75	6450					
80	6445					
	6440					



BOREHOLE LOG DUR01-0862

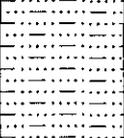
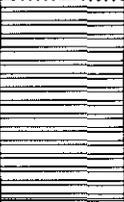
PROJECT <u>UMTRA GROUND WATER</u>	SURFACE ELEV. (FT NGVD) <u>6514.75</u>
LOCATION <u>DURANGO, CO</u>	BIT SIZE(S) (IN) <u>6.0</u>
SITE <u>DURANGO MILL TAILINGS</u>	DRILLING METHOD <u>ROTASONIC</u>
WELL NUMBER <u>0862</u>	SAMPLING METHOD <u>GRAB</u>
NORTH COORD. (FT) <u>1226517.42</u>	WATER LEVEL (FT BGS) _____
EAST COORD. (FT) <u>2306598.61</u>	LOGGED BY <u>Kautsky, M.</u>
HOLE DEPTH (FT) <u>57.00</u>	REMARKS _____
DATE DRILLED <u>09/20/2000</u>	

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
5	6510		4-6 ft.			0-50 ft. COLLUVIUM (Qc): SANDY SILT (ML); dark brown (7.5YR 3/2), fine, compacted, moist, dense.
10	6505					5 ft. contains light olive brown (2.5YR 5/4) coated clasts, angular rock fragments up to 2 inch diameter.
15	6500		14-16 ft.			15 ft. grading to very dark gray (2.5YR 3/0).
20	6495					
25	6490		24-26 ft.			25 ft. grading to mottled very dark gray brown (2.5Y 3/2), yellowish red (5YR 5/8) with medium plasticity, moist, medium dense.
30	6485					
35	6480		34-38 ft.			35 ft. mottled very dark gray brown (10YR 3/2) and yellow brown (10YR 5/6) with gravel, slight plasticity-gravel fragments are angular, fine grained sandstone.
	6475					

BOREHOLE LOG DUR01-0862

PROJECT	UMTRA GROUND WATER	BOREHOLE NUMBER	0862
SITE	DURANGO MILL TAILINGS	DATES DRILLED	09/20/2000

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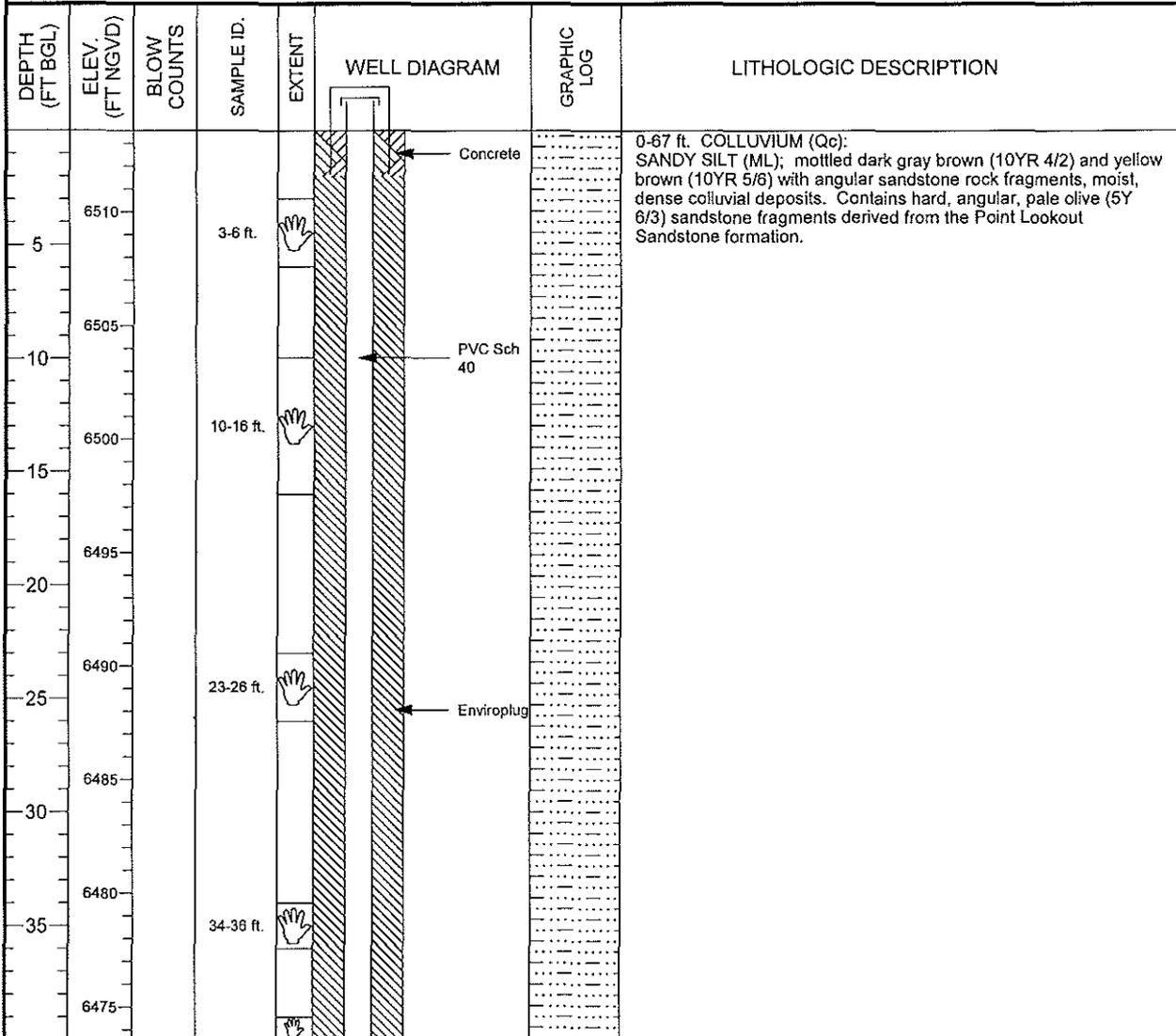
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
45	6470		45-46 ft.			44 ft. drilling becomes harder.
50	6465					48 ft. encountered a large ~2.0 ft. diameter clast of yellow (10YR 7/6) fine grained, deeply weathered sandstone, slightly moist, light brownish gray (10YR 6/2), dry.
55	6460		52-56 ft.			50-57 ft. MANCOS SHALE (Km): SHALE; gray (10YR 5/1), dry, hard.
60	6455					Total Depth 57.0 ft.
65	6450					
70	6445					
75	6440					
80	6435					



MONITORING WELL COMPLETION LOG DUR01-0863

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1226282.04</u>	DATE DRILLED <u>09/21/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306750.05</u>	SURFACE ELEV. (FT NGVD) <u>6513.56</u>
SITE <u>DURANGO MILL TAILINGS</u>	HOLE DEPTH (FT) <u>74.50</u>	TOP OF CASING (FT) <u>6513.32</u>
WELL NUMBER <u>0863</u>	WELL DEPTH (FT) <u>68.00</u>	MEAS. PT. ELEV. (FT) <u>6513.32</u>

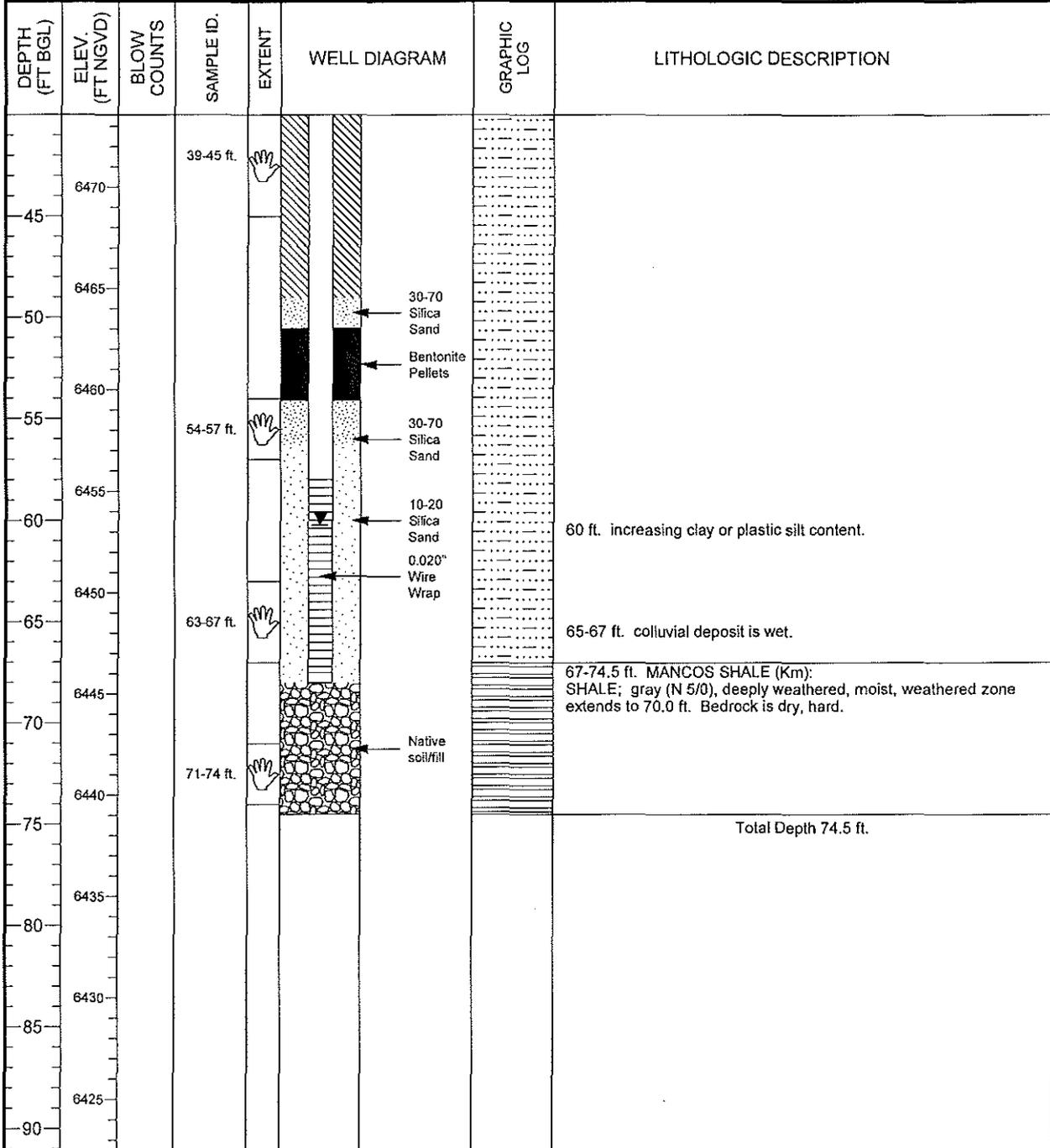
	WELL INSTALLATION	INTERVAL (FT)			
SURFACE CASING:				SLOT SIZE (IN) <u>0.020</u>	DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	0.24 to 58.0		BIT SIZE(S) (IN) <u>6.0</u>	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	58.0 to 67.5			DATE DEVELOPED _____
SUMP/END CAP:	2 in. PVC Sch 40	67.5 to 68.0			WATER LEVEL (FT BTOC) <u>60.0</u> on <u>09/21/2000</u>
SURFACE SEAL:	Concrete	0.0 to 2.0			LOGGED BY <u>Kautsky, M.</u>
GROUT:	Enviroplug	2.0 to 49.0			REMARKS <u>30 -70 sand pack from 49.0 to 50.5 ft.</u>
SEAL:	Bentonite Pellets	50.5 to 54.1			
UPPER PACK:	30-70 Silica Sand	54.1 to 56.2			
LOWER PACK:	10-20 Silica Sand	56.2 to 68.0			



MONITORING WELL COMPLETION LOG DUR01-0863

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0863</u>
SITE <u>DURANGO MILL TAILINGS</u>	DATES DRILLED <u>09/21/2000</u>

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BOREHOLE LOG DUR01-0864

PROJECT <u>UMTRA GROUND WATER</u>	SURFACE ELEV. (FT NGVD) _____
LOCATION <u>DURANGO, CO</u>	BIT SIZE(S) (IN) <u>6.0</u>
SITE <u>DURANGO MILL TAILINGS</u>	DRILLING METHOD <u>ROTASONIC</u>
WELL NUMBER <u>0864</u>	SAMPLING METHOD <u>GRAB</u>
NORTH COORD. (FT) <u>1226520.00</u>	WATER LEVEL (FT BGS) _____
EAST COORD. (FT) <u>2307643.00</u>	LOGGED BY <u>Kautsky, M.</u>
HOLE DEPTH (FT) <u>27.00</u>	REMARKS _____
DATE DRILLED _____	

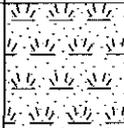
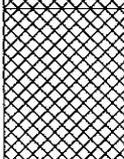
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
						0-2 ft. SANDY SILT (ML); brown (7.5YR 4/2), slightly moist, loose.
5				6-8 ft.		2-3 ft. SILTY SAND (SM); light yellow brown (10YR 6/4). 3-10 ft. TERRACE GRAVEL (Qt): SANDY GRAVEL (GW); red brown (5YR 4/4), loose, dry, 30% sand, gravel consists of hard, Precambrian rounded clasts
10				10-16 ft.		10-27 ft. MANCOS SHALE (Km): SHALE; gray (5Y 5/1) hard, dry.
15						Sample of Mancos from cutting bit collected at 27.0 ft.
20						Abandoned the hole.
25				26-27 ft.		
						Total Depth 27.0 ft.
30						
35						



U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

BOREHOLE LOG DUR01-0865

PROJECT <u>UMTRA GROUND WATER</u>	SURFACE ELEV. (FT NGVD) <u>6500.63</u>
LOCATION <u>DURANGO, CO</u>	BIT SIZE(S) (IN) <u>6.0</u>
SITE <u>DURANGO MILL TAILINGS</u>	DRILLING METHOD <u>ROTASONIC</u>
WELL NUMBER <u>0865</u>	SAMPLING METHOD _____
NORTH COORD. (FT) <u>1227299.69</u>	WATER LEVEL (FT BGS) _____
EAST COORD. (FT) <u>2307100.83</u>	LOGGED BY <u>Miller, D.</u>
HOLE DEPTH (FT) <u>17.00</u>	REMARKS _____
DATE DRILLED <u>10/17/2000</u>	_____

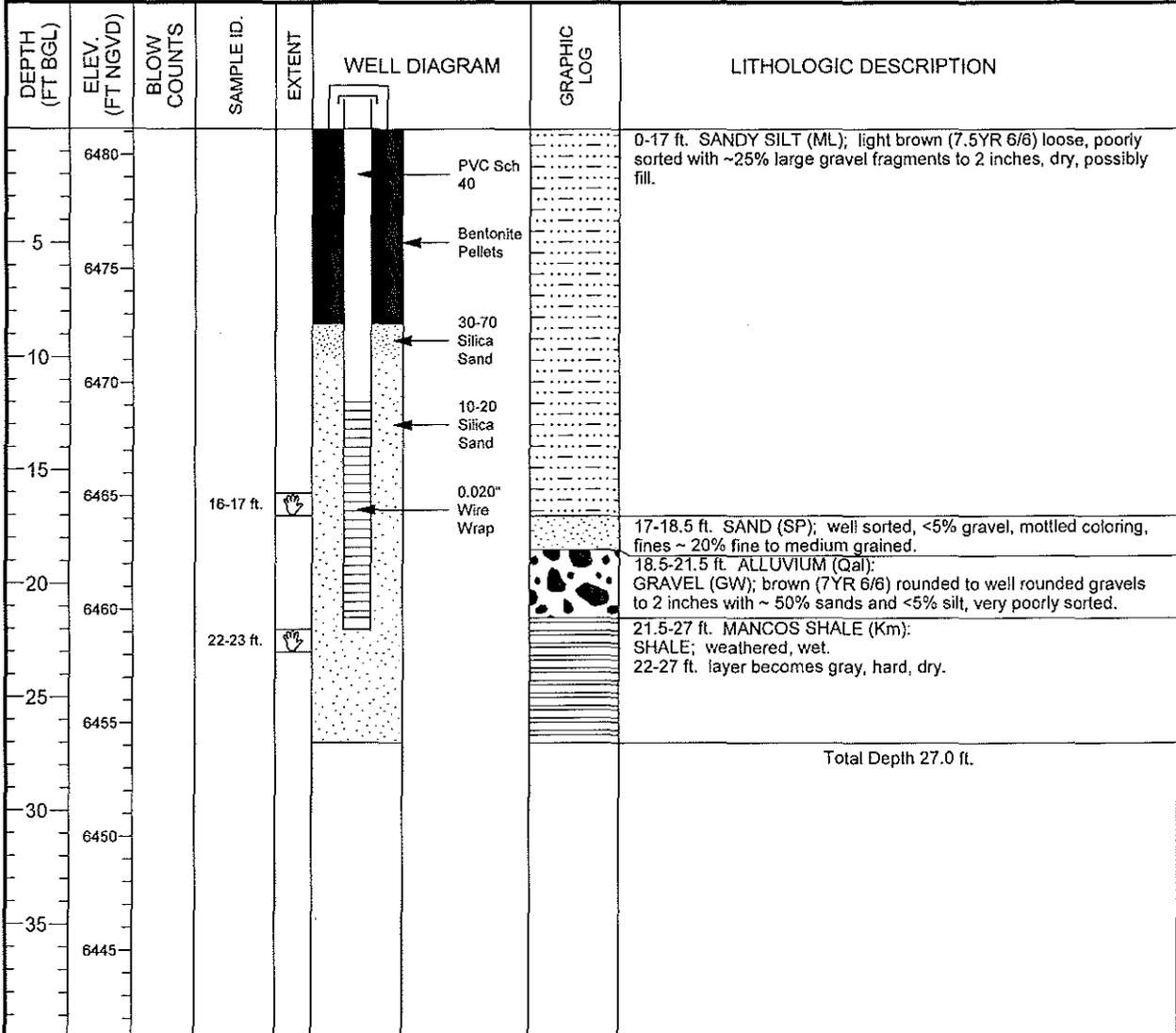
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
	6500					0-3 ft. TOPSOIL; brown to dark brown with organic debris, mixed with some gravel.
						3-4 ft. FILL; roadbase.
5						4-7.5 ft. FILL; sandy, silty, topsoil, clean, brown, dry.
	6495					
						7.5-17 ft. MANCOS SHALE (Km); SHALE; gray (N 5/0) deeply weathered and fractured shale, dry.
10						
	6490					11-17 ft. becomes gray (10YR 5/1) dry, hard.
15						
	6485					
						Total Depth 17.0 ft.
20						
	6480					



MONITORING WELL COMPLETION LOG DUR01-0866

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1227694.25</u>	DATE DRILLED <u>10/17/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2306437.87</u>	SURFACE ELEV. (FT NGVD) <u>6481.15</u>
SITE <u>DURANGO MILL TAILINGS</u>	WELL DEPTH (FT) <u>27.00</u>	TOP OF CASING (FT) <u>6483.32</u>
WELL NUMBER <u>0866</u>	WELL DEPTH (FT) <u>22.00</u>	MEAS. PT. ELEV. (FT) <u>6483.32</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	-2.17 to 12.0	DRILLING METHOD <u>ROTASONIC</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	12.0 to 21.5	SAMPLING METHOD <u>GRAB</u>
SUMP/END CAP:	2 in. PVC Sch 40	21.5 to 22.0	DATE DEVELOPED
SURFACE SEAL:			WATER LEVEL (FT BGS)
GROUT:			LOGGED BY <u>Miller, D.</u>
SEAL:	Bentonite Pellets	0.0 to 8.6	REMARKS
UPPER PACK:	30-70 Silica Sand	8.6 to 10.0	
LOWER PACK:	10-20 Silica Sand	10.0 to 27.0	

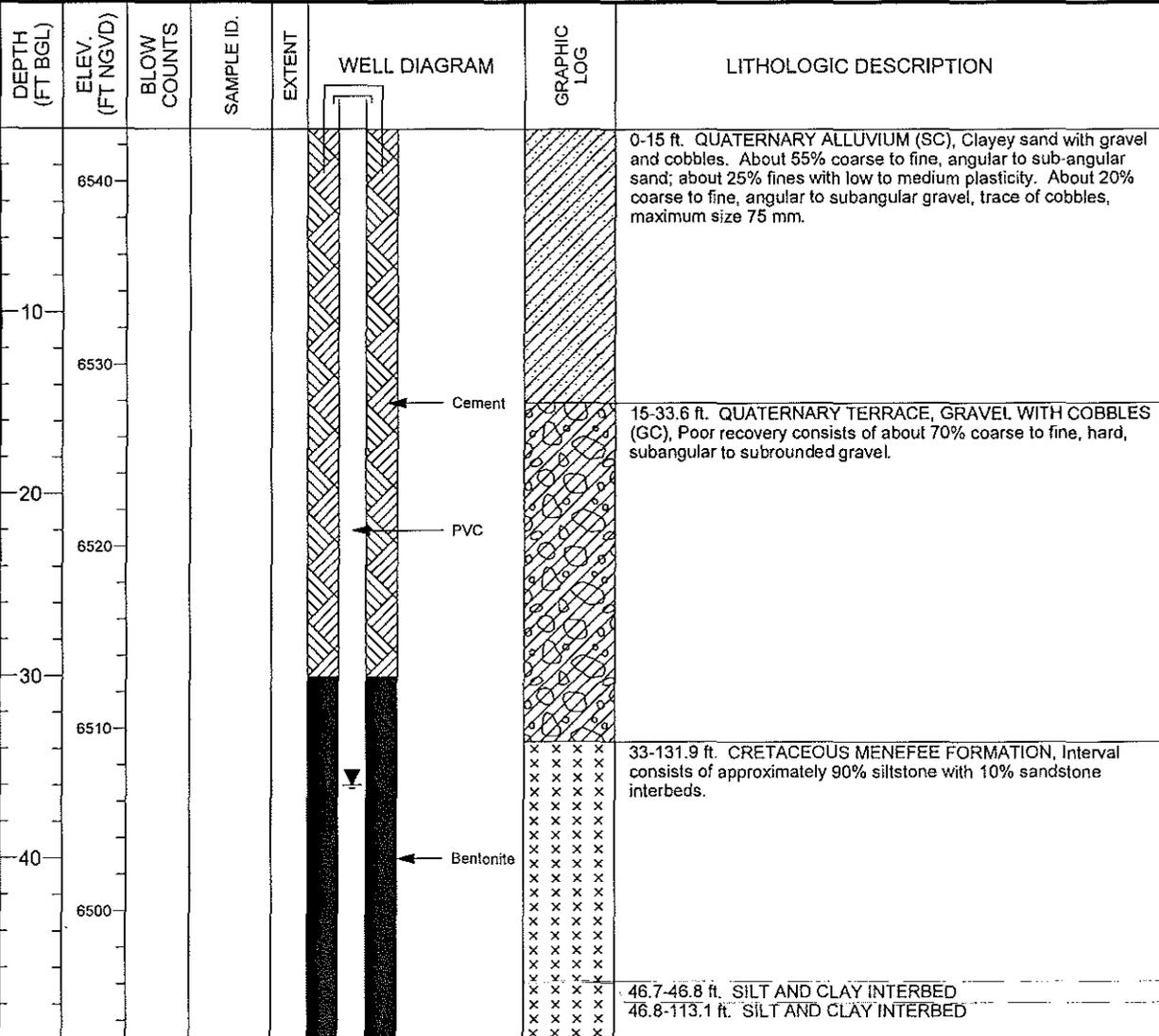


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MONITORING WELL COMPLETION LOG DUR02-0592

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1222224.64</u>	DATE DRILLED <u>05/09/1990 to 05/22/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307502.64</u>	SURFACE ELEV. (FT NGVD) <u>6542.90</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>198.00</u>	TOP OF CASING (FT) <u>6544.90</u>
WELL NUMBER <u>0592</u>	WELL DEPTH (FT) <u>140.00</u>	MEAS. PT. ELEV. (FT) <u>6544.90</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.050</u>
BLANK CASING:	2 in. PVC	-2.0 to 80.0	BIT SIZE(S) (IN) _____
WELL SCREEN:	2 in. Slotted PVC	80.0 to 140.0	DRILLING METHOD _____
SUMP/END CAP:			SAMPLING METHOD _____
SURFACE SEAL:			DATE DEVELOPED _____
GROUT:	Cement Grout	0.0 to 30.0	WATER LEVEL (FT BGS) <u>36.0 on 05/18/1990</u>
SEAL:	Bentonite	30.0 to 70.0	LOGGED BY <u>T. Jackson</u>
UPPER PACK:			REMARKS <u>BOR # DH-118</u>
LOWER PACK:	8-12 Silica Sand	70.0 to 198.0	



MONITORING WELL COMPLETION LOG DUR02-0592

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0592
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	05/09/1990 to 05/22/1990

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							113.1-113.3 ft. SILT INTERBED 113.1-115.8 ft. COAL 115.8-121.9 ft. CARBONACEOUS SANDSTONE
-120	6420						121.9-122.7 ft. TERTIARY ANDESITE DIKE 122.7-123.7 ft. CARBONACEOUS SANDSTONE 123.7-126.3 ft. TERTIARY ANDESITE DIKE
-130	6410						126.3-126.5 ft. COAL 126.5-129.3 ft. CARBONACEOUS SANDSTONE
							129.3-132 ft. TERTIARY ANDESITE DIKE
							131.9-132 ft. CLAY FAULT 132-138.7 ft. CRETACEOUS POINT LOOKOUT SANDSTONE, Sandstone with siltstone interbeds, sandstone with approximately 90% sandstone and 10% siltstone.
-140	6400						138.7-141.2 ft. CLAYSTONE
							141.2-198 ft. CRETACEOUS POINT LOOKOUT SANDSTONE, Sandstone with siltstone interbeds, sandstone with approximately 90% sandstone and 10% siltstone.
-150	6390						
-160	6380						
-170	6370						



MONITORING WELL COMPLETION LOG DUR02-0592

PROJECT UMTRA GROUND WATER WELL NUMBER 0592
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 05/09/1990 to 05/22/1990

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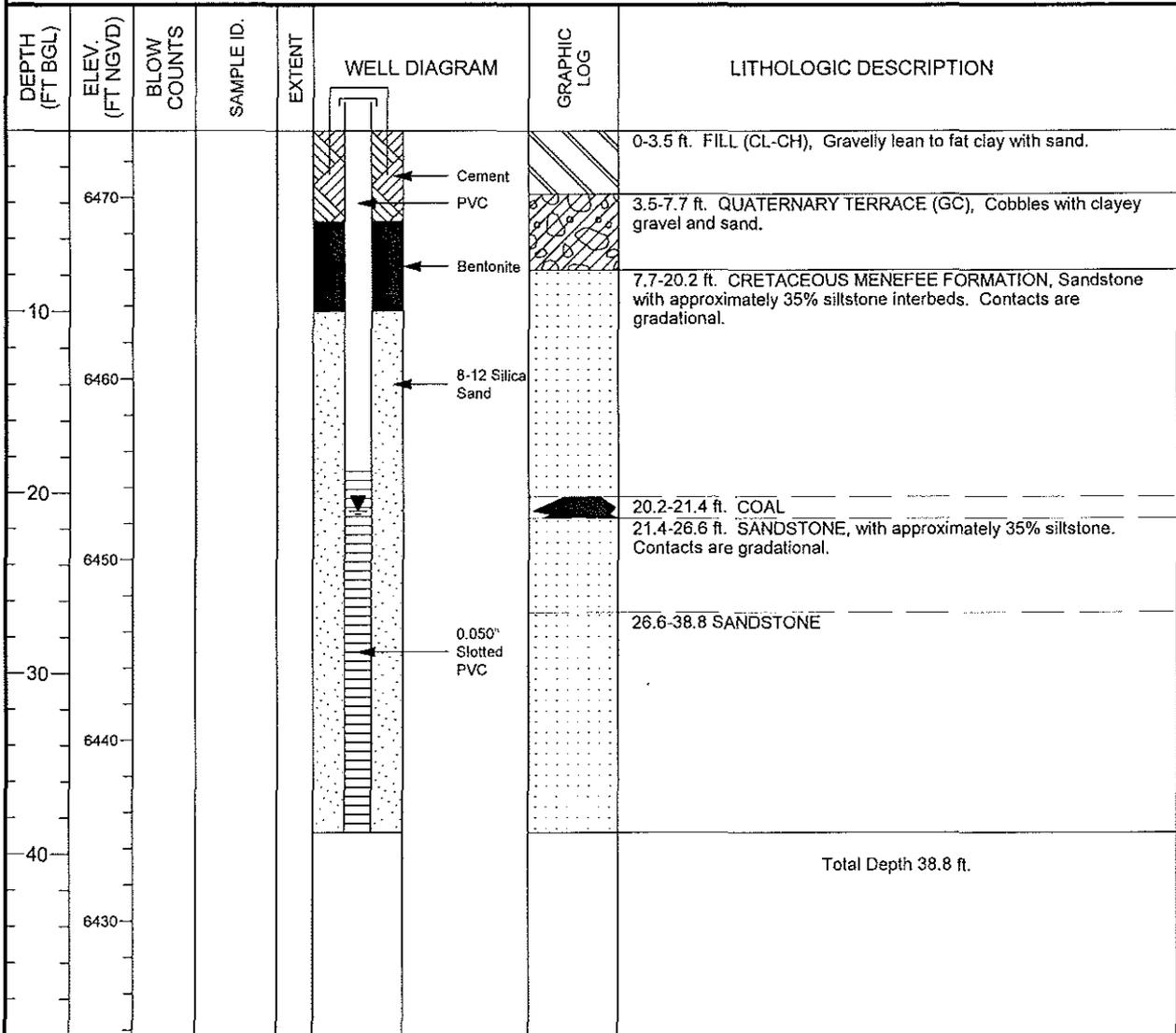
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
-180	6360						
-190	6350						
-200	6340						Total Depth 198 ft.
-210	6330						
-220	6320						
-230	6310						
-240							



MONITORING WELL COMPLETION LOG DUR02-0593

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223398.61</u>	DATE DRILLED <u>03/09/1990 to 03/14/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308351.43</u>	SURFACE ELEV. (FT NGVD) <u>6473.70</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>38.80</u>	TOP OF CASING (FT) <u>6473.80</u>
WELL NUMBER <u>0593</u>	WELL DEPTH (FT) <u>38.80</u>	MEAS. PT. ELEV. (FT) <u>6473.80</u>

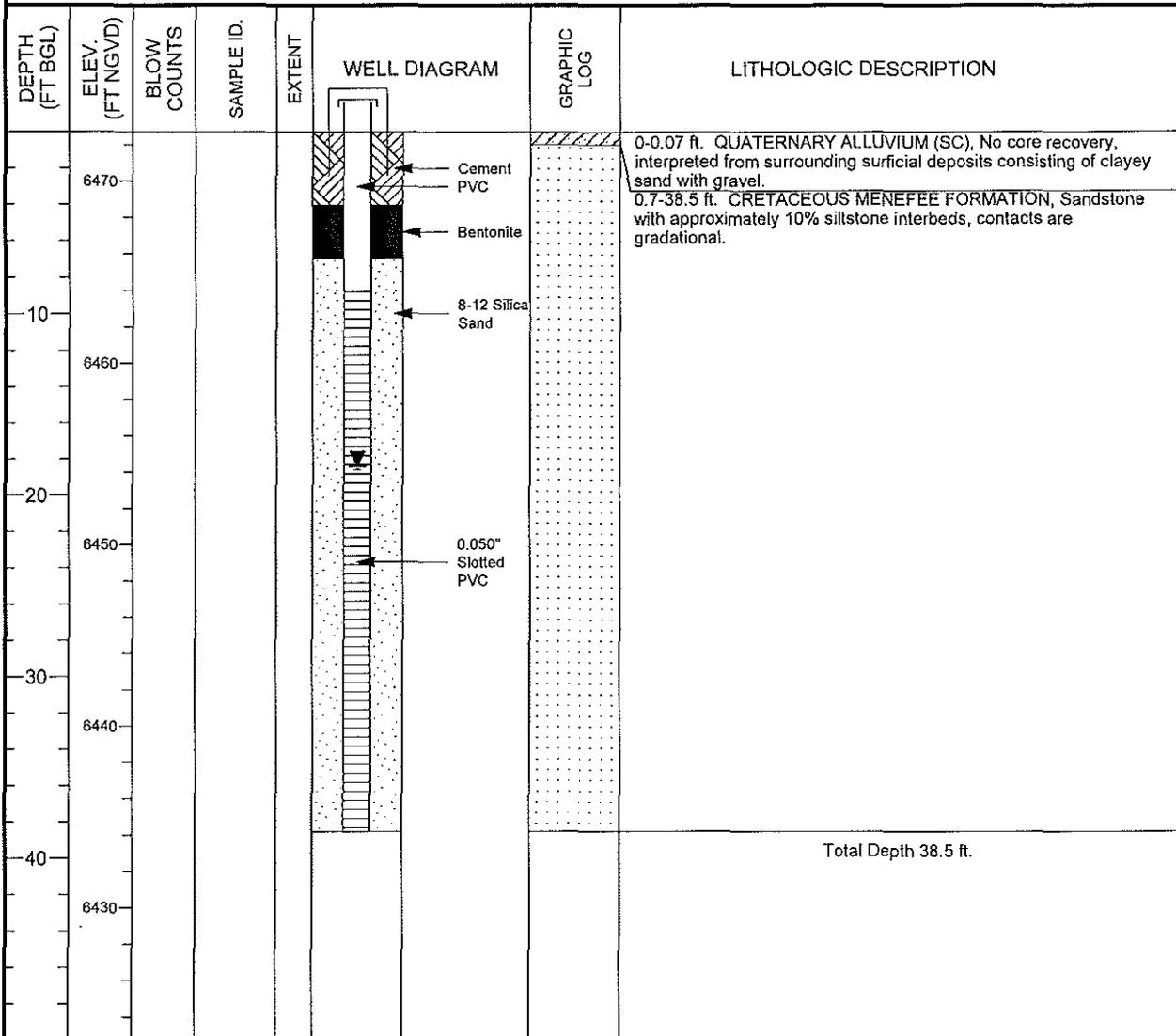
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.050</u>
BLANK CASING:	2 in. PVC	-0.1 to 18.8	BIT SIZE(S) (IN) _____
WELL SCREEN:	2 in. Slotted PVC	18.8 to 38.8	DRILLING METHOD _____
SUMP/END CAP:			SAMPLING METHOD _____
SURFACE SEAL:			DATE DEVELOPED _____
GROUT:	Cement Grout	0.0 to 5.0	WATER LEVEL (FT BGS) <u>21.0 on 04/06/1990</u>
SEAL:	Bentonite	5.0 to 10.0	LOGGED BY <u>T. Jackson</u>
UPPER PACK:			REMARKS <u>BOR # DH-117</u>
LOWER PACK:	8-12 Silica Sand	10.0 to 38.8	



MONITORING WELL COMPLETION LOG DUR02-0594

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223821.11</u>	DATE DRILLED <u>03/07/1990 to 03/08/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308320.14</u>	SURFACE ELEV. (FT NGVD) <u>6472.70</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	WELL DEPTH (FT) <u>38.50</u>	TOP OF CASING (FT) <u>6472.80</u>
WELL NUMBER <u>0594</u>	WELL DEPTH (FT) <u>38.50</u>	MEAS. PT. ELEV. (FT) <u>6472.80</u>

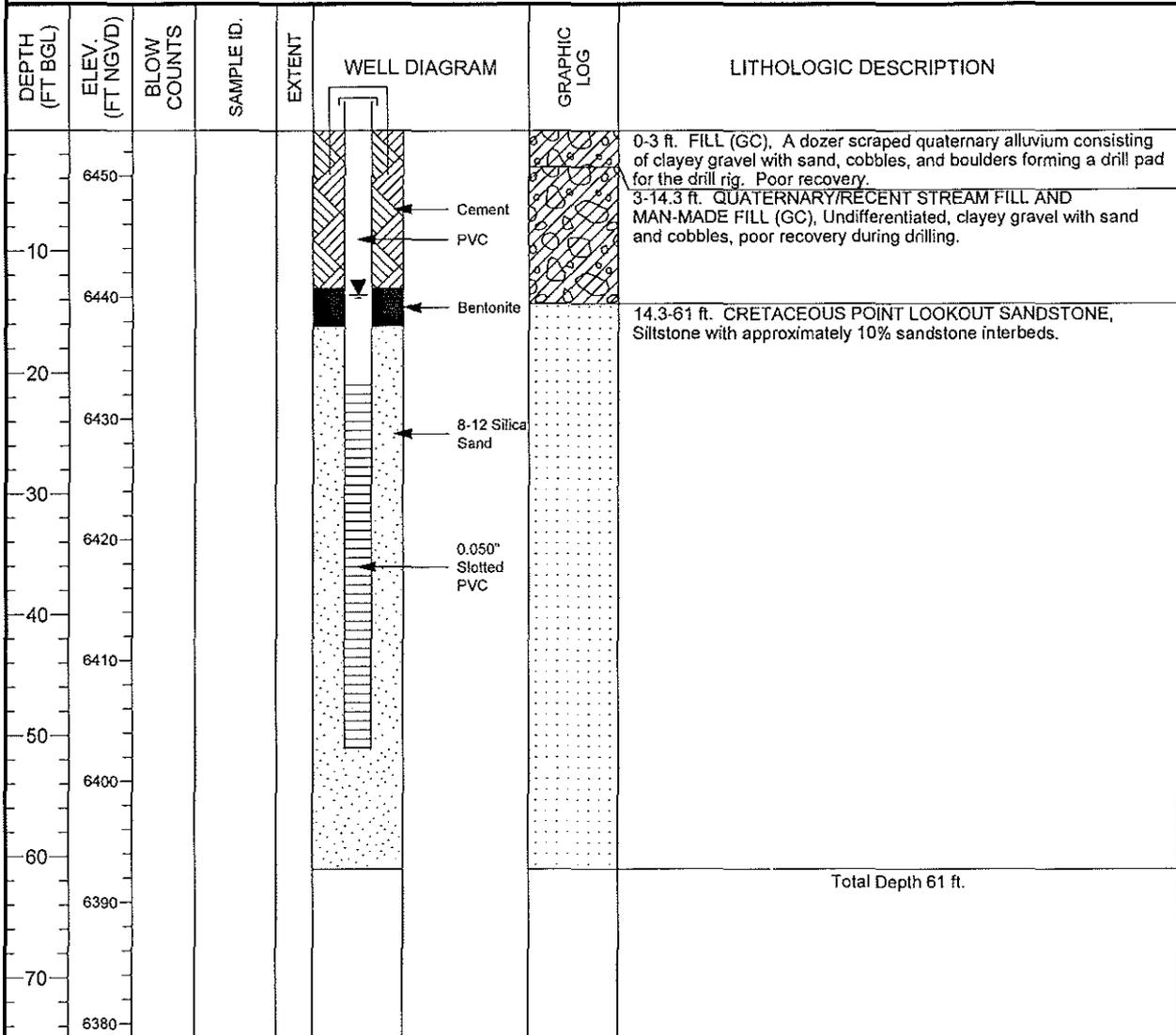
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	2 in. PVC	-0.1 to 8.5	SAMPLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	8.5 to 38.5	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>18.4 on 03/07/1990</u>
SURFACE SEAL:			LOGGED BY <u>T. Jackson</u>
GROUT:	Cement Grout	0.0 to 4.0	REMARKS <u>BOR # DH-116</u>
SEAL:	Bentonite	4.0 to 7.0	
UPPER PACK:			
LOWER PACK:	8-12 Silica Sand	7.0 to 38.5	



MONITORING WELL COMPLETION LOG DUR02-0595

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1224569.40</u>	DATE DRILLED <u>02/13/1990 to 02/15/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307937.60</u>	SURFACE ELEV. (FT NGVD) <u>6453.74</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>61.00</u>	TOP OF CASING (FT) <u>6455.74</u>
WELL NUMBER <u>0595</u>	WELL DEPTH (FT) <u>53.00</u>	MEAS. PT. ELEV. (FT) <u>6455.74</u>

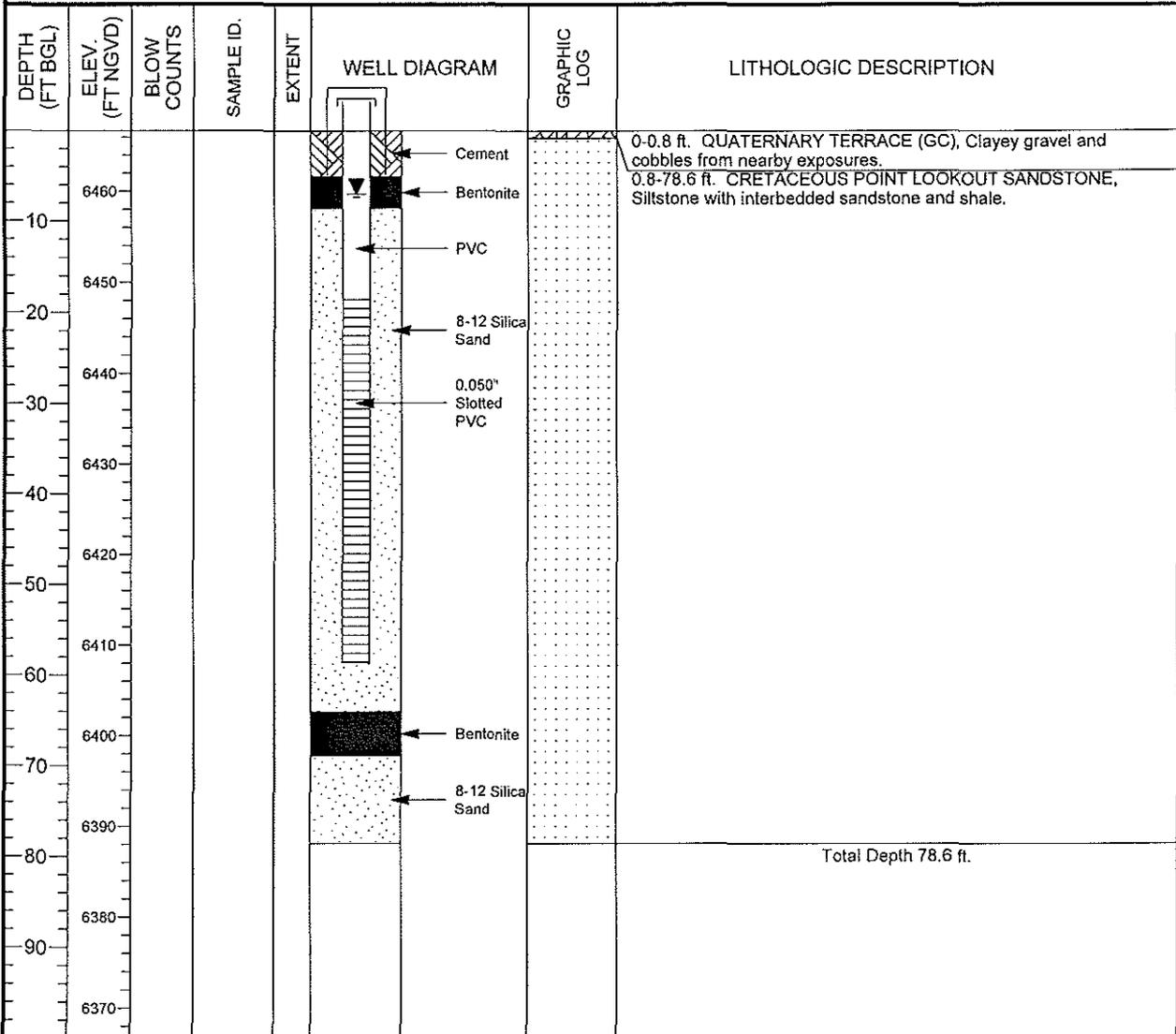
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	2 in. PVC	-2.0 to 21.0	SAMPLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	21.0 to 51.0	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>13.6 on 03/05/1990</u>
SURFACE SEAL:			LOGGED BY <u>T. Jackson</u>
GROUT:	Cement Grout	0.0 to 13.0	REMARKS <u>BOR # DH-113</u>
SEAL:	Bentonite	13.0 to 16.2	
UPPER PACK:			
LOWER PACK:	8-12 Silica Sand	16.2 to 51.0	



MONITORING WELL COMPLETION LOG DUR02-0596

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223864.00</u>	DATE DRILLED <u>02/07/1990 to 02/09/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307954.00</u>	SURFACE ELEV. (FT NGVD) <u>6466.70</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>78.60</u>	TOP OF CASING (FT) <u>6468.50</u>
WELL NUMBER <u>0596</u>	WELL DEPTH (FT) <u>60.40</u>	MEAS. PT. ELEV. (FT) <u>6468.50</u>

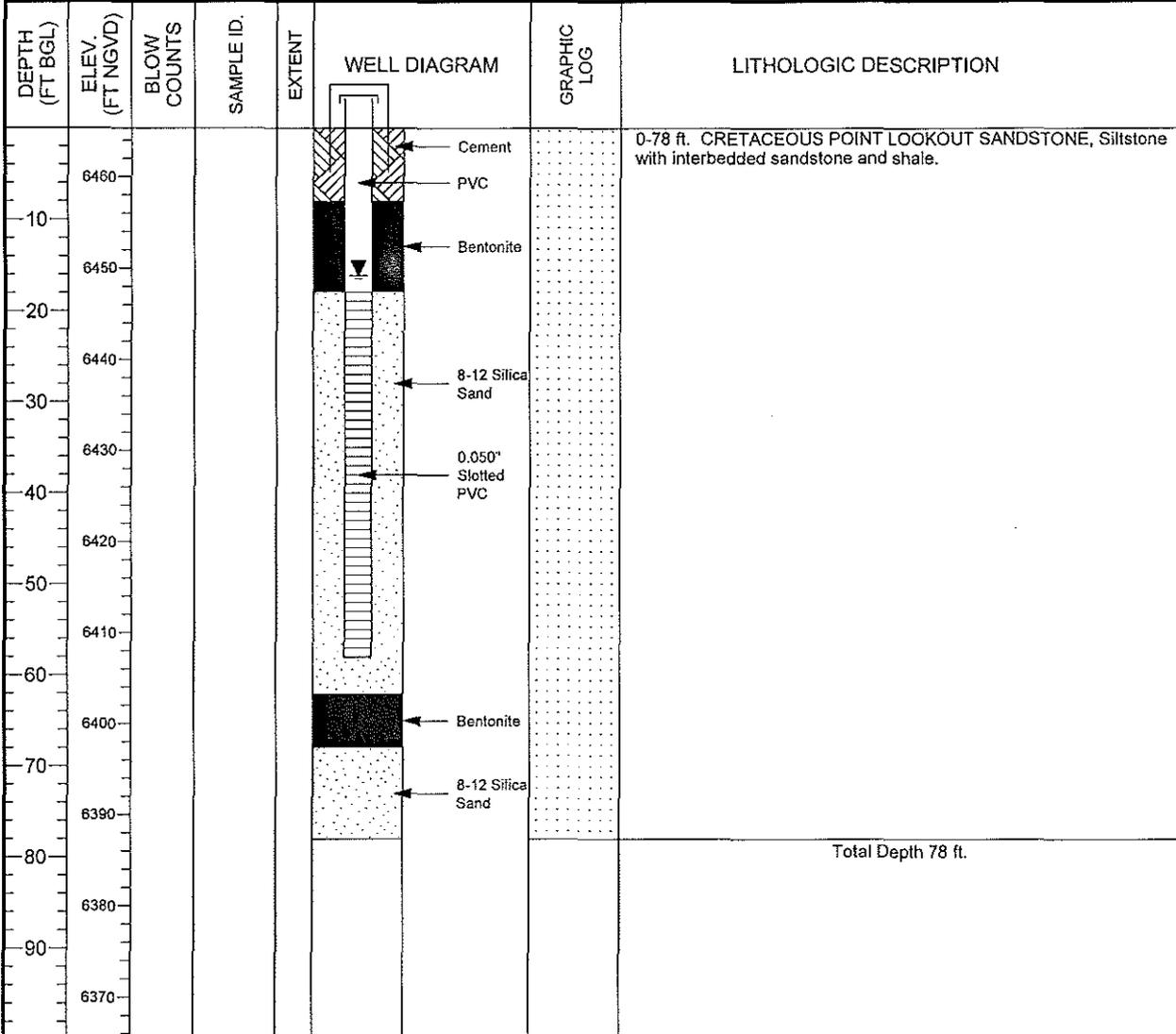
	WELL INSTALLATION	INTERVAL (FT)		
SURFACE CASING:				DRILLING METHOD _____
BLANK CASING:	2 in. PVC	-1.8 to 18.6		SAMPLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	18.6 to 58.6		DATE DEVELOPED _____
SUMP/END CAP:				WATER LEVEL (FT BGS) <u>7.0</u> on <u>02/09/1990</u>
SURFACE SEAL:				LOGGED BY <u>T. Jackson</u>
GROUT:	Cement Grout	0.0 to 5.0		REMARKS <u>BOR # DH-112</u>
SEAL:	Bentonite	5.0 to 8.6		
UPPER PACK:	8-12 Silica Sand	8.6 to 64.0		
LOWER PACK:	Bentonite	64.0 to 69.0		



MONITORING WELL COMPLETION LOG DUR02-0597

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1224315.19	DATE DRILLED	02/02/1990 to 02/05/1990
LOCATION	DURANGO, CO	EAST COORD. (FT)	2307956.36	SURFACE ELEV. (FT NGVD)	6465.33
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	78.00	TOP OF CASING (FT)	6469.25
WELL NUMBER	0597	WELL DEPTH (FT)	64.60	MEAS. PT. ELEV. (FT)	6469.25

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC	-3.92 to 18.0	DRILLING METHOD
WELL SCREEN:	2 in. Slotted PVC	18.0 to 58.0	SAMPLING METHOD
SUMP/END CAP:			DATE DEVELOPED
SURFACE SEAL:			WATER LEVEL (FT BGS) 16.2 on 02/07/1990
GROUT:	Cement Grout	0.0 to 8.0	LOGGED BY T. Jackson
SEAL:	Bentonite	8.0 to 18.0	REMARKS BOR # DH-111
UPPER PACK:	8-12 Silica Sand	18.0 to 62.0	
LOWER PACK:	Bentonite	62.0 to 68.0	

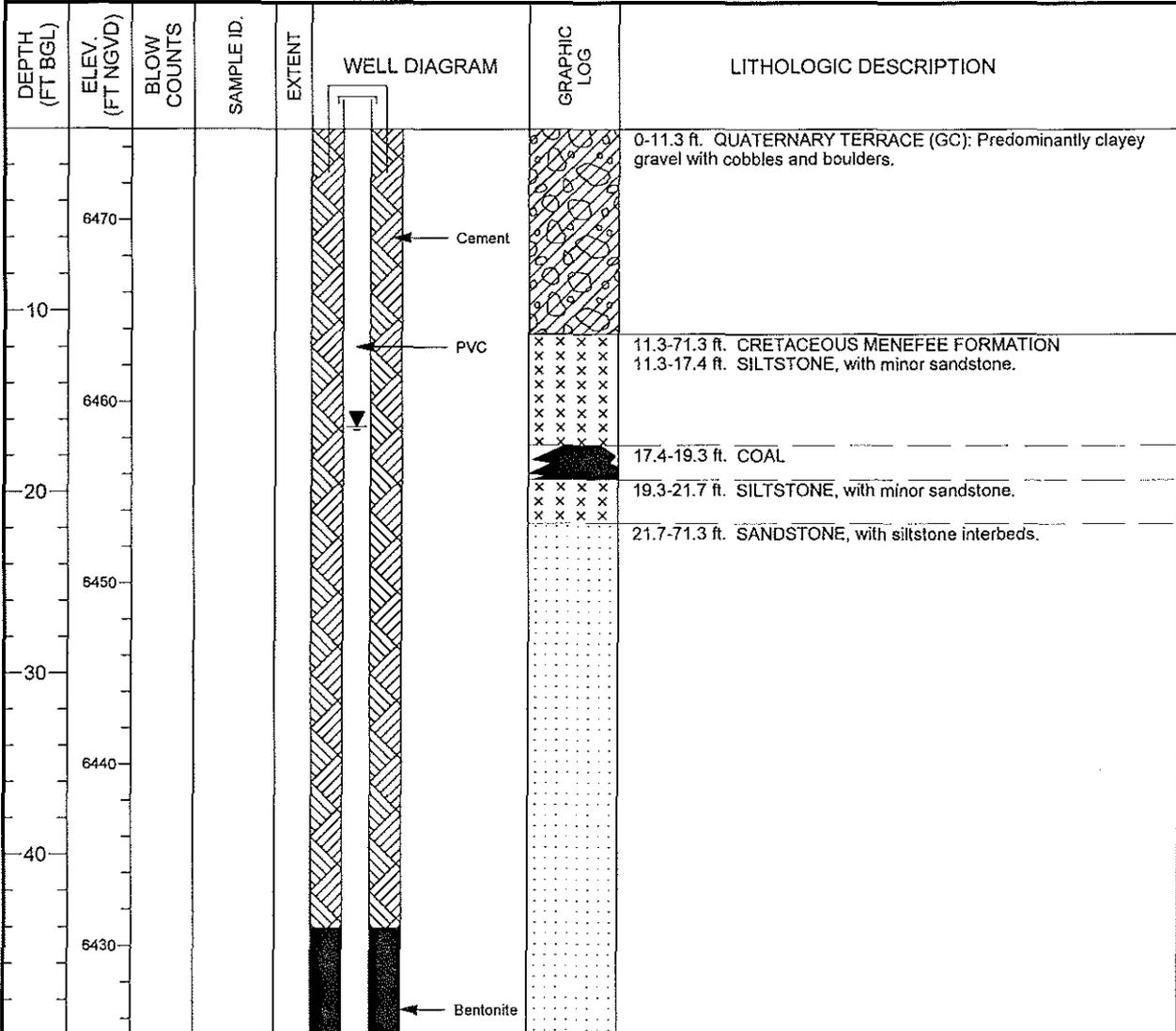


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MONITORING WELL COMPLETION LOG DUR02-0598

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223450.90</u>	DATE DRILLED <u>01/23/1990 to 02/01/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308010.79</u>	SURFACE ELEV. (FT NGVD) <u>6475.00</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>128.50</u>	TOP OF CASING (FT) <u>6479.00</u>
WELL NUMBER <u>0598</u>	WELL DEPTH (FT) <u>102.30</u>	MEAS. PT. ELEV. (FT) <u>6479.00</u>

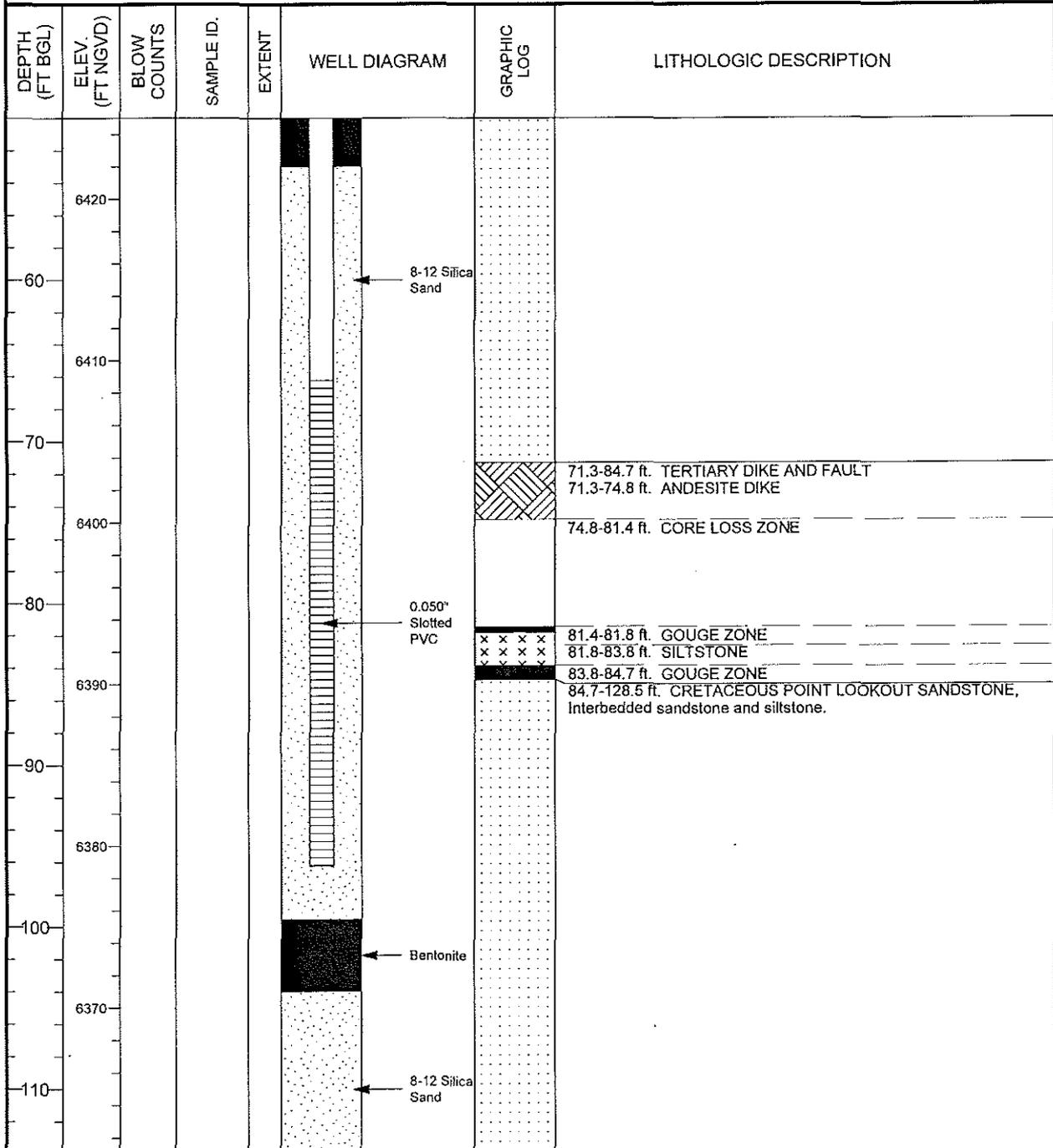
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	2 in. PVC	-4.0 to 66.2	SAMPLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	66.2 to 96.2	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>16.4 on 01/31/1990</u>
SURFACE SEAL:			LOGGED BY <u>T. Jackson</u>
GROUT:	Cement Grout	0.0 to 44.0	REMARKS <u>BOR # DH-110; Well has 2 Bentonite</u>
SEAL:	Bentonite	44.0 to 53.0	<u>seals from 44-53 ft. and 99.5-104 ft.</u>
UPPER PACK:	8-12 Silica Sand	53.0 to 99.5	
LOWER PACK:	Bentonite	99.5 to 104.0	



MONITORING WELL COMPLETION LOG DUR02-0598

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0598</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>01/23/1990 to 02/01/1990</u>

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GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0598

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0598</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>01/23/1990 to 02/01/1990</u>

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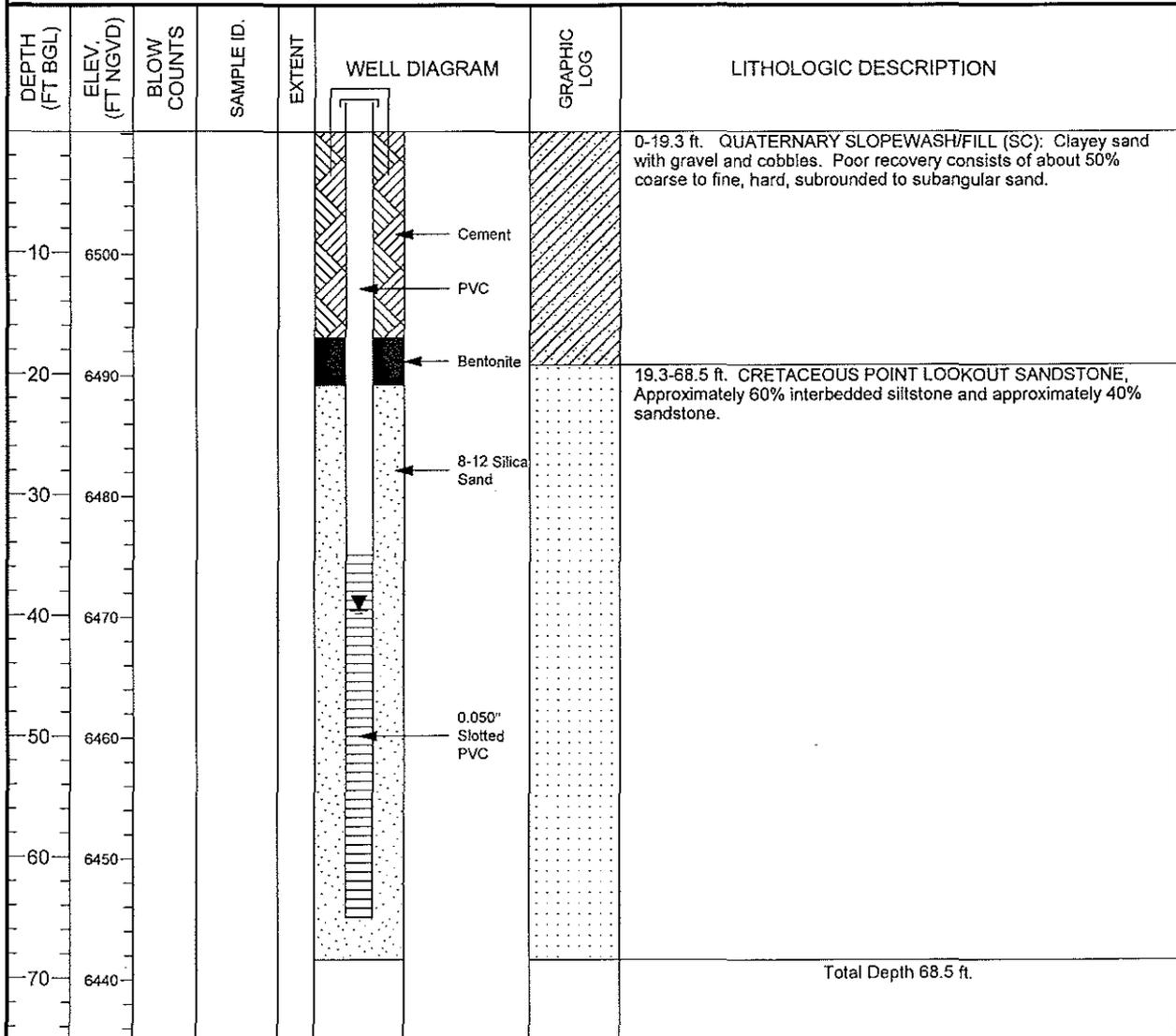
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
120	6360						
130	6350						Total Depth 128.5 ft.
140	6340						
150	6330						
160	6320						
170	6310						
180	6300						



MONITORING WELL COMPLETION LOG DUR02-0599

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223868.34</u>	DATE DRILLED <u>02/21/1990 to 02/27/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307628.31</u>	SURFACE ELEV. (FT NGVD) <u>6510.20</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>68.50</u>	TOP OF CASING (FT) <u>6514.08</u>
WELL NUMBER <u>0599</u>	WELL DEPTH (FT) <u>65.00</u>	MEAS. PT. ELEV. (FT) <u>6514.08</u>

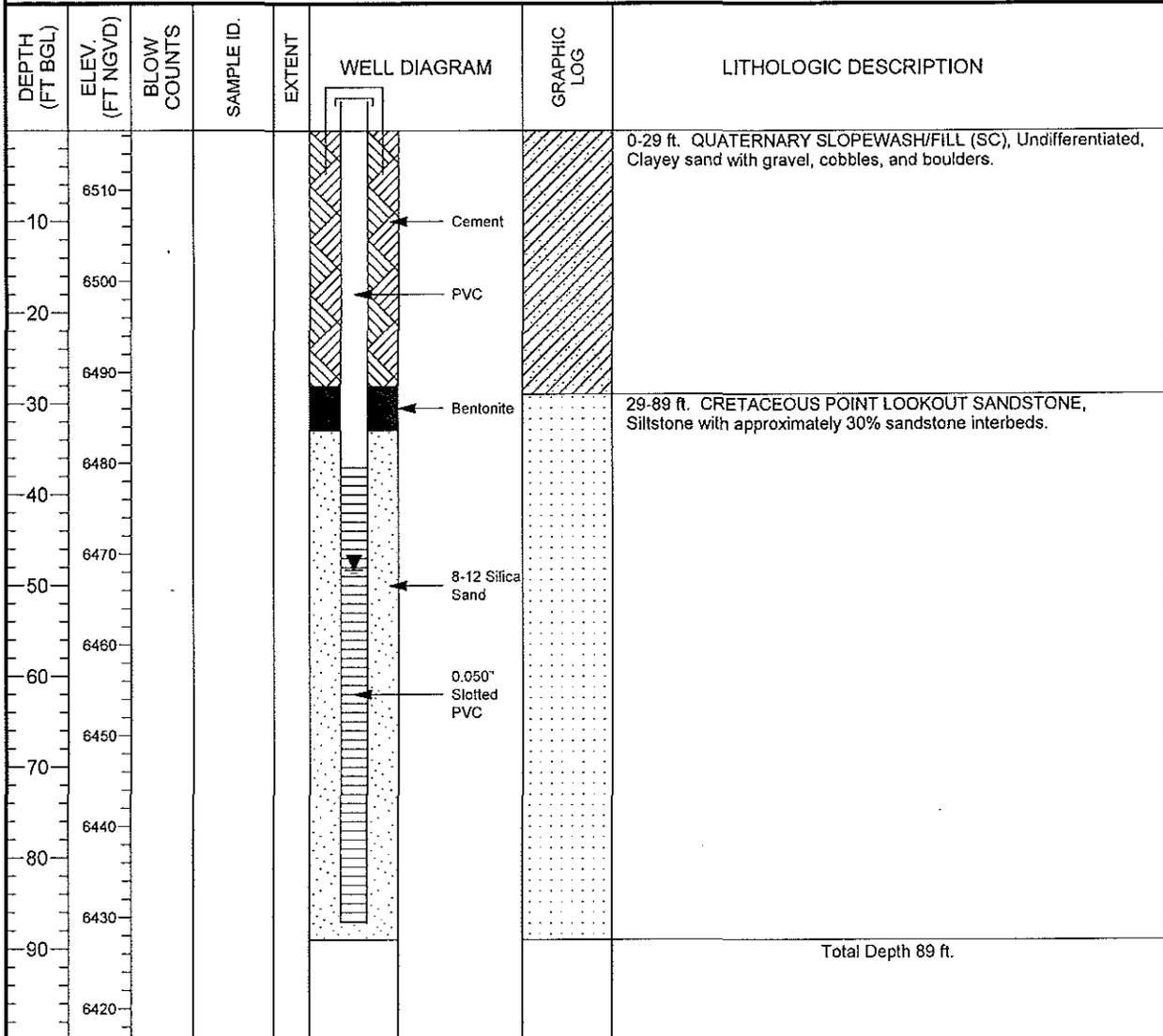
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	2 in. PVC	-3.88 to 35.0	SAMPLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	35.0 to 65.0	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>39.6 on 03/07/1990</u>
SURFACE SEAL:			LOGGED BY <u>T. Jackson</u>
GROUT:	Cement Grout	0.0 to 17.0	REMARKS <u>BOR # DH-114</u>
SEAL:	Bentonite	17.0 to 21.0	
UPPER PACK:			
LOWER PACK:	8-12 Silica Sand	21.0 to 68.5	



MONITORING WELL COMPLETION LOG DUR02-0600

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223422.53</u>	DATE DRILLED <u>03/01/1990 to 03/06/1990</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307707.91</u>	SURFACE ELEV. (FT NGVD) <u>6516.57</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>89.00</u>	TOP OF CASING (FT) <u>6519.88</u>
WELL NUMBER <u>0600</u>	WELL DEPTH (FT) <u>87.00</u>	MEAS. PT. ELEV. (FT) <u>6519.88</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC	-3.31 to 37.0	DRILLING METHOD _____
WELL SCREEN:	2 in. Slotted PVC	37.0 to 87.0	SAMPLING METHOD _____
SUMP/END CAP:			DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) <u>48.3 on 03/07/1990</u>
GROUT:	Cement Grout	0.0 to 28.0	LOGGED BY <u>T. Jackson</u>
SEAL:	Bentonite	28.0 to 33.0	REMARKS <u>BOR # DH-115</u>
UPPER PACK:			
LOWER PACK:	8-12 Silica Sand	33.0 to 87.0	

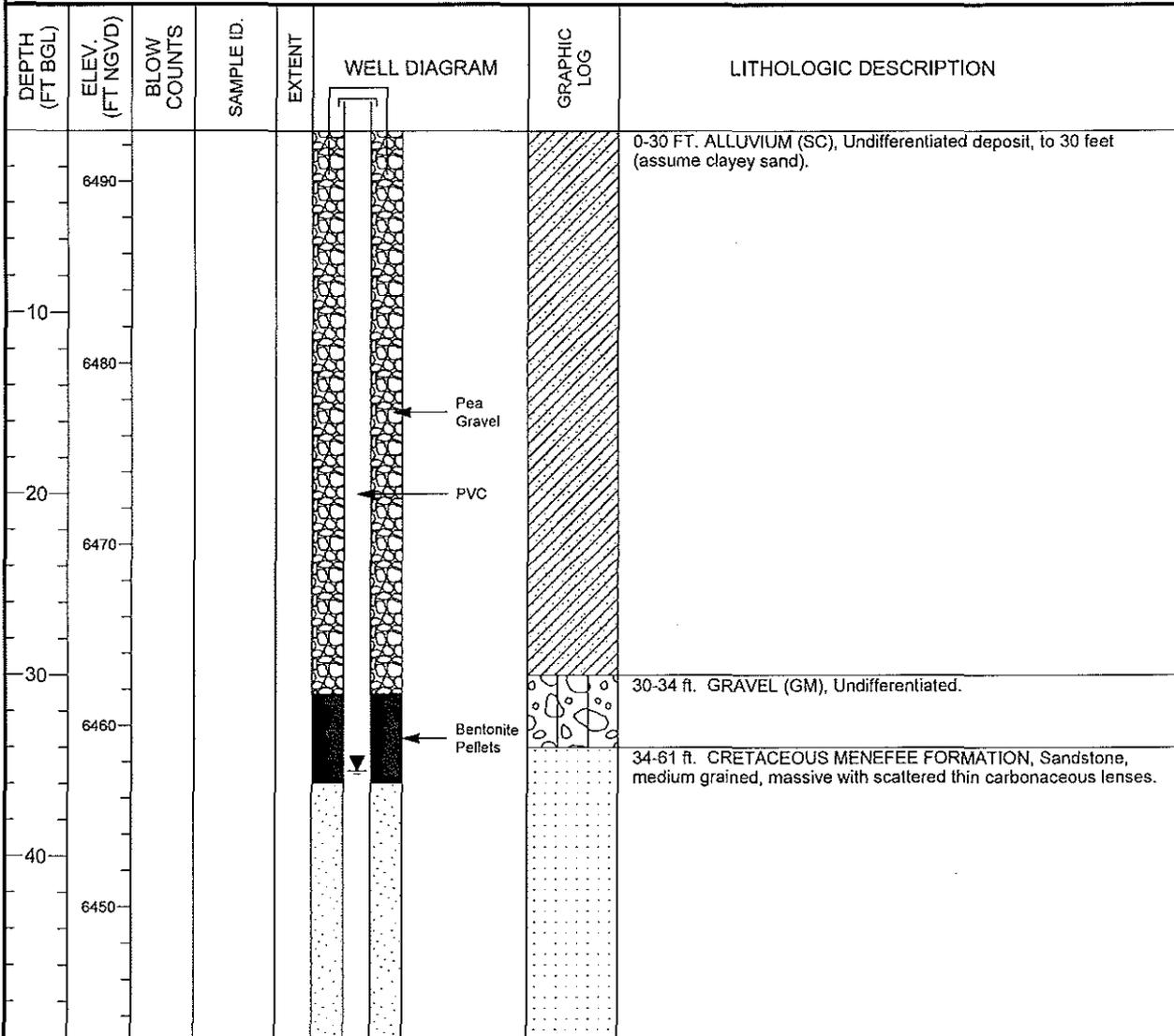


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MONITORING WELL COMPLETION LOG DUR02-0601

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1222756.26</u>	DATE DRILLED <u>10/10/1982</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308191.03</u>	SURFACE ELEV. (FT NGVD) <u>6492.80</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>183.00</u>	TOP OF CASING (FT) <u>6493.10</u>
WELL NUMBER <u>0601</u>	WELL DEPTH (FT) <u>82.00</u>	MEAS. PT. ELEV. (FT) <u>6493.10</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>CORE/ROTARY</u>
BLANK CASING:	4 in. PVC Sch 40	-0.3 to 51.0	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	51.0 to 81.0	DATE DEVELOPED _____
SUMP/END CAP:	4 in. PVC Sch 40	81.0 to 82.0	WATER LEVEL (FT BGS) <u>35.3 on 04/18/1983</u>
SURFACE SEAL:			LOGGED BY _____
GROUT:	Pea Gravel	0.0 to 31.0	REMARKS _____
SEAL:	Bentonite Pellets	31.0 to 36.0	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	36.0 to 82.0	

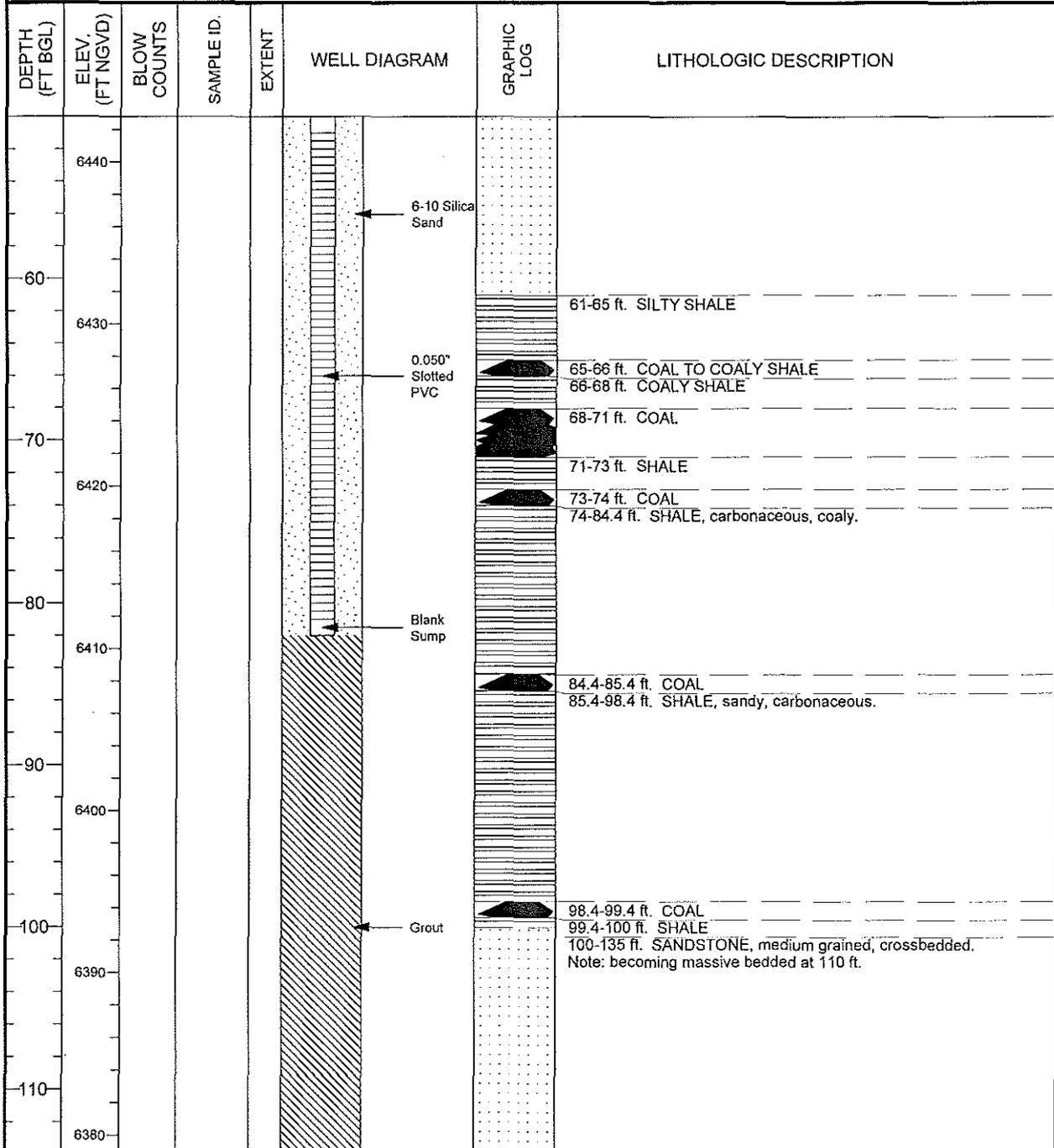


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GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0601

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0601
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/10/1982

Continued from Previous Page



U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0601

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0601
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/10/1982

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
120	6370						
130	6360						
140	6350						135-136.4 ft. SHALE, carbonaceous. 136.4-137.4 ft. COAL 137.4-141 ft. SHALE, carbonaceous, coaly.
150	6340						141-145 ft. SANDSTONE, silty. 145-148 ft. SANDSTONE, crossbedded. 148-153 ft. SANDSTONE/SHALE, interbedded.
160	6330						153-172 ft. SANDSTONE, medium to coarse, sandstone.
170	6320						172-183 ft. SANDSTONE, cross bedded.

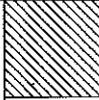


U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0601

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0601</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>10/10/1982</u>

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
-180	6310						
-190	6300						Total Depth 183 ft.
-200	6290						
-210	6280						
-220	6270						
-230	6260						
-240							

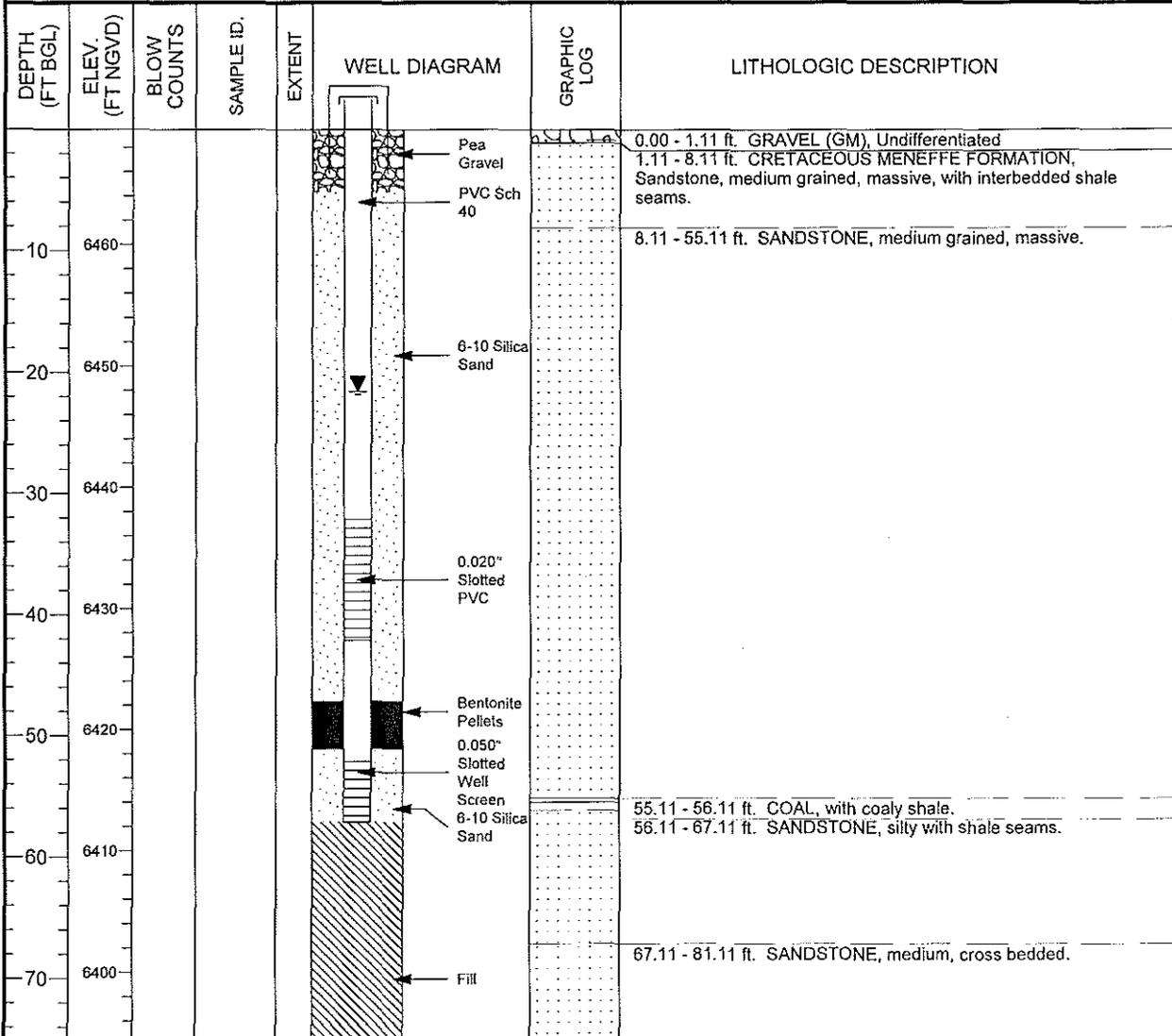


U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0602

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223649.25</u>	DATE DRILLED <u>04/18/1983 to 04/18/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308269.47</u>	SURFACE ELEV. (FT NGVD) <u>6469.51</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>147.11</u>	TOP OF CASING (FT) <u>6471.68</u>
WELL NUMBER <u>0602</u>	WELL DEPTH (FT) <u>57.11</u>	MEAS. PT. ELEV. (FT) <u>6471.68</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD _____
BLANK CASING:	4 in. PVC Sch 40	-2.17 to 32.11	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	32.11 to 57.11	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>21.6 on 04/18/1983</u>
SURFACE SEAL:			LOGGED BY _____
GROUT:	Pea Gravel	0.0 to 5.11	REMARKS <u>Well has 2 types of screens: from 32.11-42.11 ft. (0.020") and 52.11-62.11 ft (0.050"); Well Modified ~ 8/1/1989.</u>
SEAL:	Bentonite Pellets	47.11 to 51.11	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	51.11 to 57.11	



U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0602

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0602
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	04/18/1983 to 04/18/1993

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
80	6390						81.11 - 95.11 ft. SANDSTONE, massive, medium grained, cross bedded.
90	6380						95.11 - 101.11 ft. SHALE, with interbedded sandstone.
100	6370						101.11 - 106.11 ft. SANDSTONE, medium grained, massive.
110	6360						106.11 - 111.11 ft. SANDSTONE, cross bedded.
120	6350						111.11 - 112.11 ft. SHALE, with interbedded sandy shale.
130	6340						112.11 - 127.11 ft. SANDSTONE, medium grained, massive.
140	6330						127.11 - 129.61 ft. SHALE, with sandy shale.
150	6320						129.61 - 147.11 ft. SANDSTONE, medium grained, massive.
160	6310						
170	6300						

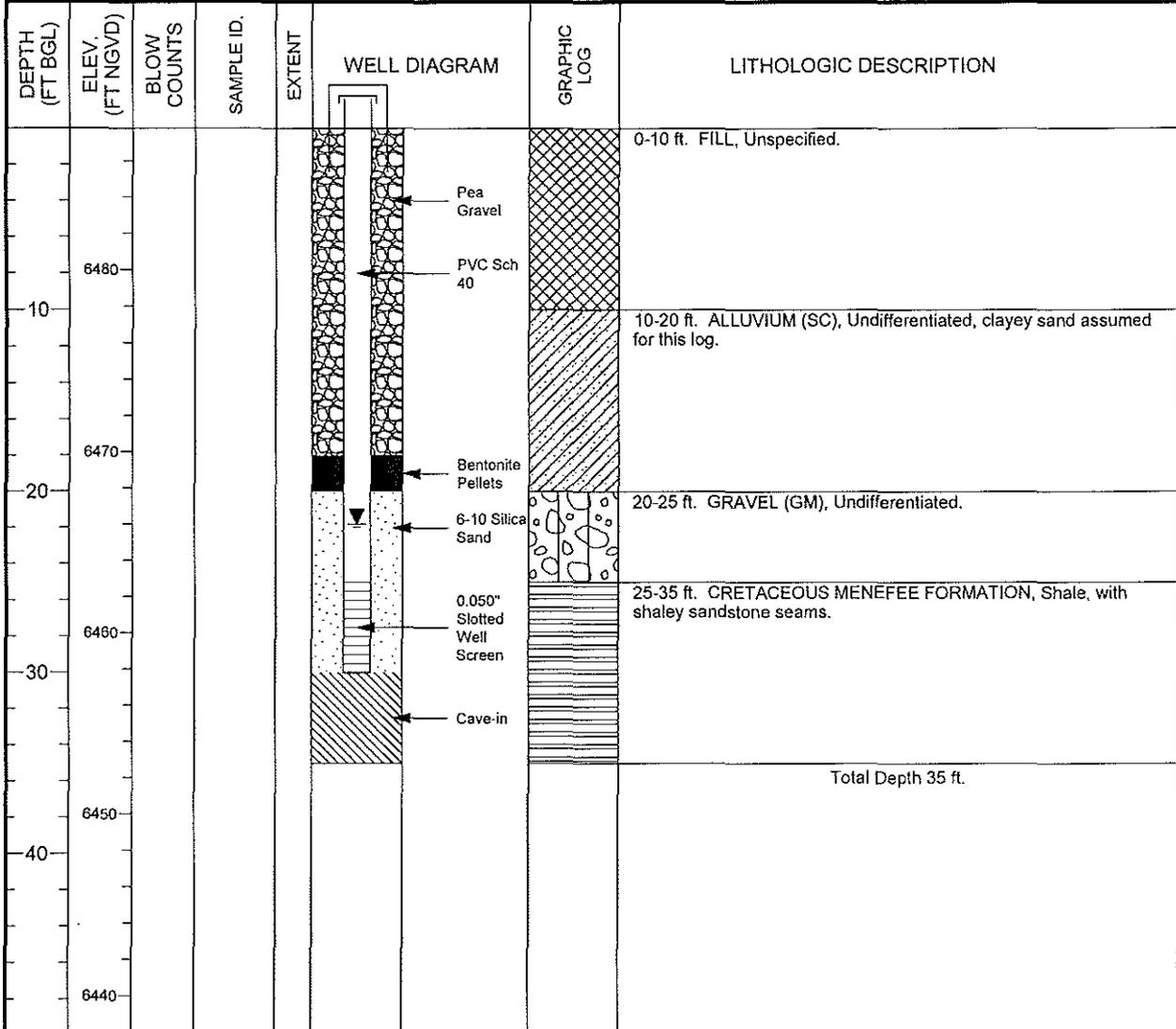


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MONITORING WELL COMPLETION LOG DUR02-0606

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223143.57</u>	DATE DRILLED <u>10/10/1982</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308210.83</u>	SURFACE ELEV. (FT NGVD) <u>6487.80</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>35.00</u>	TOP OF CASING (FT) <u>6488.10</u>
WELL NUMBER <u>0606</u>	WELL DEPTH (FT) <u>30.00</u>	MEAS. PT. ELEV. (FT) <u>6488.10</u>
		SLOT SIZE (IN) <u>0.050</u>
		BIT SIZE(S) (IN) <u>6.25</u>

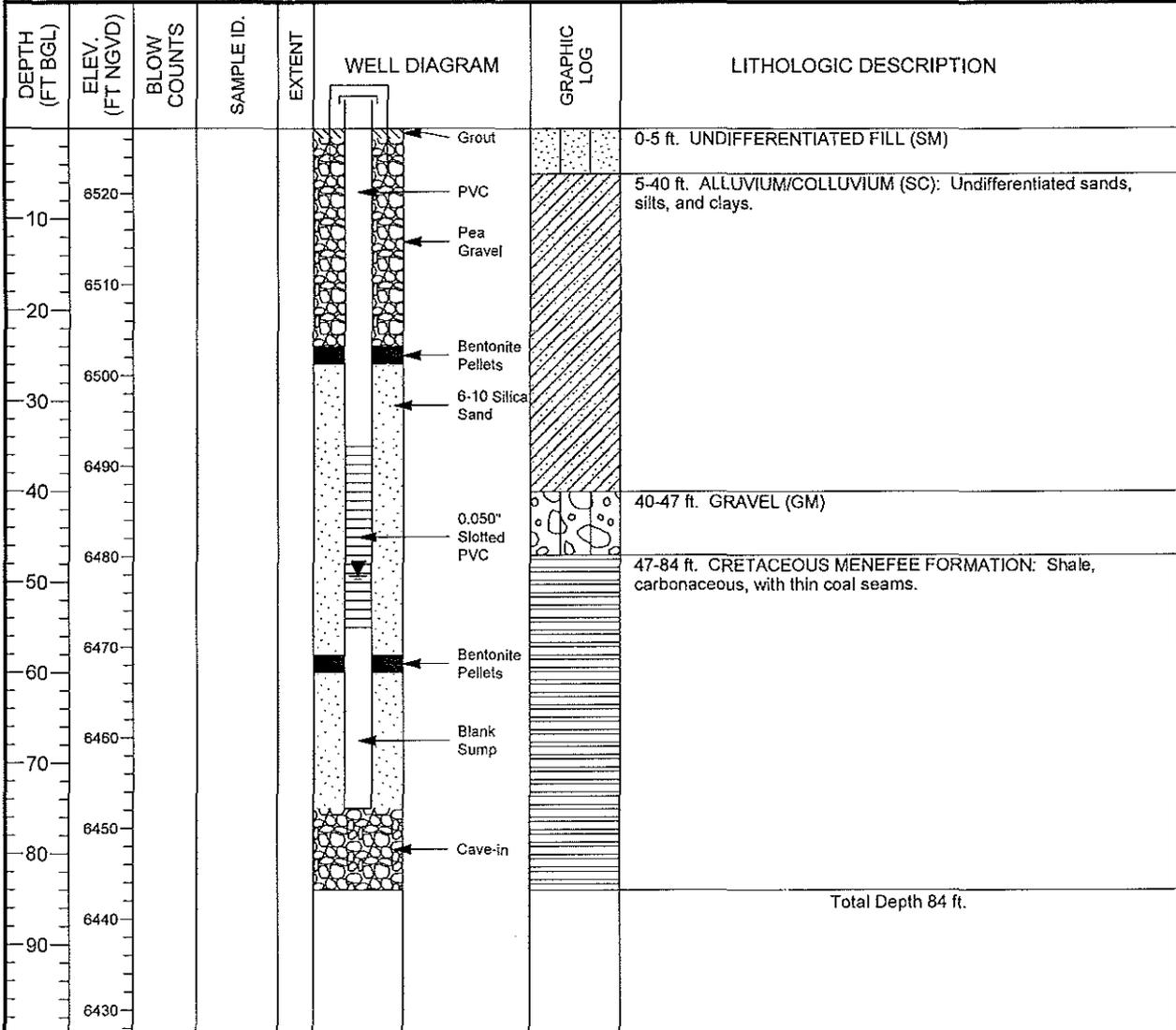
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>CORE/ROTARY</u>
BLANK CASING:	4 in. PVC Sch 40	-0.3 to 25.0	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	25.0 to 30.0	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>21.8 on 04/18/1983</u>
SURFACE SEAL:			LOGGED BY _____
GROUT:	Pea Gravel	0.0 to 18.0	REMARKS _____
SEAL:	Bentonite Pellets	18.0 to 20.0	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	20.0 to 30.0	



MONITORING WELL COMPLETION LOG DUR02-0607

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1222747.28	DATE DRILLED	04/18/1983
LOCATION	DURANGO, CO	EAST COORD. (FT)	2307768.71	SURFACE ELEV. (FT NGVD)	6527.20
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	84.00	TOP OF CASING (FT)	6528.20
WELL NUMBER	0607	WELL DEPTH (FT)	75.00	MEAS. PT. ELEV. (FT)	6528.20

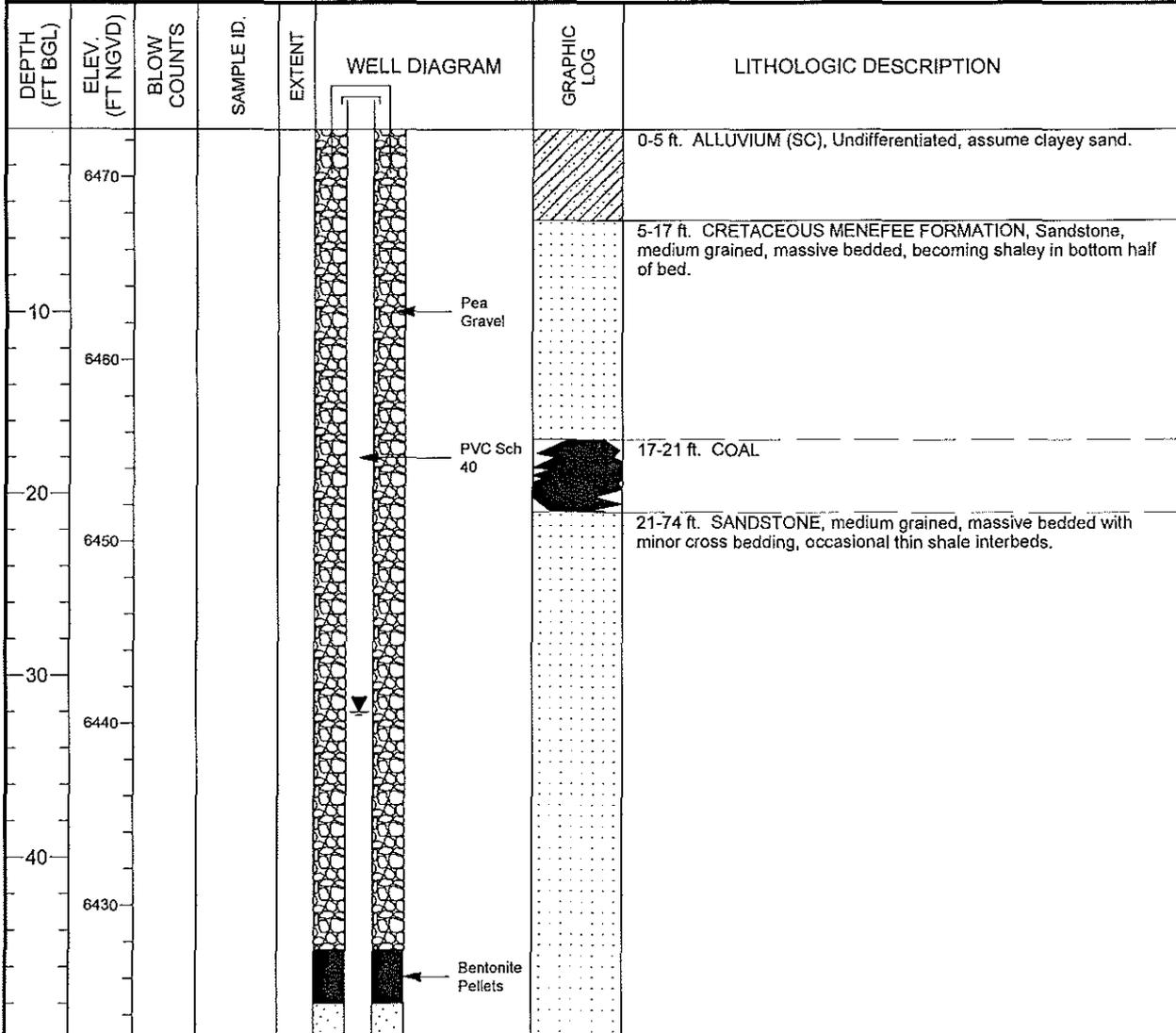
	WELL INSTALLATION	INTERVAL (FT)	SLOT SIZE (IN)	0.050
			BIT SIZE(S) (IN)	6.75
SURFACE CASING:				
BLANK CASING:	4 in. PVC Sch 40	-1.0 to 35.0	DRILLING METHOD	
WELL SCREEN:	4 in. Slotted PVC	35.0 to 55.0	CORE/ROTARY	
SUMP/END CAP:	4 in. PVC Sch 40	55.0 to 75.0	SAMPLING METHOD	
SURFACE SEAL:	Grout	0.0 to 1.0	DATE DEVELOPED	
GROUT:	Pea Gravel	1.0 to 24.0	WATER LEVEL (FT BGS)	
SEAL:	Bentonite Pellets	24.0 to 26.0	49.3 on 04/18/1983	
UPPER PACK:	6-10 Silica Sand	26.0 to 58.0	LOGGED BY	
LOWER PACK:	Bentonite	58.0 to 60.0	REMARKS	
			Well has 2 Bentonite seals at 24-26 ft. and 58-60 ft.	



MONITORING WELL COMPLETION LOG DUR02-0610

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1224076.50</u>	DATE DRILLED <u>10/10/1982</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308320.82</u>	SURFACE ELEV. (FT NGVD) <u>6472.60</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>101.00</u>	TOP OF CASING (FT) <u>6472.80</u>
WELL NUMBER <u>0610</u>	WELL DEPTH (FT) <u>81.00</u>	MEAS. PT. ELEV. (FT) <u>6472.80</u>
		SLOT SIZE (IN) <u>0.050</u>
		BIT SIZE(S) (IN) <u>5.63</u>

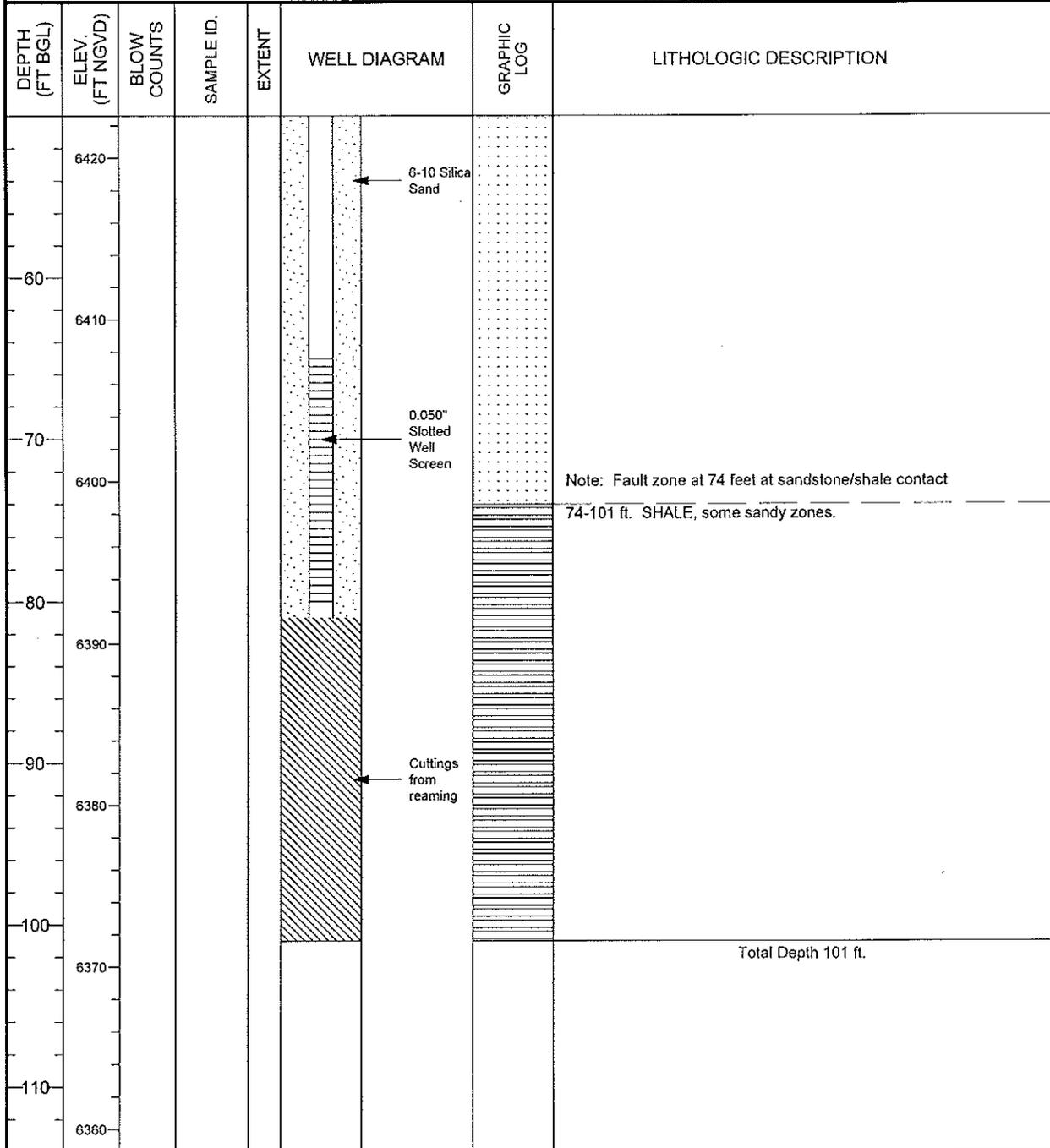
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-0.2 to 65.0	DRILLING METHOD <u>CORE/ROTARY</u>
WELL SCREEN:	4 in. Slotted PVC	65.0 to 80.0	SAMPLING METHOD _____
SUMP/END CAP:			DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) <u>32.0 on 04/18/1983</u>
GROUT:	Pea Gravel	0.0 to 45.0	LOGGED BY _____
SEAL:	Bentonite Pellets	45.0 to 48.0	REMARKS _____
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	48.0 to 81.0	



MONITORING WELL COMPLETION LOG DUR02-0610

PROJECT UMTRA GROUND WATER WELL NUMBER 0610
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 10/10/1982

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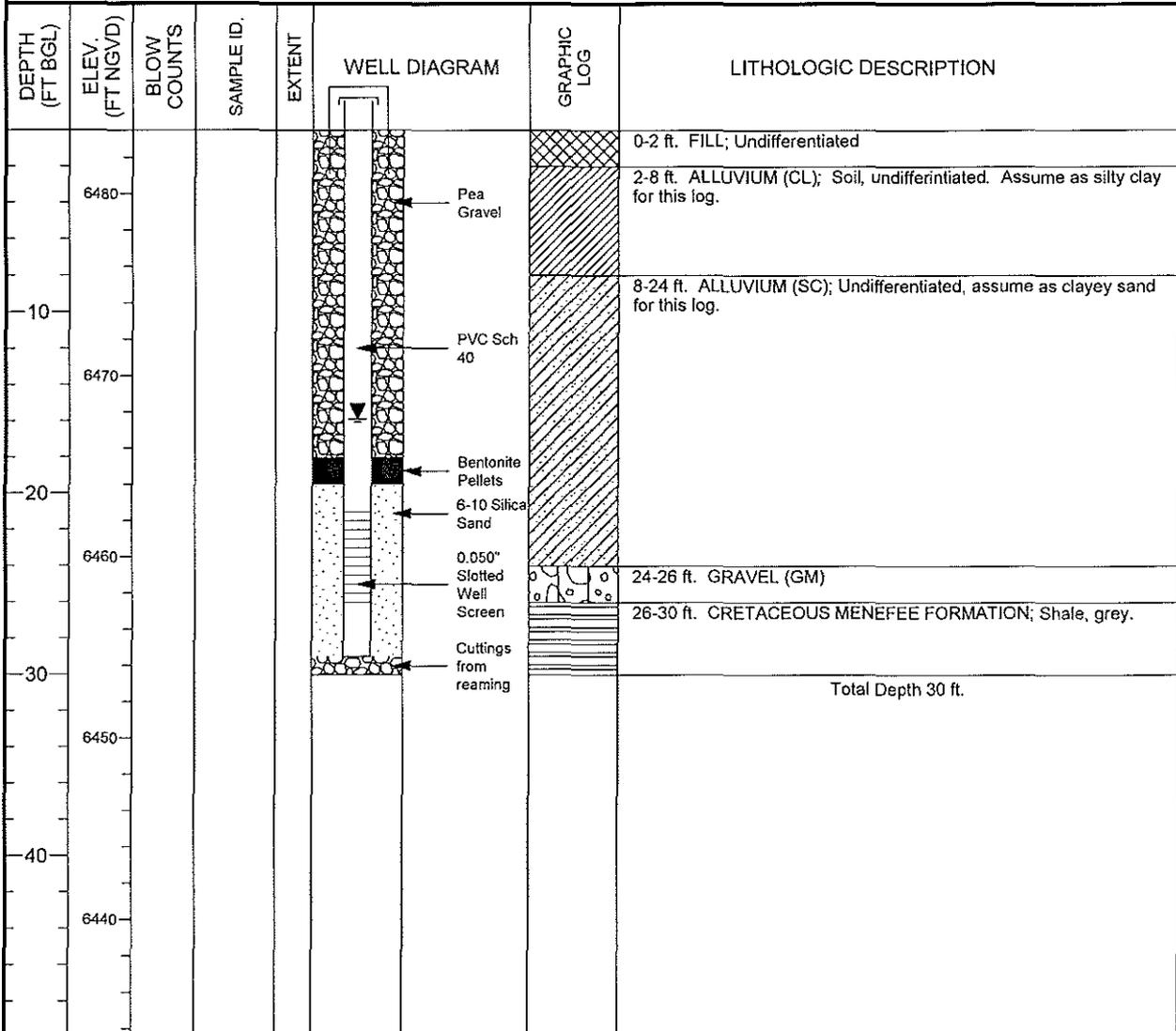


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MONITORING WELL COMPLETION LOG DUR02-0623

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223823.26</u>	DATE DRILLED <u>10/10/1982</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308060.46</u>	SURFACE ELEV. (FT NGVD) <u>6483.50</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>30.00</u>	TOP OF CASING (FT) <u>6484.00</u>
WELL NUMBER <u>0623</u>	WELL DEPTH (FT) <u>29.00</u>	MEAS. PT. ELEV. (FT) <u>6484.00</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-0.5 to 21.0	DRILLING METHOD <u>CORE/ROTARY</u>
WELL SCREEN:	4 in. Slotted PVC	21.0 to 26.0	SAMPLING METHOD _____
SUMP/END CAP:	4 in. PVC Sch 40	26.0 to 29.0	DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) <u>15.9 on 04/18/1983</u>
GROUT:	Pea Gravel	0.0 to 18.0	LOGGED BY _____
SEAL:	Bentonite Pellets	18.0 to 19.5	REMARKS _____
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	19.5 to 29.0	



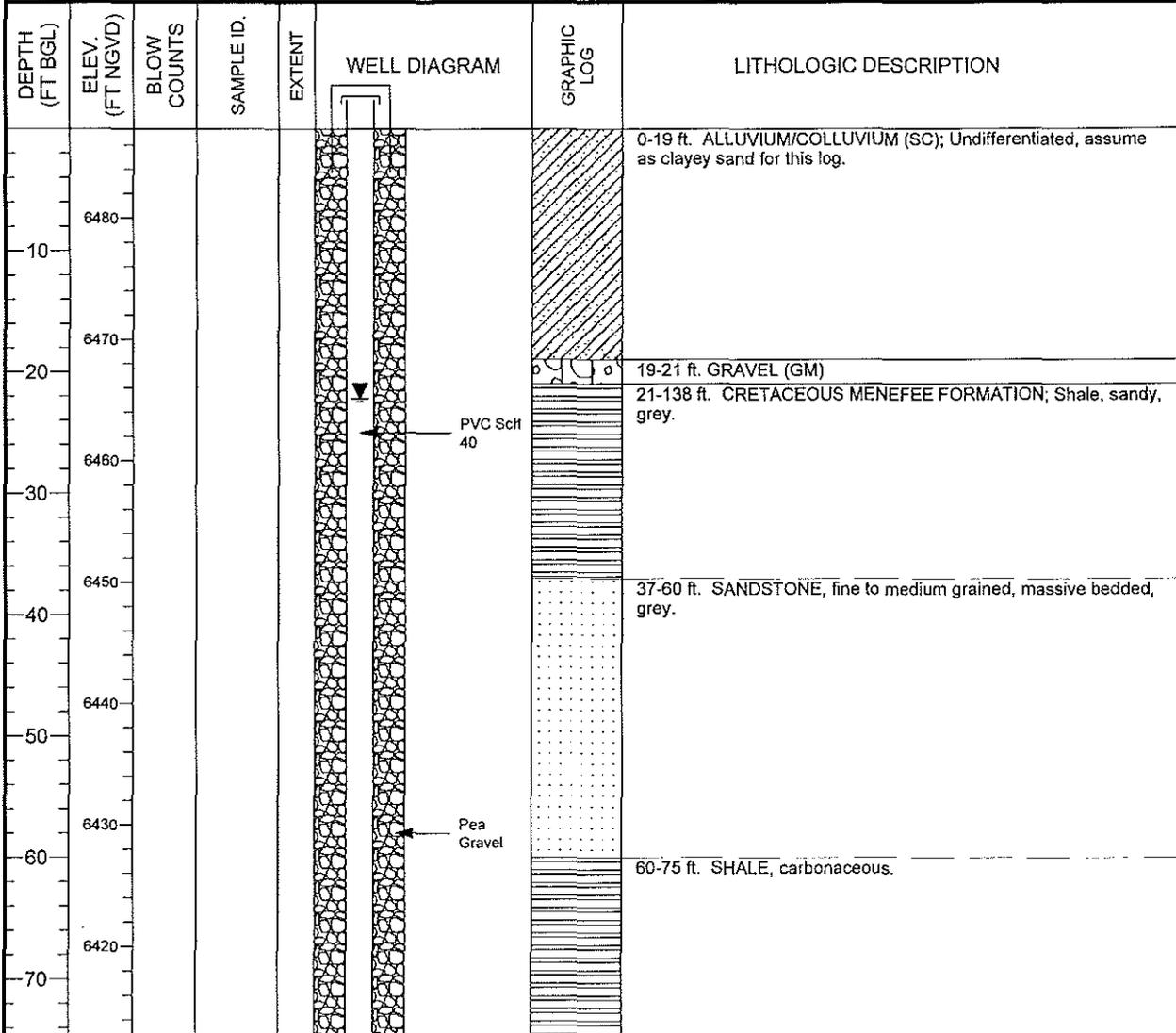
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MONITORING WELL COMPLETION LOG DUR02-0624

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1223631.06	DATE DRILLED	10/10/1982
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308107.22	SURFACE ELEV. (FT NGVD)	6487.30
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	138.00	TOP OF CASING (FT)	6487.80
WELL NUMBER	0624	WELL DEPTH (FT)	138.00	MEAS. PT. ELEV. (FT)	6487.80

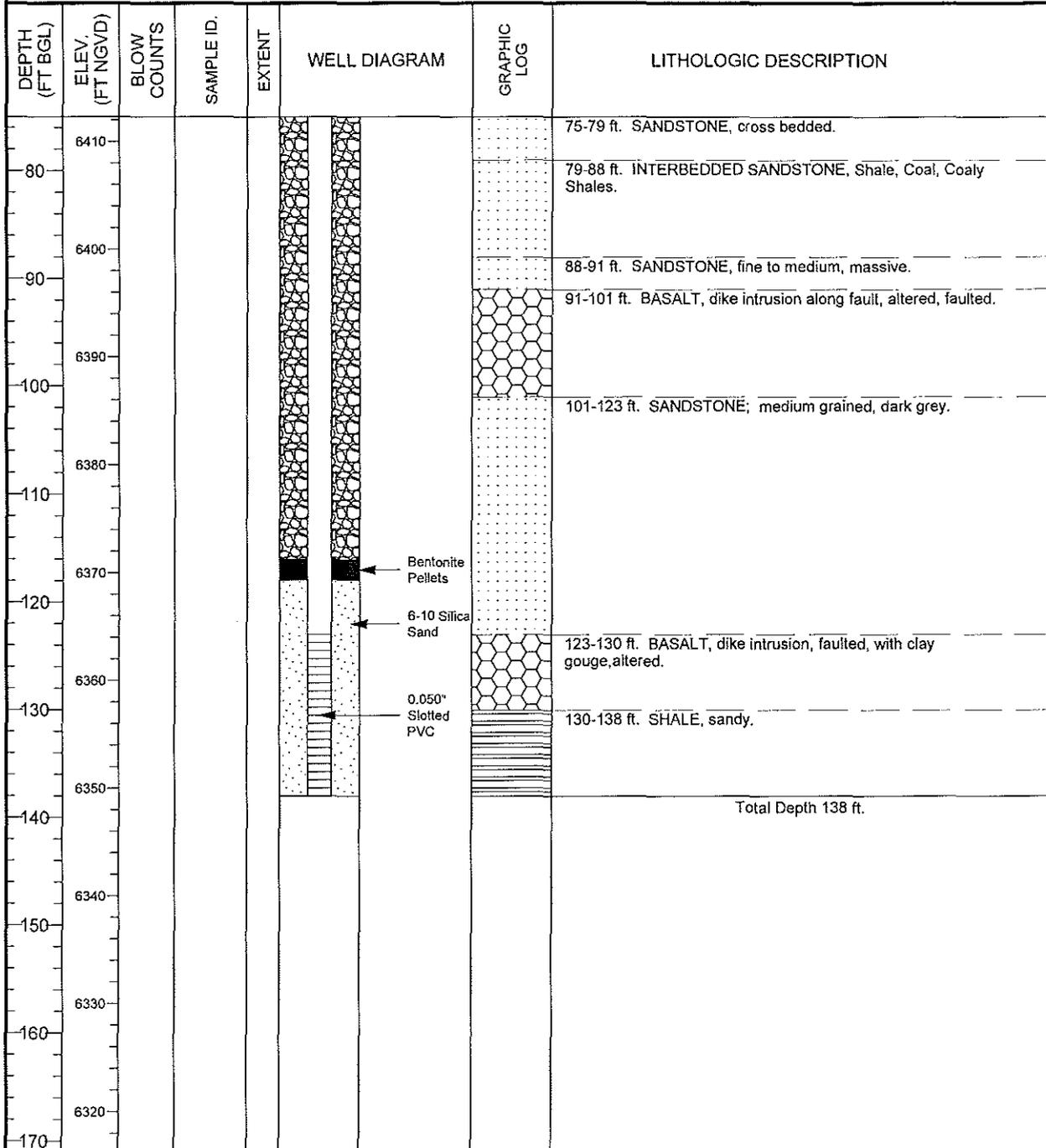
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD CORE/ROTARY
BLANK CASING:	4 in. PVC Sch 40	-0.5 to 123.0	SAMPLING METHOD
WELL SCREEN:	4 in. Slotted PVC	123.0 to 138.0	DATE DEVELOPED
SUMP/END CAP:			WATER LEVEL (FT BGS) 22.2 on 04/18/1983
SURFACE SEAL:			LOGGED BY
GROUT:	Pea Gravel	0.0 to 116.0	REMARKS
SEAL:	Bentonite Pellets	116.0 to 118.0	
UPPER PACK:			
LOWER PACK:	6-10 Silica Sand	118.0 to 138.0	



MONITORING WELL COMPLETION LOG DUR02-0624

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0624
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/10/1982

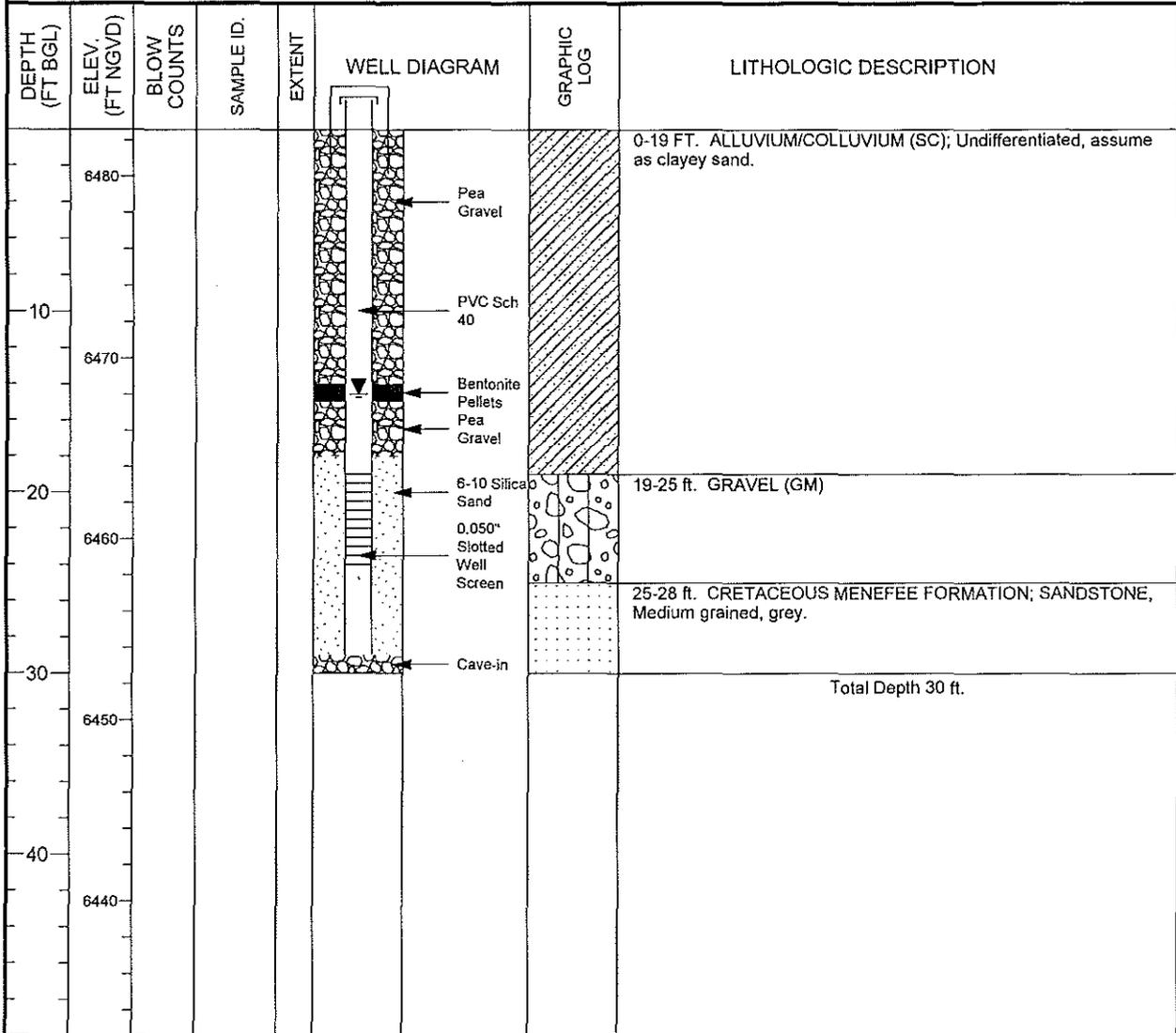
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MONITORING WELL COMPLETION LOG DUR02-0625

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223752.33</u>	DATE DRILLED <u>10/10/1982</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308125.42</u>	SURFACE ELEV. (FT NGVD) <u>6482.60</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>30.00</u>	TOP OF CASING (FT) <u>6483.30</u>
WELL NUMBER <u>0625</u>	WELL DEPTH (FT) <u>29.00</u>	MEAS. PT. ELEV. (FT) <u>6483.30</u>

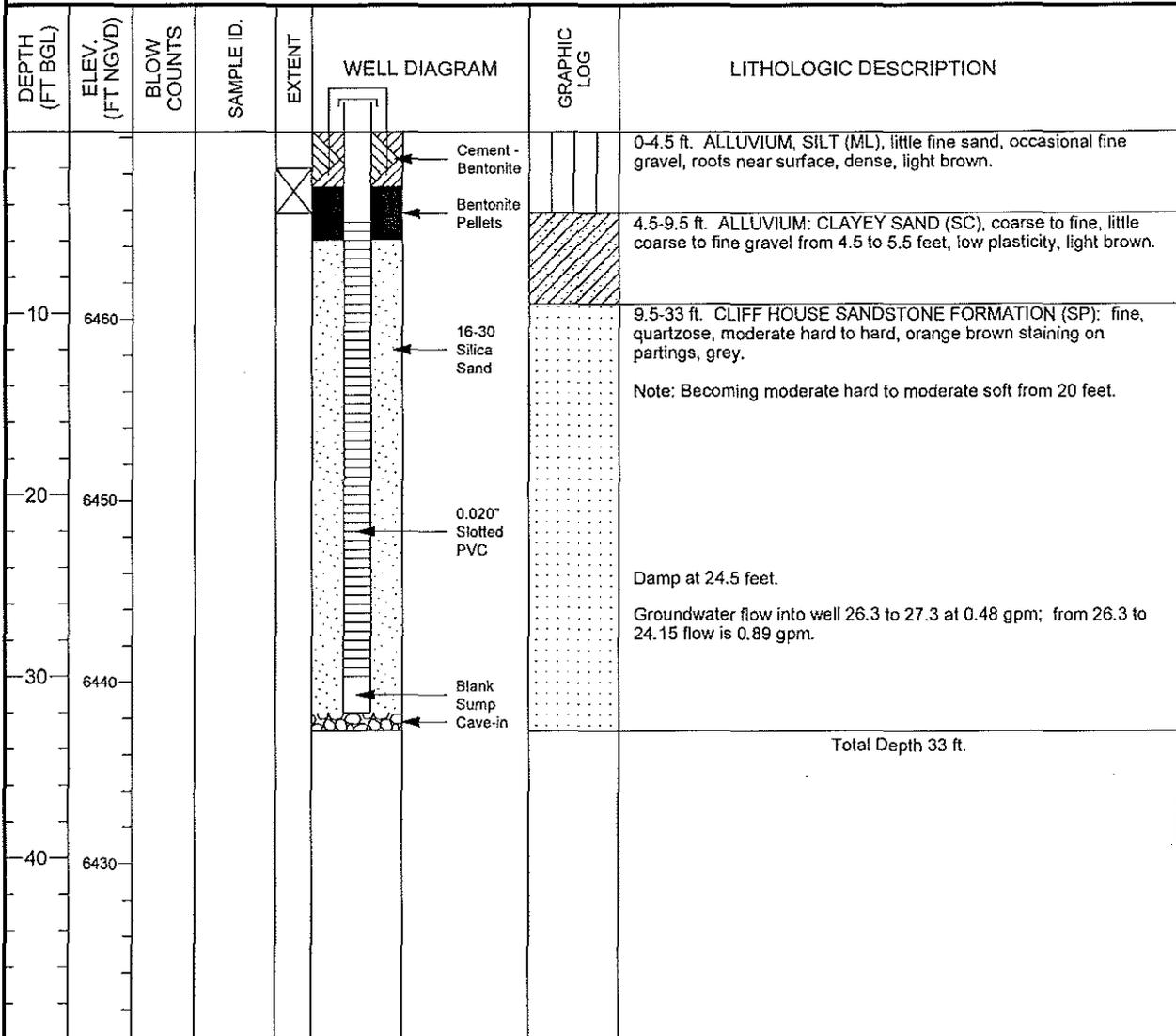
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>CORE/ROTARY</u>
BLANK CASING:	4 in. PVC Sch 40	-0.7 to 19.0	SAMPLING METHOD _____
WELL SCREEN:	4 in. Slotted PVC	19.0 to 24.0	DATE DEVELOPED _____
SUMP/END CAP:			WATER LEVEL (FT BGS) <u>14.6 on 04/18/1983</u>
SURFACE SEAL:			LOGGED BY _____
GROUT:	Pea Gravel	0.0 to 14.0	REMARKS _____
SEAL:	Bentonite Pellets	14.0 to 15.0	
UPPER PACK:	Pea Gravel	15.0 to 18.0	
LOWER PACK:	6-10 Silica Sand	18.0 to 29.0	



MONITORING WELL COMPLETION LOG DUR02-0628

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223642.19</u>	DATE DRILLED <u>10/05/1993 to 10/07/1993</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308266.93</u>	SURFACE ELEV. (FT NGVD) <u>6470.30</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>33.00</u>	TOP OF CASING (FT) <u>6472.27</u>
WELL NUMBER <u>0628</u>	WELL DEPTH (FT) <u>32.00</u>	MEAS. PT. ELEV. (FT) <u>6472.27</u>

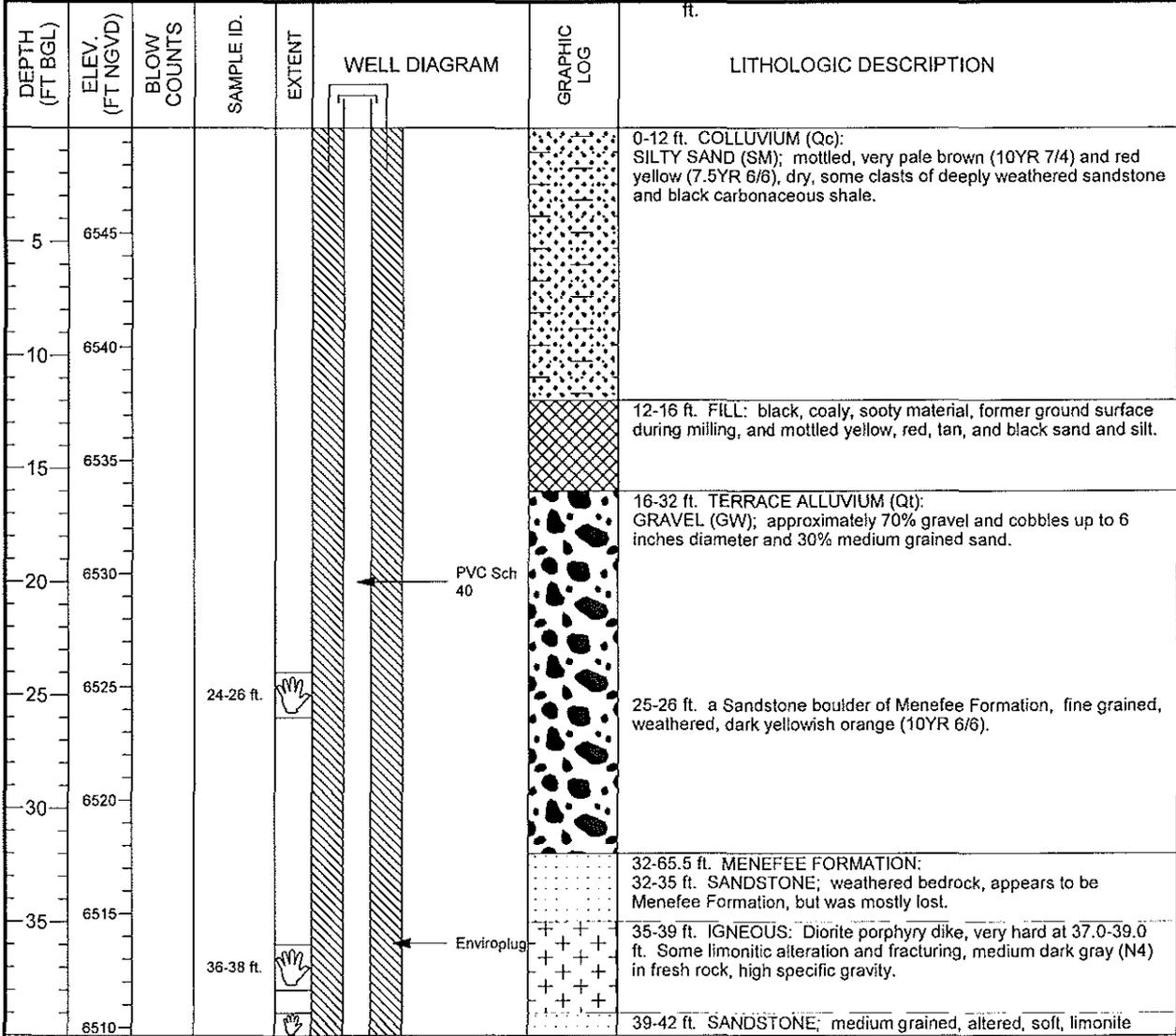
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	4 in. PVC Sch 40	-1.97 to 7.0	DRILLING METHOD <u>H.S.A./ROTARY/AIR</u>
WELL SCREEN:	4 in. Slotted PVC	7.0 to 30.0	SAMPLING METHOD <u>SPLIT SPOON</u>
SUMP/END CAP:	4 in. PVC Sch 40	30.0 to 32.0	DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) _____
GROUT:	Cement - Bentonite	0.0 to 3.0	LOGGED BY <u>D. Tarbox</u>
SEAL:	Bentonite Pellets	3.0 to 6.0	REMARKS _____
UPPER PACK:			
LOWER PACK:	16-30 Silica Sand	6.0 to 32.0	



MONITORING WELL COMPLETION LOG DUR02-0875

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1222397.72	DATE DRILLED	10/03/2000 to 10/04/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2307536.15	SURFACE ELEV. (FT NGVD)	6549.65
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	126.00	TOP OF CASING (FT)	6551.26
WELL NUMBER	0875	WELL DEPTH (FT)	122.50	MEAS. PT. ELEV. (FT)	6551.26
				SLOT SIZE (IN)	0.020
				BIT SIZE(S) (IN)	6.0

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD ROTASONIC
BLANK CASING:	2 in. PVC Sch 40	-1.61 to 82.0	SAMPLING METHOD GRAB
WELL SCREEN:	2 in. Vee Wire Wrapped	82.0 to 122.0	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	122.0 to 122.5	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY Goodknight, C.
GROUT:	Enviroplug	0.0 to 71.9	REMARKS This will be background well for Point
SEAL:	Bentonite Pellets	74.2 to 78.0	Lookout SS formation. Centralizers at top and bottom
UPPER PACK:	30-70 Silica Sand	78.0 to 80.3	of screen. Filter Pack (30-70 Sand) from 71.9 to 74.2
LOWER PACK:	10-20 Silica Sand	80.3 to 126.0	



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MONITORING WELL COMPLETION LOG DUR02-0875

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0875</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>10/03/2000 to 10/04/2000</u>

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
			39-41 ft.				along fractures, 20 degree fracture, pale yellowish brown (10 YR 6/2), crossbedded.
45	6505		42-44 ft.				42-50 ft. SHALE; carbonaceous, soft, medium dark gray (N4), some limonite alteration along fractures, much of this interval was lost.
50	6500						50-53 ft. SHALE; dark gray to black, medium dark gray (N4), near vertical fractures coated with limonite, baked nearly to hornfels.
55	6495		53-54 ft.				53-61 ft. SANDSTONE; fine grained, altered to hornfels, vertical fractures with limonitic coatings, blocky structures of recovered material, some carbonaceous material along bedding, medium light gray (N6). 55-61 ft. layer becomes fine-medium grained carbonaceous sandstone, crossbedded.
60	6490		54-56 ft.				
65	6485		64-65 ft.				61-63 ft. SILTSTONE; dark gray to black carbonaceous siltstone and shale with some coal. 63-65.5 ft. COAL; black. Core recovered is powdery, dry.
70	6480		67-69 ft.				65.5-126 ft. POINT LOOKOUT SANDSTONE; massive, fine grained, pale brown (5YR 5/2), some horizontal bedding and some inclined bedding. Steep fractures at 71.0 ft. and 74.0 ft (about 80 degrees), but they are tight (no alteration).
75	6475						78 ft. layer is mostly fine grained sandstone (some medium grained also), crossbedded, medium light gray (N6).
80	6470		81-82 ft.				
85	6465						
90	6460						

MONITORING WELL COMPLETION LOG DUR02-0875

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0875</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>10/03/2000 to 10/04/2000</u>

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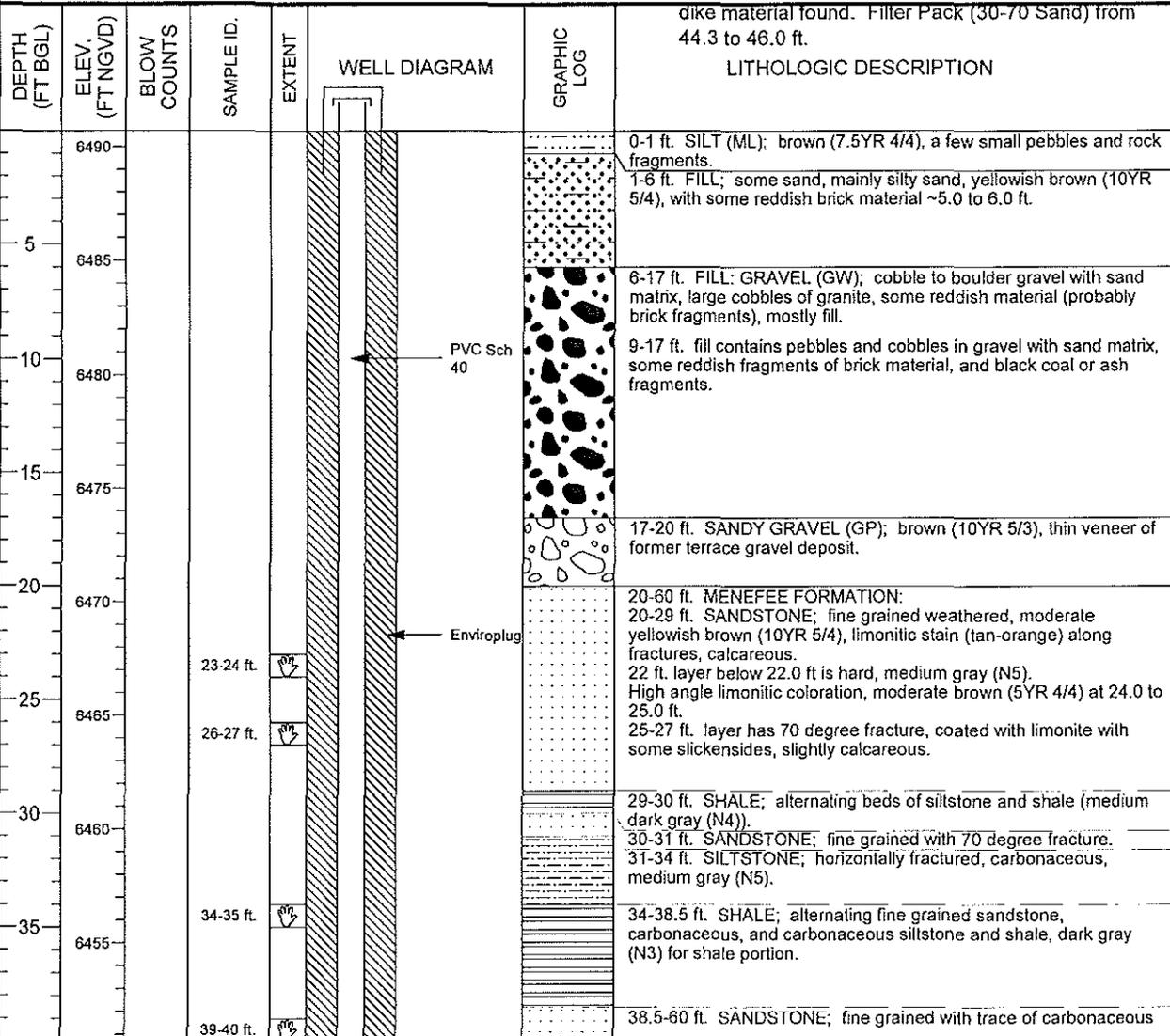
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	
95	6455		93-94 ft.	↓			96 ft. woody coal fragment. 97 ft. 50 degree inclined joint. Crossbeds inclined up to 30-35 degrees. Sandstone is medium gray (N5), wet color.	
100	6450		102-103 ft.	↓			105 ft. dry color of sandstone is light gray (N7) to medium light gray (N6).	
105	6445							
110	6440							
115	6435		117-118 ft.	↓			117 ft. bedding becomes more nearly horizontal. Trace carbonaceous material along bedding ~117.0-119.0 ft.	
120	6430		122-123 ft.	↓		122-122.5 ft. layer is fine grained sandstone to siltstone that contains carbonaceous material, medium gray (N5). 122.5-126 ft. SHALE: total depth of core was 126 ft., but 122.5 to 126 ft. was not recovered; it is believed to be a shaley sequence because facies change that was starting at 122.0 ft. and the sequence at South Creek below the massive sandstone of the upper Point Lookout Sandstone.		
125	6425					Total Depth 126.0 ft.		
130	6420							
135	6415							
140	6410							

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MONITORING WELL COMPLETION LOG DUR02-0876

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223013.65</u>	DATE DRILLED <u>11/02/2000 to 11/07/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307874.30</u>	SURFACE ELEV. (FT NGVD) <u>6490.70</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>115.00</u>	TOP OF CASING (FT) <u>6490.62</u>
WELL NUMBER <u>0876</u>	WELL DEPTH (FT) <u>75.00</u>	MEAS. PT. ELEV. (FT) <u>6490.62</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	0.08 to 54.5	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	54.5 to 74.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	74.5 to 75.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Goodknight, C.</u>
GROUT:	Enviroplug	0.0 to 44.3	REMARKS <u>Centralizers at both ends of screen.</u>
SEAL:	Bentonite Pellets	46.0 to 51.0	<u>Bodo Fault was indistinct in hole, but was ~60 ft.,</u>
UPPER PACK:	30-70 Silica Sand	51.0 to 52.9	<u>below which was in Point Lookout SS fm, no igneous</u>
LOWER PACK:	10-20 Silica Sand	52.9 to 115.0	<u>dike material found. Filter Pack (30-70 Sand) from</u>



MONITORING WELL COMPLETION LOG DUR02-0876

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0876
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	11/02/2000 to 11/07/2000

Continued from Previous Page

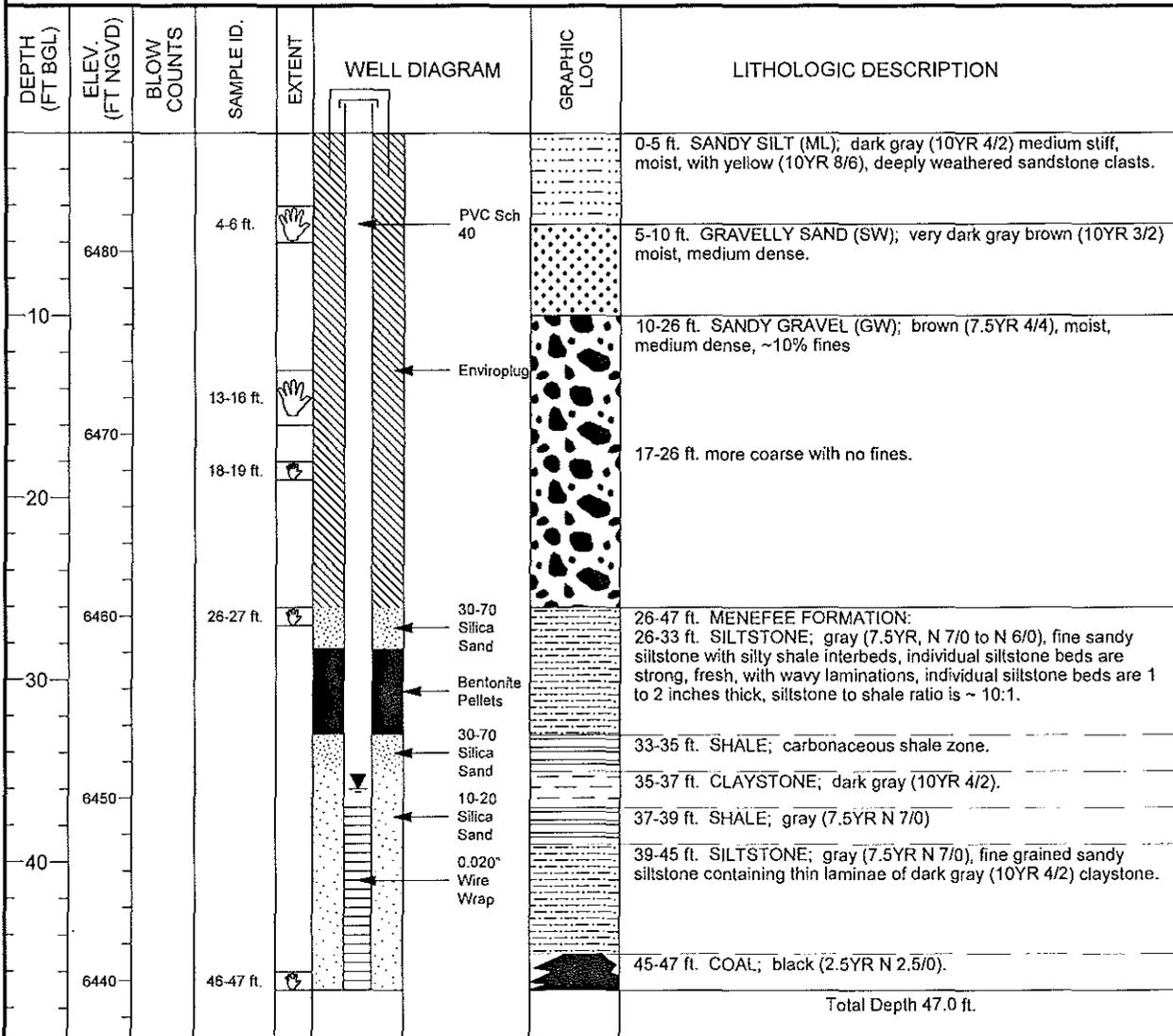
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	
			93-94 ft.	▼			91-93 ft. SHALE; horizontally fractured silty shale, dark gray (N3).	
-95	6395			▼				93-97 ft. SANDSTONE; massive, fine grained, medium dark gray (N4), trace of carbonaceous material and pyrite; rough, hackly, near vertical fracture at 93.0 ft.
-100	6390		103-104 ft.	▼				97-115 ft. SHALE; approximately 7.5 ft. recovered, in run to 107.0 ft, mostly silty shale, medium gray (N5), horizontal fracturing common at 98.0 ft, and 100.0 ft., 100.5 ft. high angle fracture. 103-104 ft. rough, hackly fracture.
-105	6385			▼				107-115 ft. approximately 5 ft. recovered.
-110	6380		109-110 ft.	▼				108-109 ft. thin sandstone layer, very fine grained, calcareous, trace of pyrite, medium gray (N5) 109-115 ft. mostly alternating thin beds of bioturbated silty shale and shale, 110-112 ft. horizontal and high angle fractures. 114 ft. bioturbated. 115 ft. in silty shale of middle part of Point Lookout Sandstone formation.
-115	6375						Total Depth 115.0 ft.	
-120	6370							
-125	6365							
-130	6360							
-135	6355							
-140	6350							



MONITORING WELL COMPLETION LOG DUR02-0878

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1222910.07</u>	DATE DRILLED <u>09/24/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308065.51</u>	SURFACE ELEV. (FT NGVD) <u>6486.51</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>47.00</u>	TOP OF CASING (FT) <u>6486.50</u>
WELL NUMBER <u>0878</u>	WELL DEPTH (FT) <u>47.00</u>	MEAS. PT. ELEV. (FT) <u>6486.50</u>

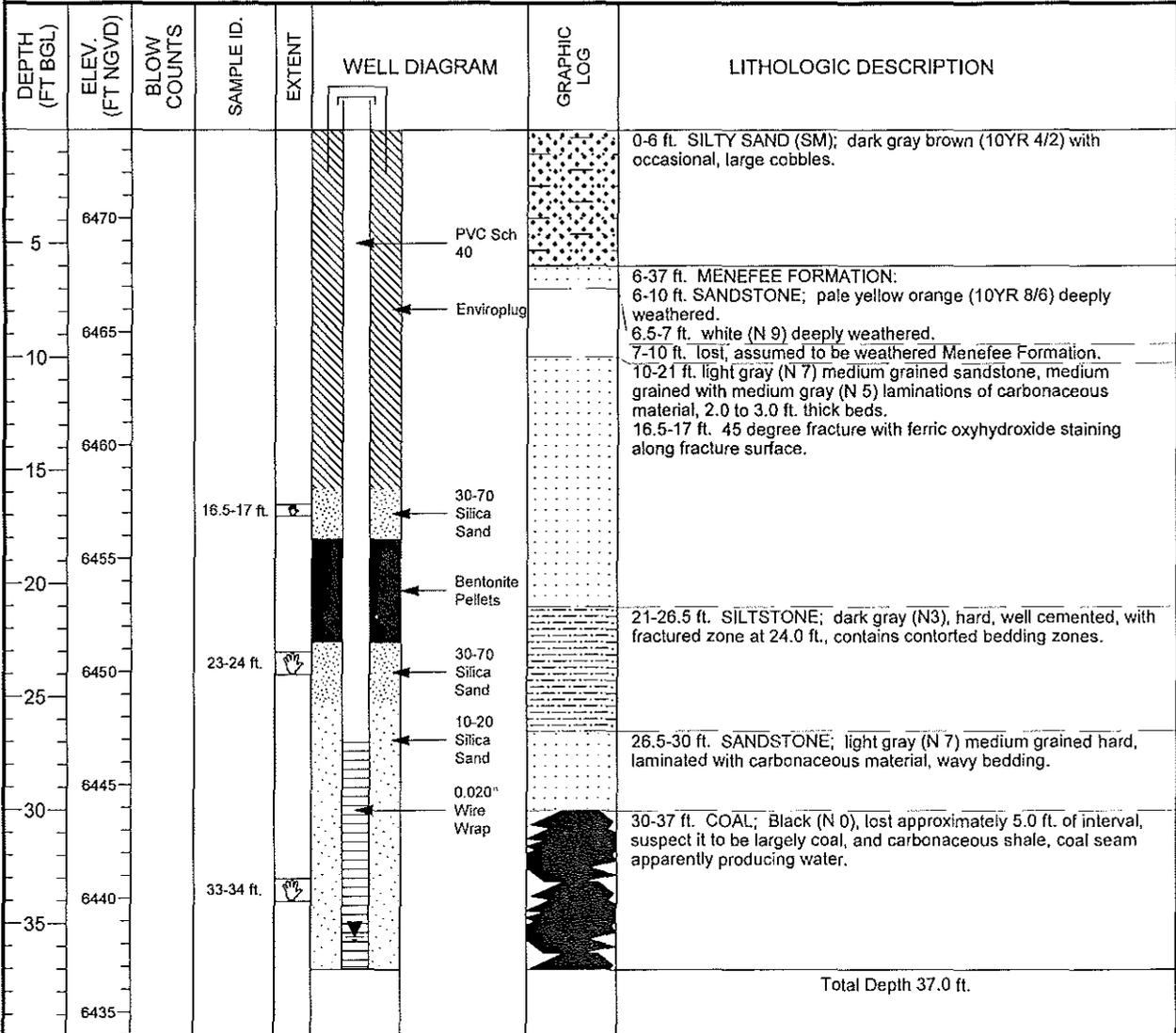
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	0.01 to 37.0	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	37.0 to 46.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	46.5 to 47.0	WATER LEVEL (FT BTOC) <u>36.0 on 09/24/2000</u>
SURFACE SEAL:			LOGGED BY <u>Kautsky, M.</u>
GROUT:	Enviroplug	0.0 to 26.0	REMARKS <u>30-70 sand pack from 26.0 to 28.25 ft.</u>
SEAL:	Bentonite Pellets	28.25 to 33.0	
UPPER PACK:	30-70 Silica Sand	33.0 to 35.0	
LOWER PACK:	10-20 Silica Sand	35.0 to 47.0	



MONITORING WELL COMPLETION LOG DUR02-0879

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223319.95</u>	DATE DRILLED <u>10/22/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308225.69</u>	SURFACE ELEV. (FT NGVD) <u>6473.90</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>37.00</u>	TOP OF CASING (FT) <u>6473.91</u>
WELL NUMBER <u>0879</u>	WELL DEPTH (FT) <u>37.00</u>	MEAS. PT. ELEV. (FT) <u>6473.91</u>

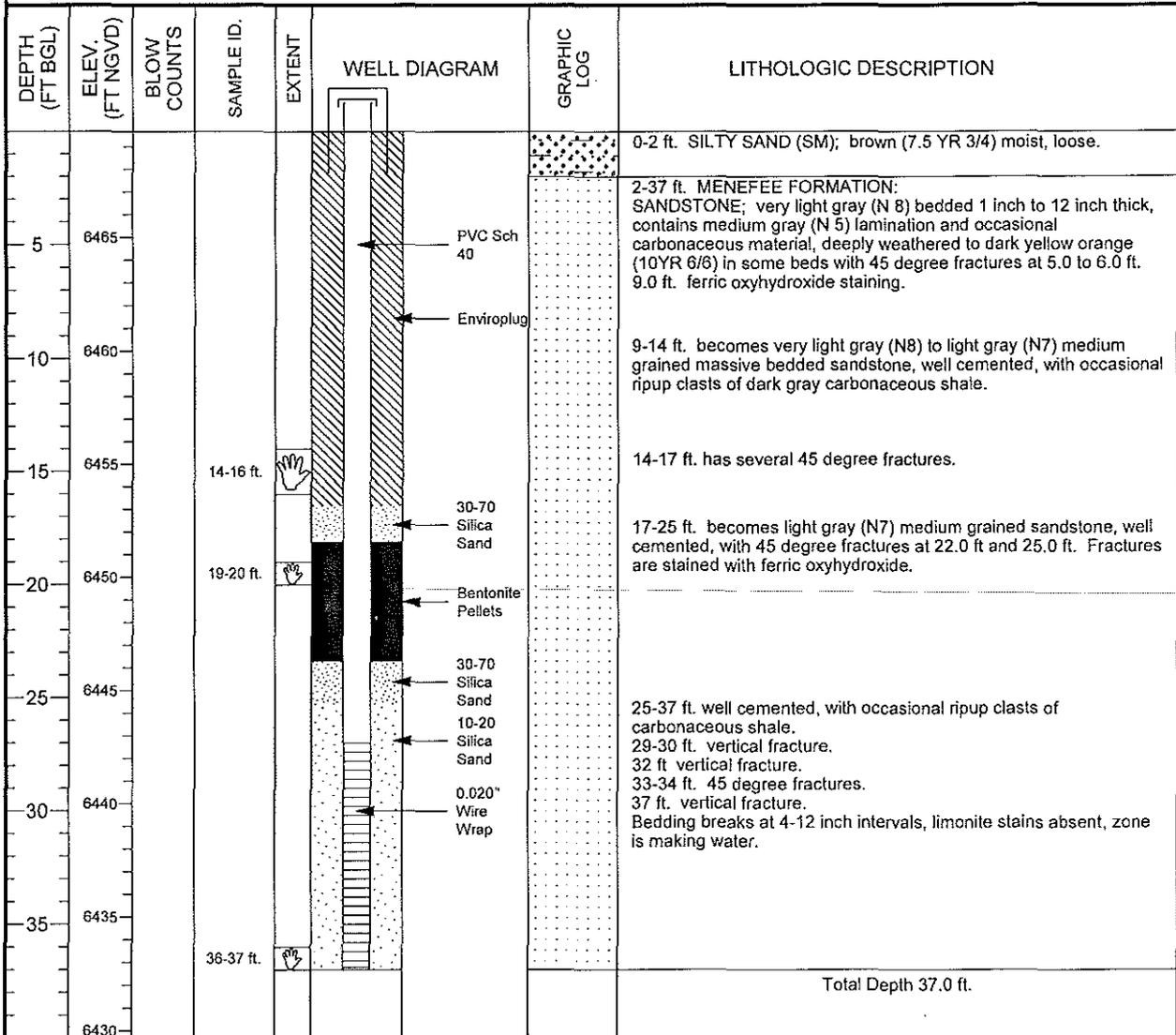
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	-0.01 to 27.0	BIT SIZE(S) (IN) <u>6.0</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	27.0 to 36.9	DRILLING METHOD <u>ROTASONIC</u>
SUMP/END CAP:	2 in. PVC Sch 40	36.9 to 37.0	SAMPLING METHOD <u>GRAB</u>
SURFACE SEAL:			DATE DEVELOPED
GROUT:	Enviroplug	0.0 to 15.8	WATER LEVEL (FT BTOC) <u>35.6 on 10/22/2000</u>
SEAL:	Bentonite Pellets	18.0 to 22.6	LOGGED BY <u>Kautsky, M.</u>
UPPER PACK:	30-70 Silica Sand	22.6 to 25.2	REMARKS <u>30-70 sand pack from 15.8 to 18.0 ft.</u>
LOWER PACK:	10-20 Silica Sand	25.2 to 37.0	



MONITORING WELL COMPLETION LOG DUR02-0880

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223879.37</u>	DATE DRILLED <u>10/21/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308181.65</u>	SURFACE ELEV. (FT NGVD) <u>6469.67</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>37.00</u>	TOP OF CASING (FT) <u>6469.50</u>
WELL NUMBER <u>0880</u>	WELL DEPTH (FT) <u>37.00</u>	MEAS. PT. ELEV. (FT) <u>6469.50</u>

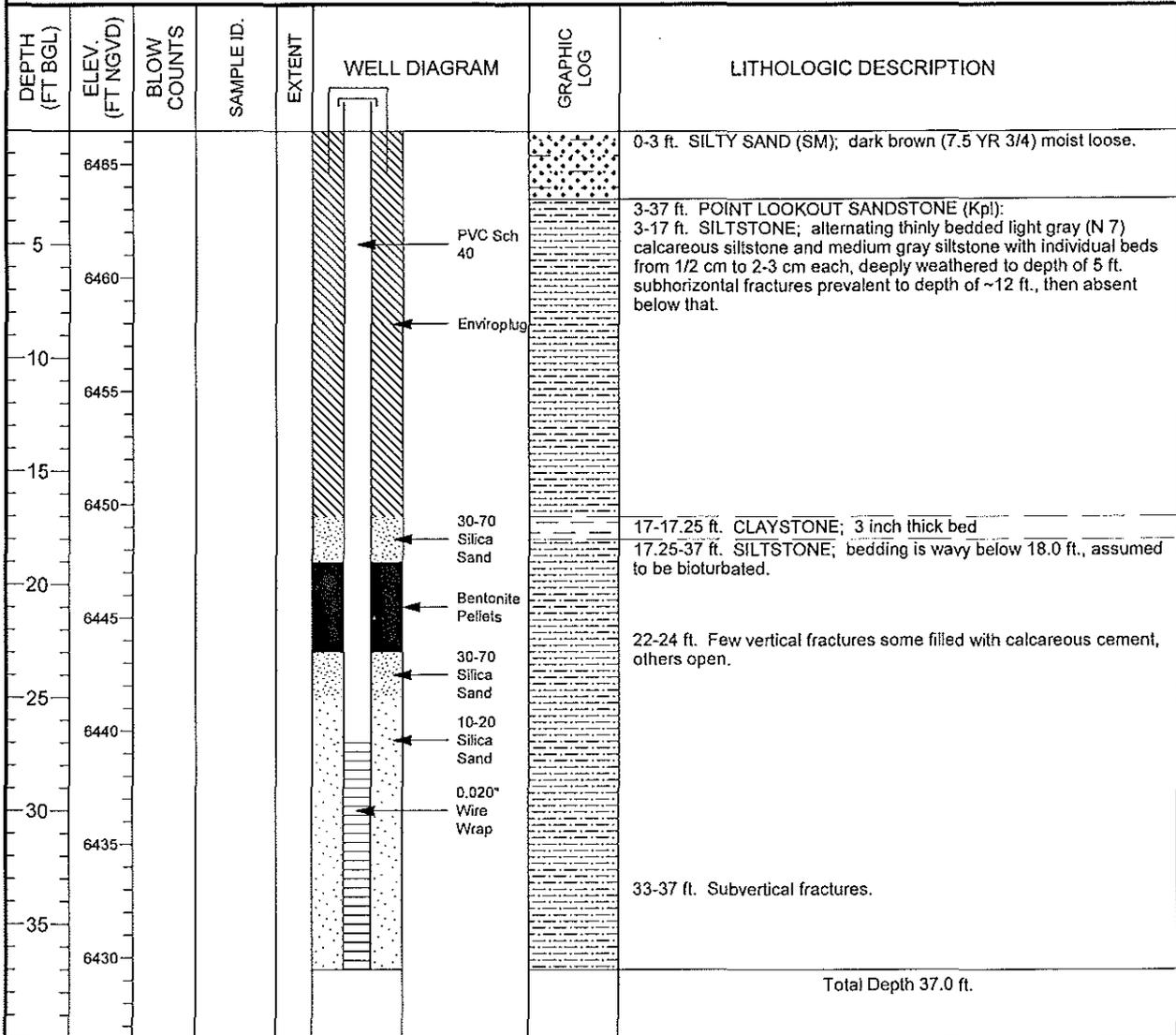
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	0.17 to 27.0	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	27.0 to 36.9	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	36.9 to 37.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Kautsky, M.</u>
GROUT:	Enviroplug	0.0 to 16.5	REMARKS <u>30-70 sand pack from 16.5 to 18.1 ft.</u>
SEAL:	Bentonite Pellets	18.1 to 23.4	
UPPER PACK:	30-70 Silica Sand	23.4 to 25.2	
LOWER PACK:	10-20 Silica Sand	25.2 to 37.0	



MONITORING WELL COMPLETION LOG DUR02-0881

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1224138.45	DATE DRILLED	10/21/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308059.84	SURFACE ELEV. (FT NGVD)	6466.48
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	37.00	TOP OF CASING (FT)	6466.22
WELL NUMBER	0881	WELL DEPTH (FT)	37.00	MEAS. PT. ELEV. (FT)	6466.22

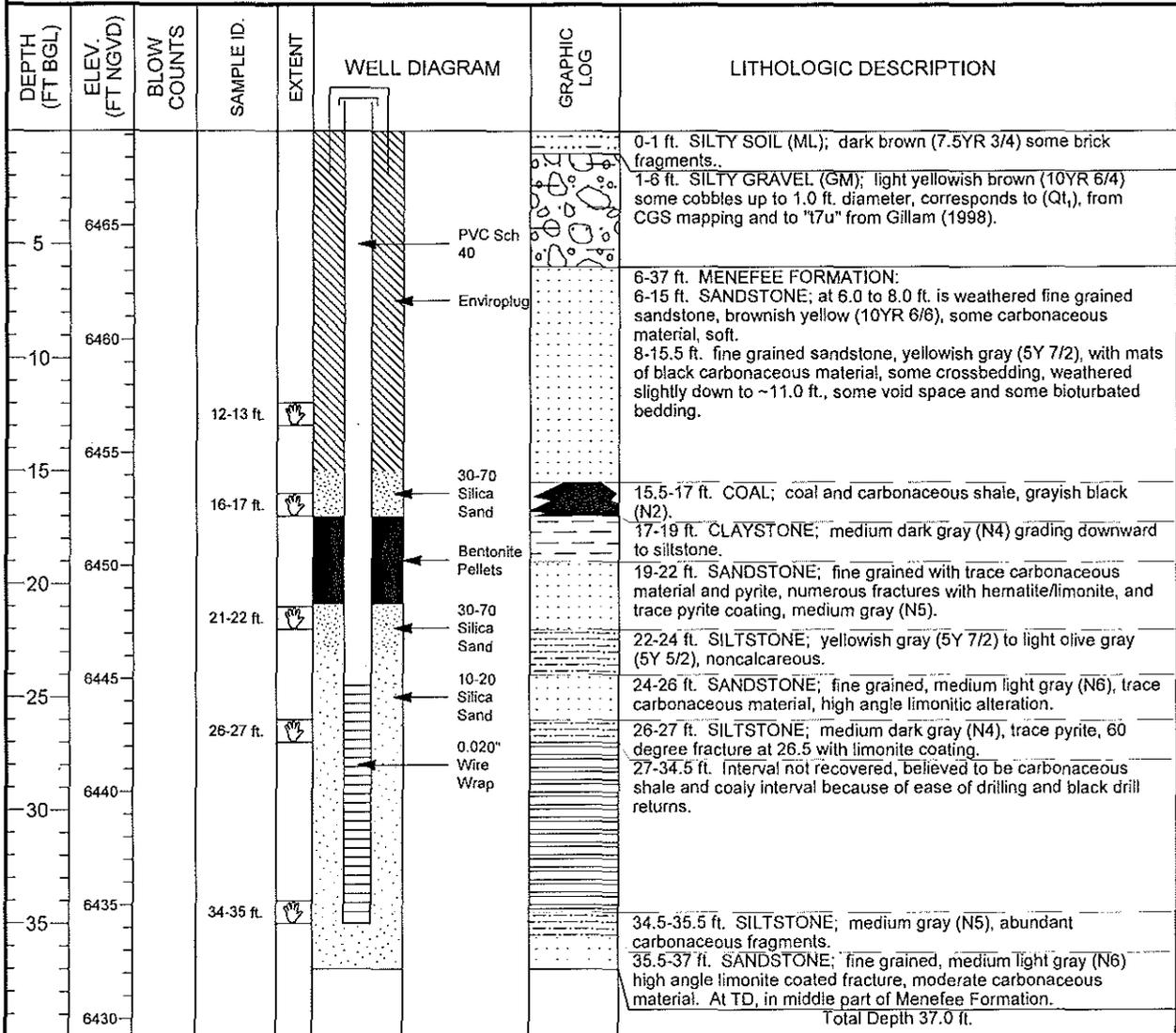
WELL INSTALLATION		INTERVAL (FT)		BIT SIZE(S) (IN)	
SURFACE CASING:					
BLANK CASING:	2 in. PVC Sch 40	0.26	to 27.0	DRILLING METHOD	ROTASONIC
WELL SCREEN:	2 in. Vee Wire Wrapped	27.0	to 36.9	SAMPLING METHOD	GRAB
SUMP/END CAP:	2 in. PVC Sch 40	36.9	to 37.0	DATE DEVELOPED	
SURFACE SEAL:				WATER LEVEL (FT BGS)	
GROUT:	Enviroplug	0.0	to 17.0	LOGGED BY	Kautsky, M.
SEAL:	Bentonite Pellets	19.0	to 23.0	REMARKS	Filter Pack (30-70 Sand) from 17.0 to 19.0 ft.
UPPER PACK:	30-70 Silica Sand	23.0	to 25.0		
LOWER PACK:	10-20 Silica Sand	25.0	to 37.0		



MONITORING WELL COMPLETION LOG DUR02-0882

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223330.73</u>	DATE DRILLED <u>11/08/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308551.33</u>	SURFACE ELEV. (FT NGVD) <u>6469.20</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>37.00</u>	TOP OF CASING (FT) <u>6471.10</u>
WELL NUMBER <u>0882</u>	WELL DEPTH (FT) <u>35.00</u>	MEAS. PT. ELEV. (FT) <u>6471.10</u>

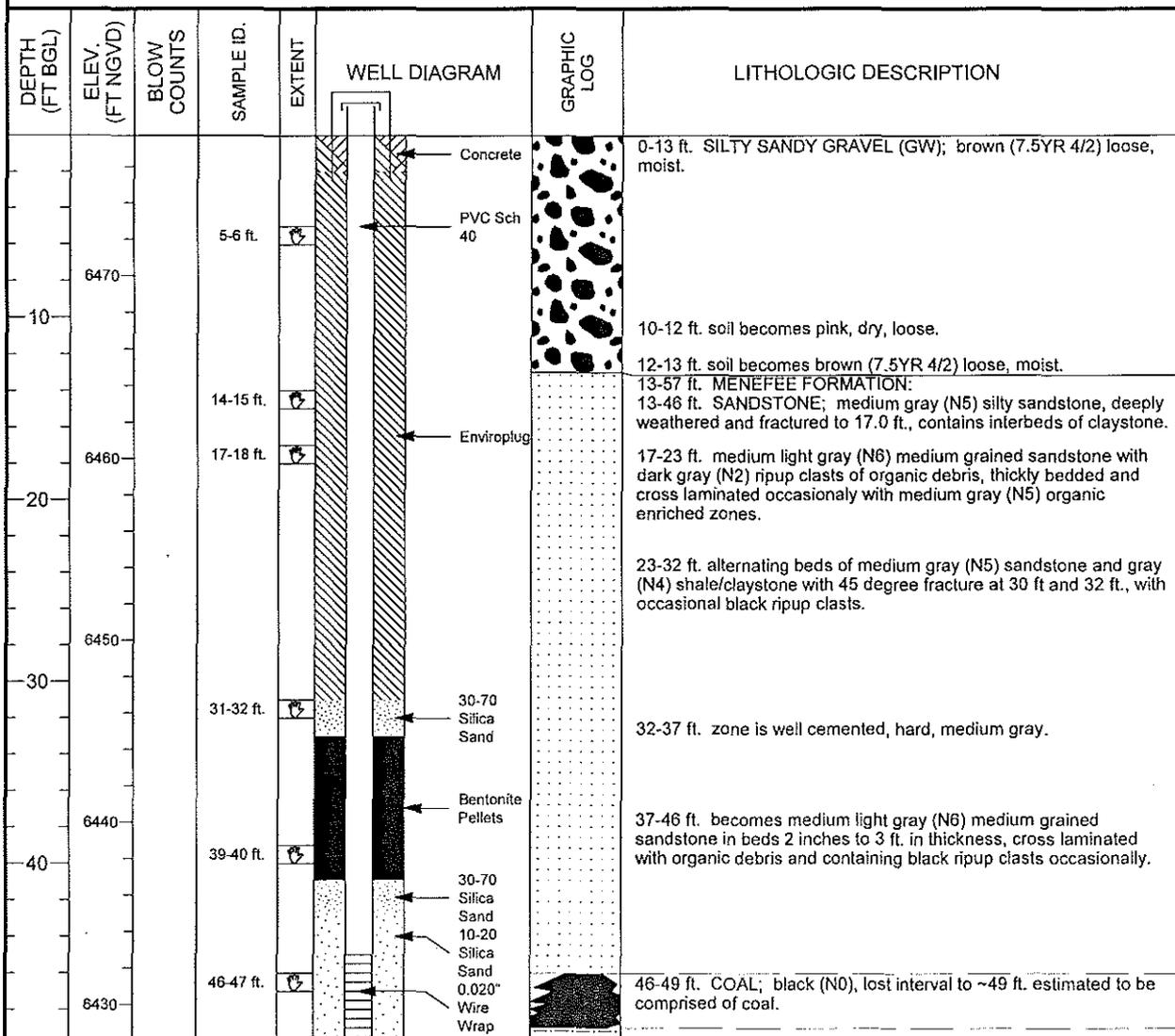
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	-1.9 to 24.5	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	24.5 to 34.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	34.5 to 35.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Goodknight, C.</u>
GROUT:	Enviroplug	0.0 to 15.0	REMARKS <u>Centralizers at top and bottom of</u>
SEAL:	Bentonite Pellets	17.0 to 20.9	<u>screen. Filter pack (30-70 sand) from 15.0 to 17.0 ft.</u>
UPPER PACK:	30-70 Silica Sand	20.9 to 23.0	
LOWER PACK:	10-20 Silica Sand	23.0 to 35.0	



MONITORING WELL COMPLETION LOG DUR02-0883

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223123.74</u>	DATE DRILLED <u>10/20/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308348.38</u>	SURFACE ELEV. (FT NGVD) <u>6477.72</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	WELL DEPTH (FT) <u>57.00</u>	TOP OF CASING (FT) <u>6480.11</u>
WELL NUMBER <u>0883</u>	WELL DEPTH (FT) <u>55.00</u>	MEAS. PT. ELEV. (FT) <u>6480.11</u>

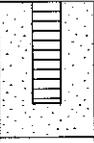
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	-2.39 to 45.0	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	45.0 to 55.0	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	55.0 to 55.25	WATER LEVEL (FT BGS)
SURFACE SEAL:	Concrete	0.0 to 2.0	LOGGED BY <u>Kautsky, M.</u>
GROUT:	Enviroplug	2.0 to 31.0	REMARKS <u>30-70 sand pack from 31.0 to 33.0 ft.</u>
SEAL:	Bentonite Pellets	33.0 to 40.92	
UPPER PACK:	30-70 Silica Sand	40.92 to 42.83	
LOWER PACK:	10-20 Silica Sand	42.83 to 55.0	



MONITORING WELL COMPLETION LOG DUR02-0883

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0883
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/20/2000

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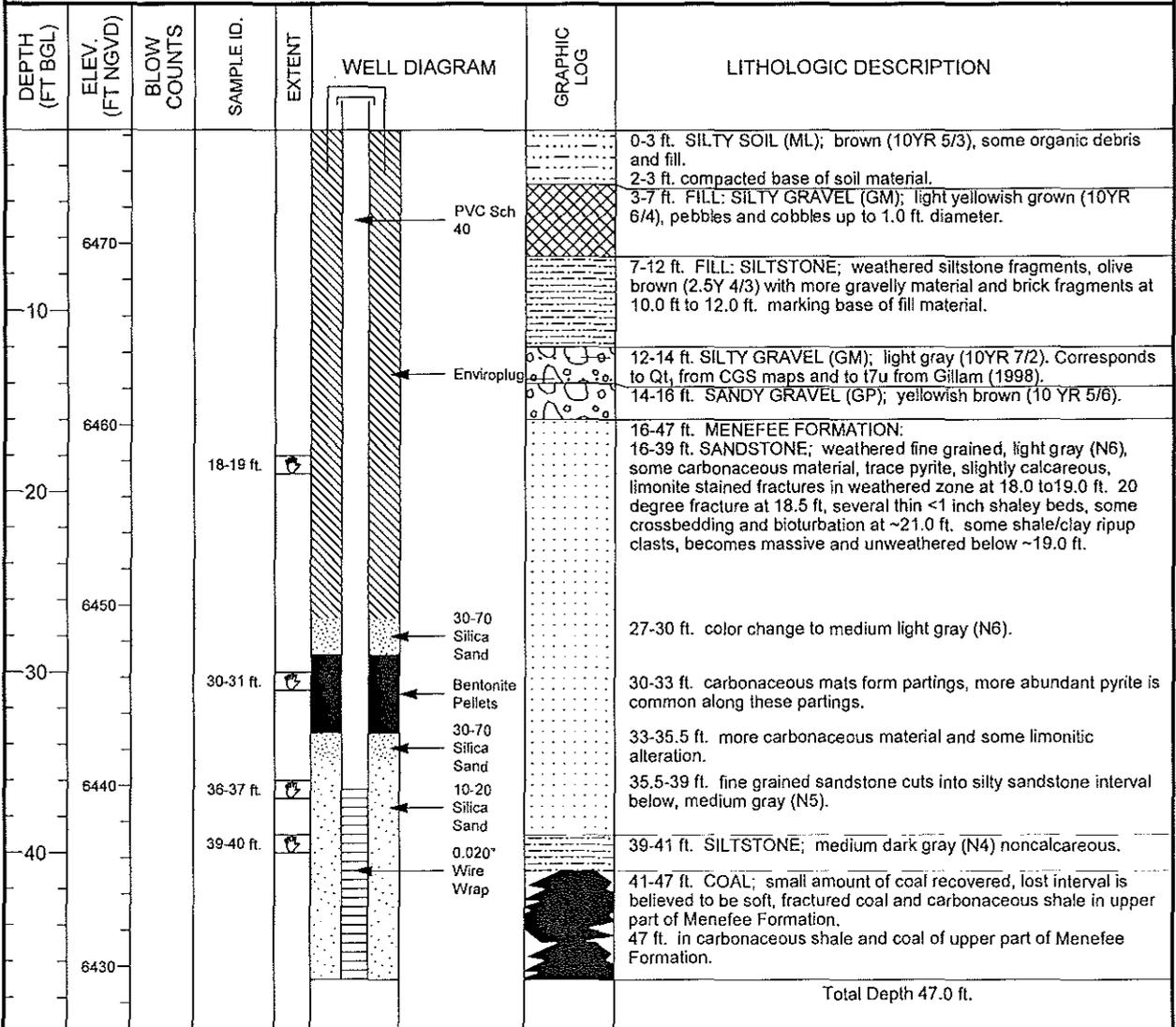
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
			53-54 ft.	5			49-57 ft. SILTSTONE; dark gray (N3), carbonaceous with wavy bedding. 54-57 ft. becomes interbedded medium gray (N5) siltstone and claystone.
6420							Total Depth 57.0 ft.
60							
6410							
70							
6400							
80							
6390							
90							
6380							
100							
6370							
110							



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MONITORING WELL COMPLETION LOG DUR02-0884

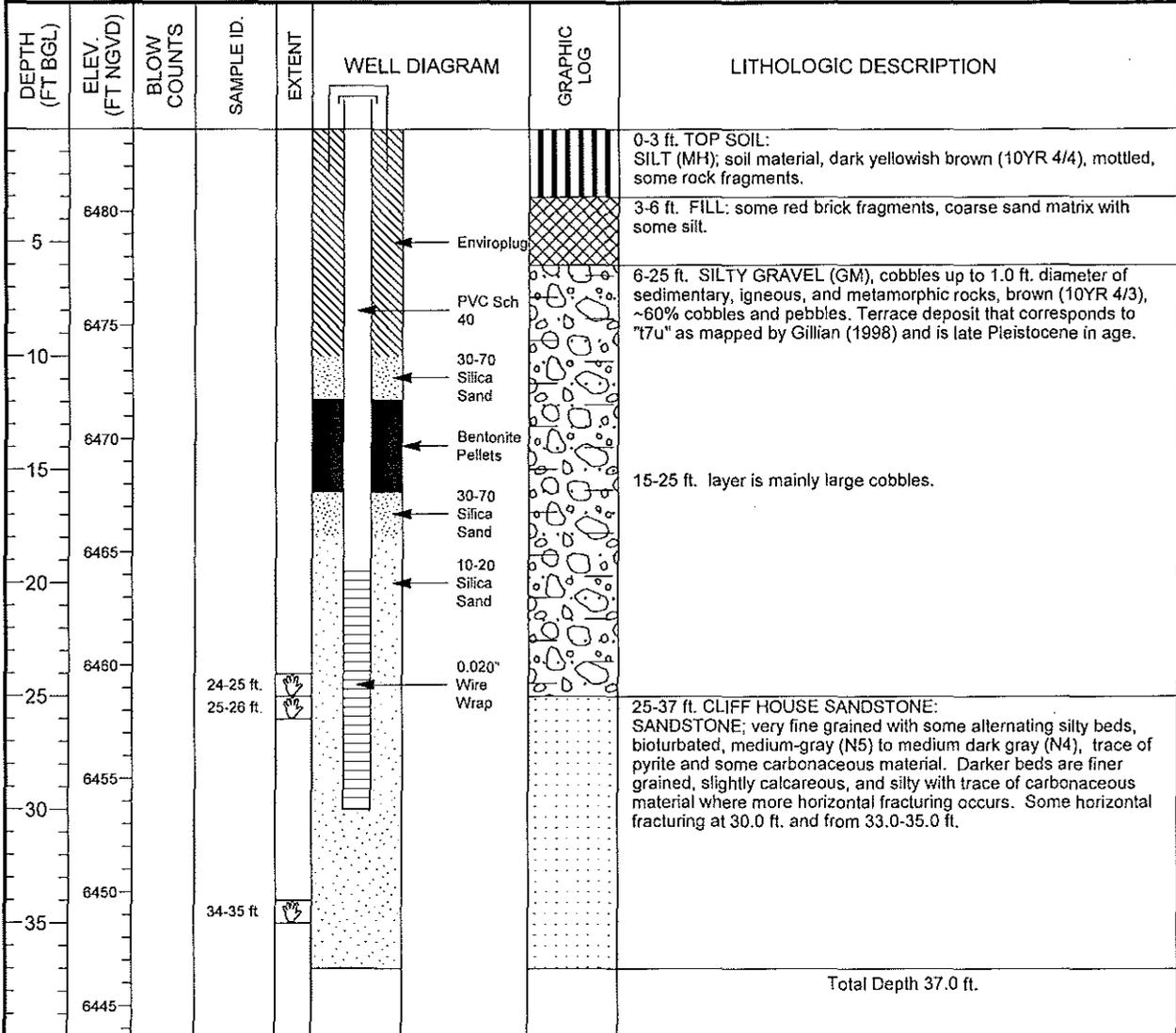
PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1222824.23	DATE DRILLED	11/09/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308488.43	SURFACE ELEV. (FT NGVD)	6476.31
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	47.00	TOP OF CASING (FT)	6476.37
WELL NUMBER	0884	WELL DEPTH (FT)	47.00	MEAS. PT. ELEV. (FT)	6476.37
				SLOT SIZE (IN)	0.020
				BIT SIZE(S) (IN)	6.0
WELL INSTALLATION			INTERVAL (FT)	DRILLING METHOD	ROTASONIC
SURFACE CASING:				SAMPLING METHOD	GRAB
BLANK CASING:	2 in. PVC Sch 40	-0.06	to 36.5	DATE DEVELOPED	
WELL SCREEN:	2 in. Vee Wire Wrapped	36.5	to 46.5	WATER LEVEL (FT BGS)	
SUMP/END CAP:	2 in. PVC Sch 40	46.5	to 47.0	LOGGED BY	Goodknight, C.
SURFACE SEAL:				REMARKS	Filter Pack (30-70 Sand) from 27.0 to 29.0 ft.
GROUT:	Enviroplug	0.0	to 27.0		
SEAL:	Bentonite Pellets	29.0	to 33.4		
UPPER PACK:	30-70 Silica Sand	33.4	to 35.0		
LOWER PACK:	10-20 Silica Sand	35.0	to 47.0		



MONITORING WELL COMPLETION LOG DUR02-0886

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1222253.79</u>	DATE DRILLED <u>11/07/2000 to 11/08/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308266.33</u>	SURFACE ELEV. (FT NGVD) <u>6483.66</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>37.00</u>	TOP OF CASING (FT) <u>6485.16</u>
WELL NUMBER <u>0886</u>	WELL DEPTH (FT) <u>30.00</u>	MEAS. PT. ELEV. (FT) <u>6485.16</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	-1.5 to 19.5	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	19.5 to 29.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	29.5 to 30.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Goodknight, C.</u>
GROUT:	Enviroplug	0.0 to 10.0	REMARKS <u>Drilled to 37.0 ft. on 11/7. Completed</u>
SEAL:	Bentonite Pellets	11.9 to 16.0	<u>on 11/8. Centralizers both ends of screen. Filter</u>
UPPER PACK:	30-70 Silica Sand	16.0 to 17.9	<u>Pack (30-70 Sand) placed from 10.0 to 11.9 ft.</u>
LOWER PACK:	10-20 Silica Sand	17.9 to 37.0	

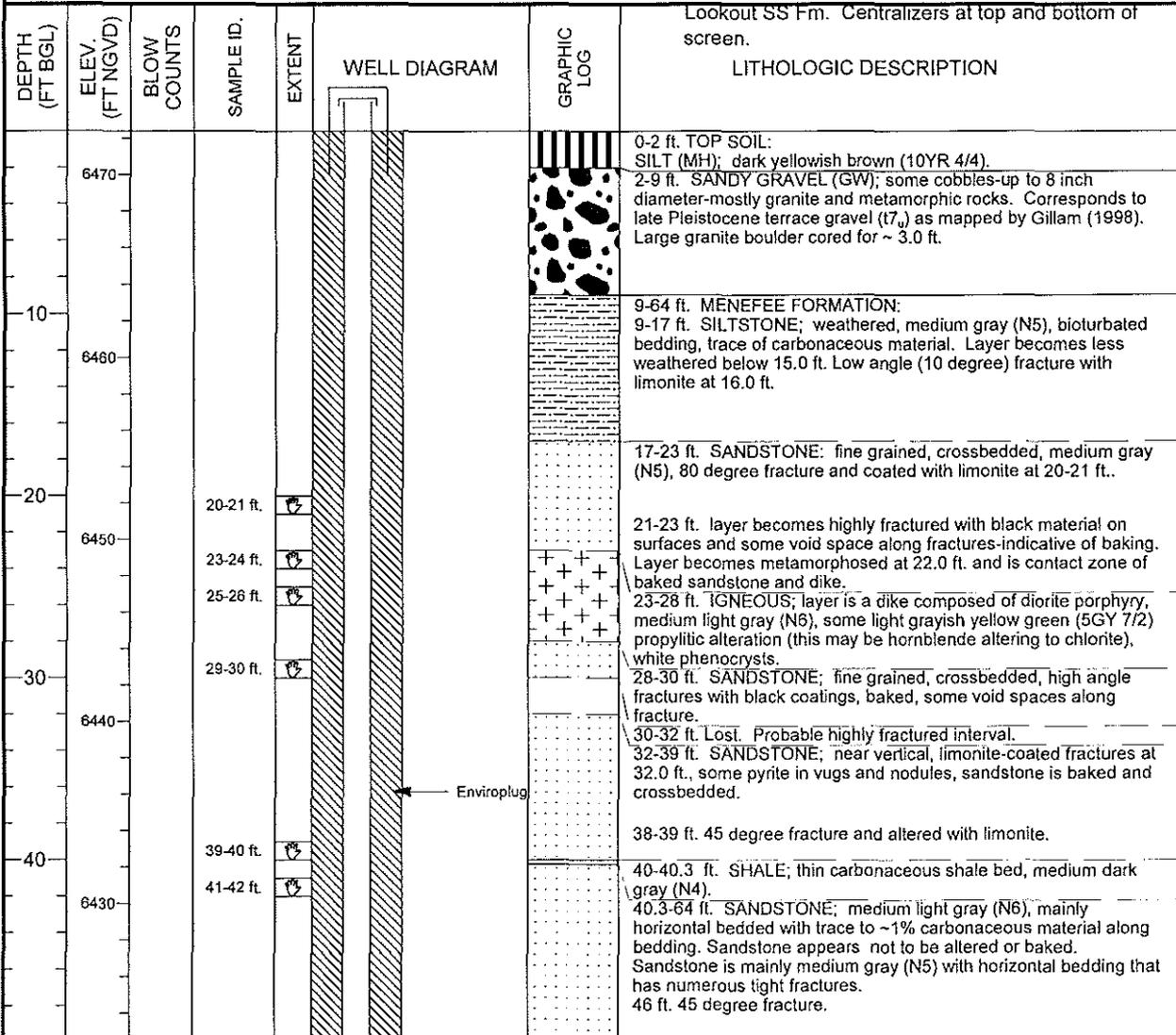


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MONITORING WELL COMPLETION LOG DUR02-0887

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223632.22</u>	DATE DRILLED <u>10/09/2000 to 10/10/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308060.36</u>	SURFACE ELEV. (FT NGVD) <u>6472.38</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>96.00</u>	TOP OF CASING (FT) <u>6472.14</u>
WELL NUMBER <u>0887</u>	WELL DEPTH (FT) <u>93.20</u>	MEAS. PT. ELEV. (FT) <u>6472.14</u>
		SLOT SIZE (IN) <u>0.020</u>
		BIT SIZE(S) (IN) <u>6.0</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	0.24 to 82.7	DRILLING METHOD <u>ROTASONIC</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	82.7 to 92.7	SAMPLING METHOD <u>GRAB</u>
SUMP/END CAP:	2 in. PVC Sch 40	92.7 to 93.2	DATE DEVELOPED _____
SURFACE SEAL:			WATER LEVEL (FT BGS) _____
GROUT:	Enviroplug	0.0 to 72.5	LOGGED BY <u>Goodknight, C.</u>
SEAL:	Bentonite Pellets	74.0 to 78.9	REMARKS <u>Drilled to 45.5 ft. on 10/9. Set well on 10/10. Screened at lower Bodo Fault (diorite porphyry, fractured, altered silty shales) in lower Point</u>
UPPER PACK:	30-70 Silica Sand	78.9 to 81.5	
LOWER PACK:	10-20 Silica Sand	81.5 to 96.0	



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MONITORING WELL COMPLETION LOG DUR02-0887

PROJECT UMTRA GROUND WATER WELL NUMBER 0887
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 10/09/2000 to 10/10/2000

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
	6420		52-53 ft.		<p style="text-align: right;">PVC Sch 40</p> <p style="text-align: right;">30-70 Silica Sand</p> <p style="text-align: right;">Bentonite Pellets</p> <p style="text-align: right;">30-70 Silica Sand</p> <p style="text-align: right;">10-20 Silica Sand</p> <p style="text-align: right;">0.020" Wire Wrap</p>		49 ft. 20 degree fracture. 51 ft. 45 degree fracture. 53 ft. thin (1-2 inch) zone of rip-up clasts of shale in the sandstone. 57 ft. sandstone becomes more fractured and crossbedded, trace of carbonaceous material along bedding.
60			61-62 ft.				61-62 ft. sandstone has a hackly 60 degree fracture coated with black sooty material.
	6410		64-65 ft.				62-63 ft. fracturing common--appears to be Bodo fault zone.
			65-66 ft.				64-96 ft. POINT LOOKOUT SANDSTONE:
							64-72 ft. SILTSTONE; dense, medium light gray (N6) siltstone that has been altered to hornfels, some fracturing with calcite. This is Lower part of Point Lookout Sandstone formation.
							65-66 ft. 60 degree fracture with some void space.
			70-71 ft.				67-72 ft. some core loss, interbedded siltstone, medium light gray (N6) and shale, dark gray (N3), both brittle lithologies.
	6400						72-85 ft. SANDSTONE; layer mainly fine grained sandstone, medium gray (N5), crossbedded, trace carbonaceous material, some contorted bedding in darker gray thin shaley layers.
			76-77 ft.				72.50-74.00 ft. Centralizer: Filter Pack 30-70 Sand
			78-79 ft.				75 ft. 60 degree fracture.
80					77 ft. (some core loss down to ~85 ft.). Layer becomes medium gray (N5) and dark gray (N3) silty shale layers in a bioturbated mixture.		
	6390						83 ft. some void space-- core loss indicates some fracturing becomes more shaley below ~83 ft.
			85-86 ft.				85-87 ft. SILTSTONE; dark shale and siltstone with pyrite nodules along vertical fracture, medium gray (N5), and white calcite also along vertical fractures.
			87-88 ft.				87-89 ft. IGNEOUS; Diorite porphyry. Color ranges from medium gray (N5) in porphyritic parts to light brownish gray (5YR6/1) in fine grained part of dike near margin. Some prophyllitic alteration.
90							89-96 ft. SHALE; silty shale, dark gray (N3), baked to hornfels, well fractured (lost about 3 ft of core through this 89-96 ft. interval), white coating along fractures (vertical) are gypsum and calcite. Pyrite fairly common in this interval. Baked silty shale (hornfels) of lower part of Point Lookout Sandstone formation.
	6380		93-94 ft.				Total Depth 96.0 ft.
100							
	6370						
110							
	6360						

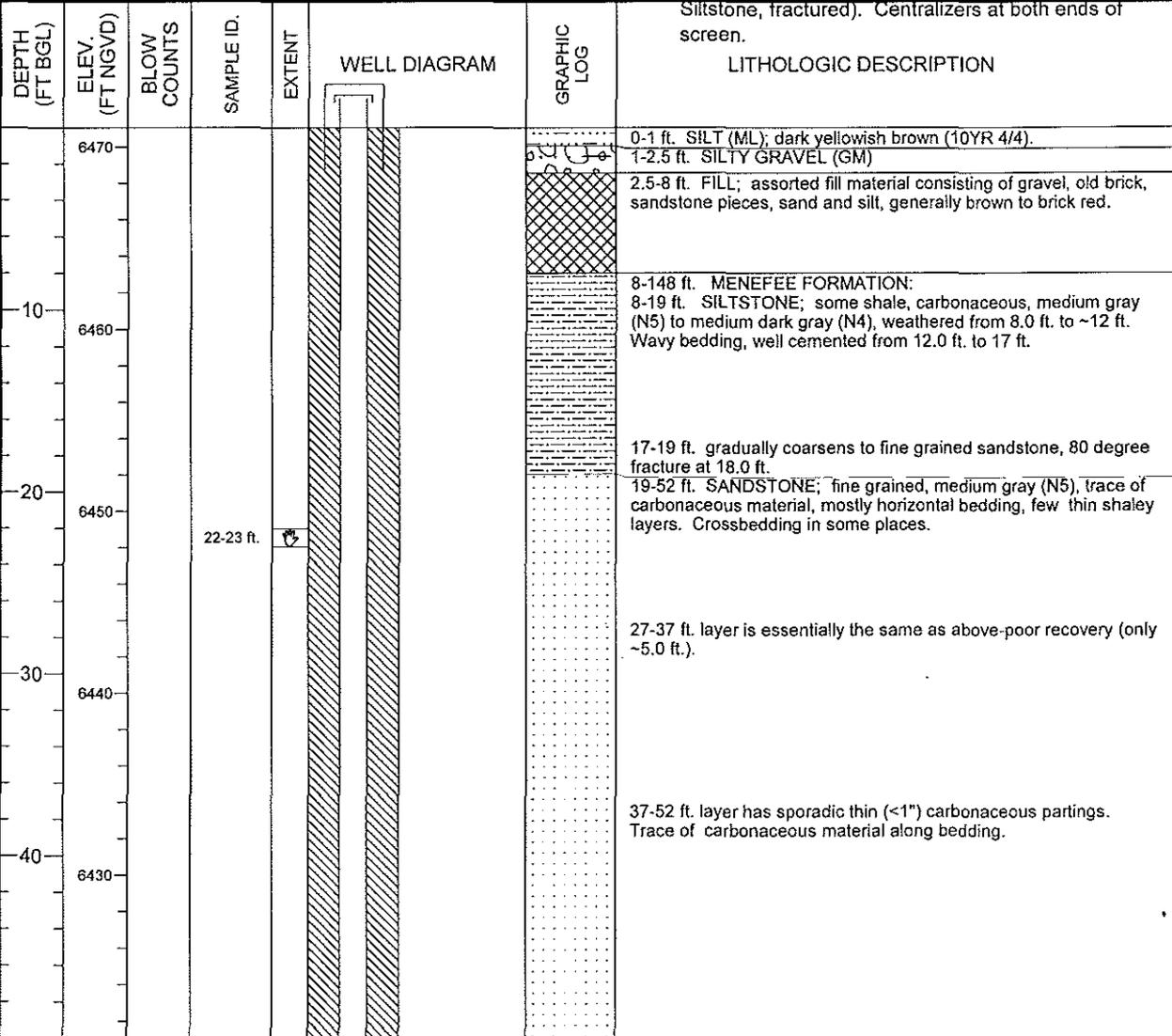


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MONITORING WELL COMPLETION LOG DUR02-0888

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1223599.49	DATE DRILLED	10/10/2000 to 10/12/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308130.37	SURFACE ELEV. (FT NGVD)	6471.07
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	148.00	TOP OF CASING (FT)	6471.04
WELL NUMBER	0888	WELL DEPTH (FT)	148.00	MEAS. PT. ELEV. (FT)	6471.04

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD ROTASONIC
BLANK CASING:	2 in. PVC Sch 40	0.03 to 133.0	SAMPLING METHOD GRAB
WELL SCREEN:	2 in. Vee Wire Wrapped	133.0 to 147.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	147.5 to 148.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY Goodknight, C.
GROUT:	Enviroplug	0.0 to 123.0	REMARKS Drilled to: 23 ft. on 10/10; 123 ft. on
SEAL:	Bentonite Pellets	125.0 to 129.0	10/11; 148 ft on 10/12 and; set on 10/17. Screen set
UPPER PACK:	30-70 Silica Sand	129.0 to 131.0	in Bodo fault zone in Menefee FM (fine grained SS,
LOWER PACK:	10-20 Silica Sand	131.0 to 148.0	Siltstone, fractured). Centralizers at both ends of



MONITORING WELL COMPLETION LOG DUR02-0888

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0888</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>10/10/2000 to 10/12/2000</u>

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
	8420						52-53 ft. SHALE; some silt, dark gray, wavy bedding, rip up clasts. 53-65 ft. SANDSTONE; fine grained, trace of carbonaceous material along bedding and in thin partings.
60	8410						63-65 ft. layer has abundant shale clasts and some gray chert pebbles. 65-66 ft. CLAYSTONE; high specific gravity (possibly some sulfides), light brownish gray (5YR 6/1). 66-126 ft. SANDSTONE; fine grained, trace of carbonaceous material. 68-69 ft. uneven fractured with some void space.
70	8400			74-75 ft.			72-74 ft. lost-believed to be soft shale interval.
80	8390						74-75 ft. layer becomes dark gray (N3) in color (wet) with some siltstone. 75-82 ft. fine grained sandstone becomes darker-medium dark gray (N4). 77-78 ft. uneven hackly fracture with void spaces. 79-80 ft. 75 degree fracture with more uneven fractures scattered throughout. 82-87 ft. more even bedded, medium gray (N5), few to no fractures.
90	8380			92-93 ft.			87-97 ft. even bedded and crossbedded. 91-92 ft. 80 degree fracture. 92-93 ft. 80 degree fracture with white gypsum or calcite on surface with trace of pyrite. No open fractures.
100	8370						99.5 ft. some horizontal fractures. 102 ft. 45 degree fracture. 103.5 ft. some horizontal fractures and filled burrows, Sandstone layer becoming medium dark gray (N4). 106.5-107 ft. 75 degree fracture.
110	8360						112.5 ft. 60 degree fracture.

MONITORING WELL COMPLETION LOG DUR02-0888

PROJECT UMTRA GROUND WATER WELL NUMBER 0888
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 10/10/2000 to 10/12/2000

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
120	6350						115-115.5 ft. 60 degree and 30 degree fractures, respectively. 117 ft. some clay pellets. 117.5 ft. 60 degree fracture. 119 ft. 45 degree fracture. 120 ft. becomes lighter in color below 120 ft. to medium light gray (N6). 123-125 ft. Centralizer. Filler Pack 30-70 Sand 125-126 ft. altered and black to dark gray (N3) and 50-60 degree fractures with white fillings of calcite or gypsum. 126-127 ft. IGNEOUS; diorite porphyry dike, medium dark gray (N4) and medium light gray (N6) along margins. 127-148 ft. SANDSTONE; fine grained, trace of carbonaceous material. At 127.0 to 127.5, layer is altered black to dark gray (N3) and fractured. Below 127.5 ft, sandstone is lighter in color - medium gray (N5) to medium dark gray (N4). Hackly uneven fracture at 129.0 ft. Sandstone fractures vertical at 131.0 ft. and has a 45 degree fracture at 134.0 ft. 135.5-136 ft. thin shale or claystone layer, dark gray (N3). 136-137 ft. fractured interval. 139 ft. 45 degree fracture. 141-143 ft. near vertical fracture. 143 ft. 45 degree fracture and altered. 143-147 ft. poor recovery, soft zone. Believed to be alternating thin beds of dark gray very fine grained sandstone and siltstone of Menefee Formation. 147-148 ft. becomes fine grained sandstone, medium dark gray (N4) in Menefee Formation..
130	6340						
140	6330						Total Depth 148.0 ft.
150	6320						
160	6310						
170	6300						

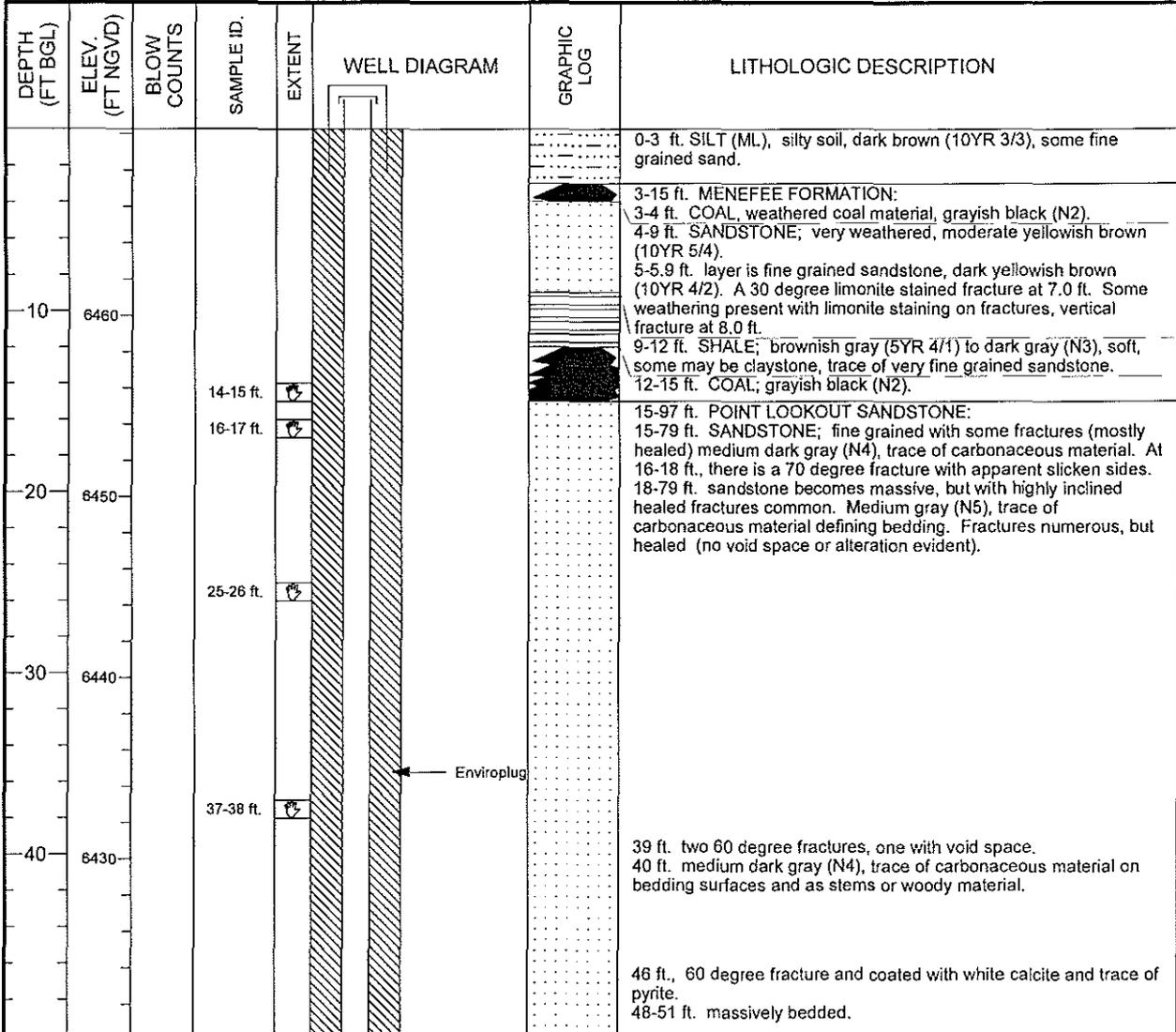


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MONITORING WELL COMPLETION LOG DUR02-0889

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1224029.93</u>	DATE DRILLED <u>10/22/2000 to 10/24/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308362.20</u>	SURFACE ELEV. (FT NGVD) <u>6470.25</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>97.00</u>	TOP OF CASING (FT) <u>6472.00</u>
WELL NUMBER <u>0889</u>	WELL DEPTH (FT) <u>90.50</u>	MEAS. PT. ELEV. (FT) <u>6472.00</u>

	WELL INSTALLATION	INTERVAL (FT)			
SURFACE CASING:				SLOT SIZE (IN) <u>0.020</u>	BIT SIZE(S) (IN) <u>6.0</u>
BLANK CASING:	2 in. PVC Sch 40	-1.75 to 80.0		DRILLING METHOD <u>ROTASONIC</u>	
WELL SCREEN:	2 in. Vee Wire Wrapped	80.0 to 90.0		SAMPLING METHOD <u>GRAB</u>	
SUMP/END CAP:	2 in. PVC Sch 40	90.0 to 90.5		DATE DEVELOPED	
SURFACE SEAL:				WATER LEVEL (FT BGS)	
GROUT:	Enviroplug	0.0 to 70.9		LOGGED BY <u>Goodknight, C.</u>	
SEAL:	Bentonite Pellets	72.4 to 76.0		REMARKS <u>Drilled to 65 ft. on 10/22. Rig repairs</u>	
UPPER PACK:	30-70 Silica Sand	76.0 to 78.3		<u>on 10/23. Centralizers at both ends of screen. Filter</u>	
LOWER PACK:	10-20 Silica Sand	78.3 to 97.0		<u>Pack (30-70 Sand) from 70.9 to 72.4 ft.</u>	



MONITORING WELL COMPLETION LOG DUR02-0889

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0889
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/22/2000 to 10/24/2000

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
			52-53 ft.				51-52 ft. high angle (~60 degree) fracture with void space, trace of carbonaceous material along bedding.
60	6410						56 ft. thin shale (~6"), medium gray (N5), some siltstone also in this bed, noncalcareous.
							57-64 ft. sandstone layer becomes fine grained with carbonaceous material.
							64 ft. horizontal fracturing.
							65-69 ft. sandstone layer is mainly cross laminated.
70	6400		69-70 ft.				69-70 ft. near vertical fractures (uneven and hackly) with blebs of pyrite coating and some void space.
							73-74 ft. layer has some carbonaceous material along inclined beds, medium dark gray (N4), bleb of pyrite at 73.8 ft., abrupt change at 74 ft.-layer becomes lighter colored sandstone, medium light gray, (N6).
							78 ft. high angle fracture (70 degree).
80	6390		81-82 ft.				79-86 ft. SHALE; soft shaley material, light gray (N7) to medium light gray (N6). Loss of core (4 to 5 ft) in 79.0-86.0 ft interval. At 83.0 to 85.0 ft. layer is hard, porcelaneous, hornfels-like shale, medium gray (N5) to light gray (N6), horizontal fractures. Trace of carbonaceous material and pyrite.
			83-85 ft.				86-88 ft. SANDSTONE; medium light gray (N6), with trace of carbonaceous material and pyrite.
90	6380				88-89 ft. SILTSTONE; dense, medium dark gray (N4), horizontal fractures, some void space.		
					89-90 ft. SANDSTONE; fine grained.		
					90-91 ft. SILTSTONE; dense, medium dark gray (N4), horizontal fractures, some void space.		
					91-97 ft. SANDSTONE; fine grained, medium gray (N5), trace of carbonaceous material and stems along bedding planes, even bedded, less carbonaceous material from 94.0 to 97.0 ft. Lower massive sandstone unit of Point Lookout Sandstone formation.		
100	6370		96-97 ft.		Total Depth 97.0 ft.		
110	6360						

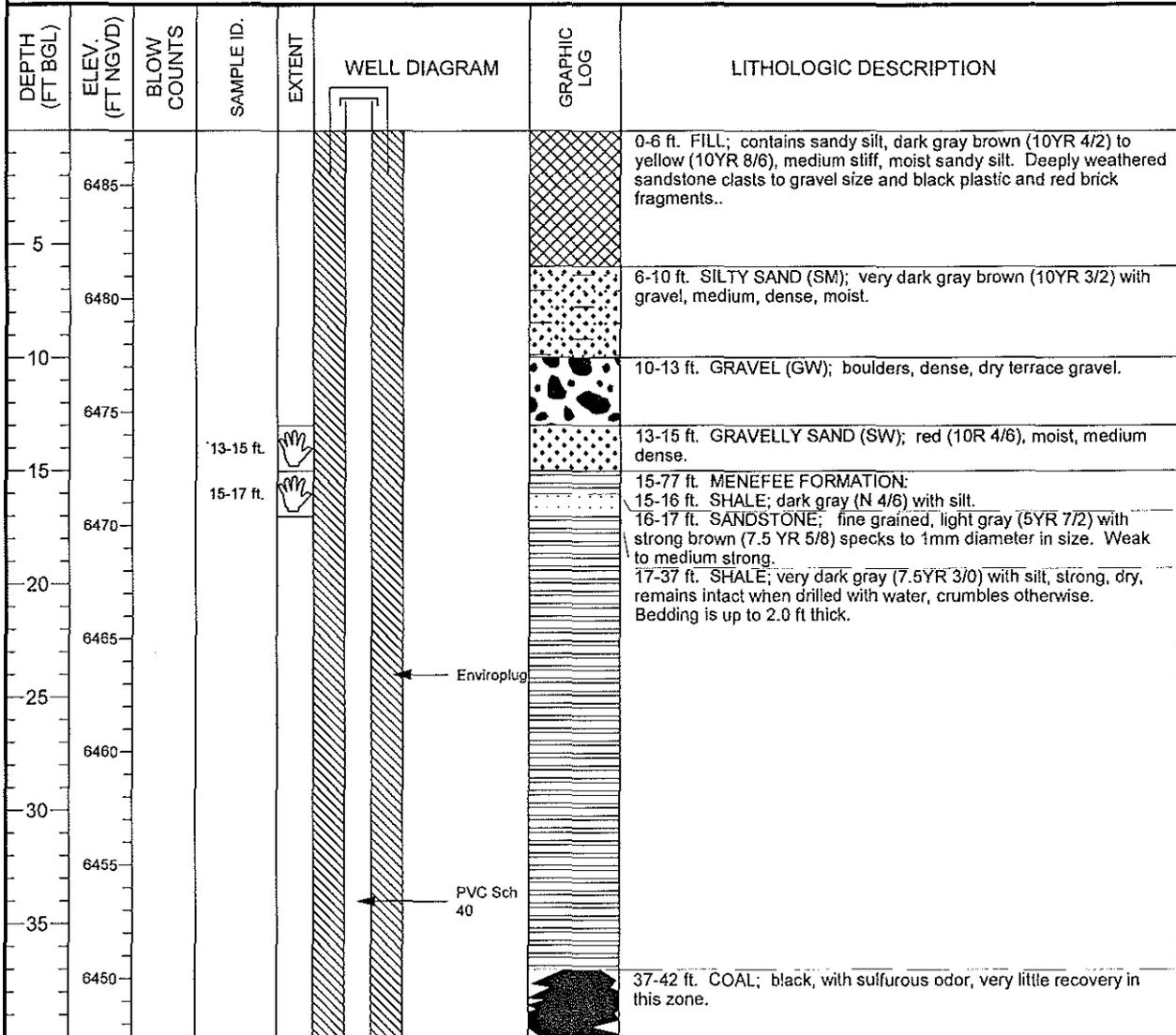


U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0890

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1222876.39	DATE DRILLED	09/24/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308073.33	SURFACE ELEV. (FT NGVD)	6487.40
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	77.00	TOP OF CASING (FT)	6487.33
WELL NUMBER	0890	WELL DEPTH (FT)	73.00	MEAS. PT. ELEV. (FT)	6487.33

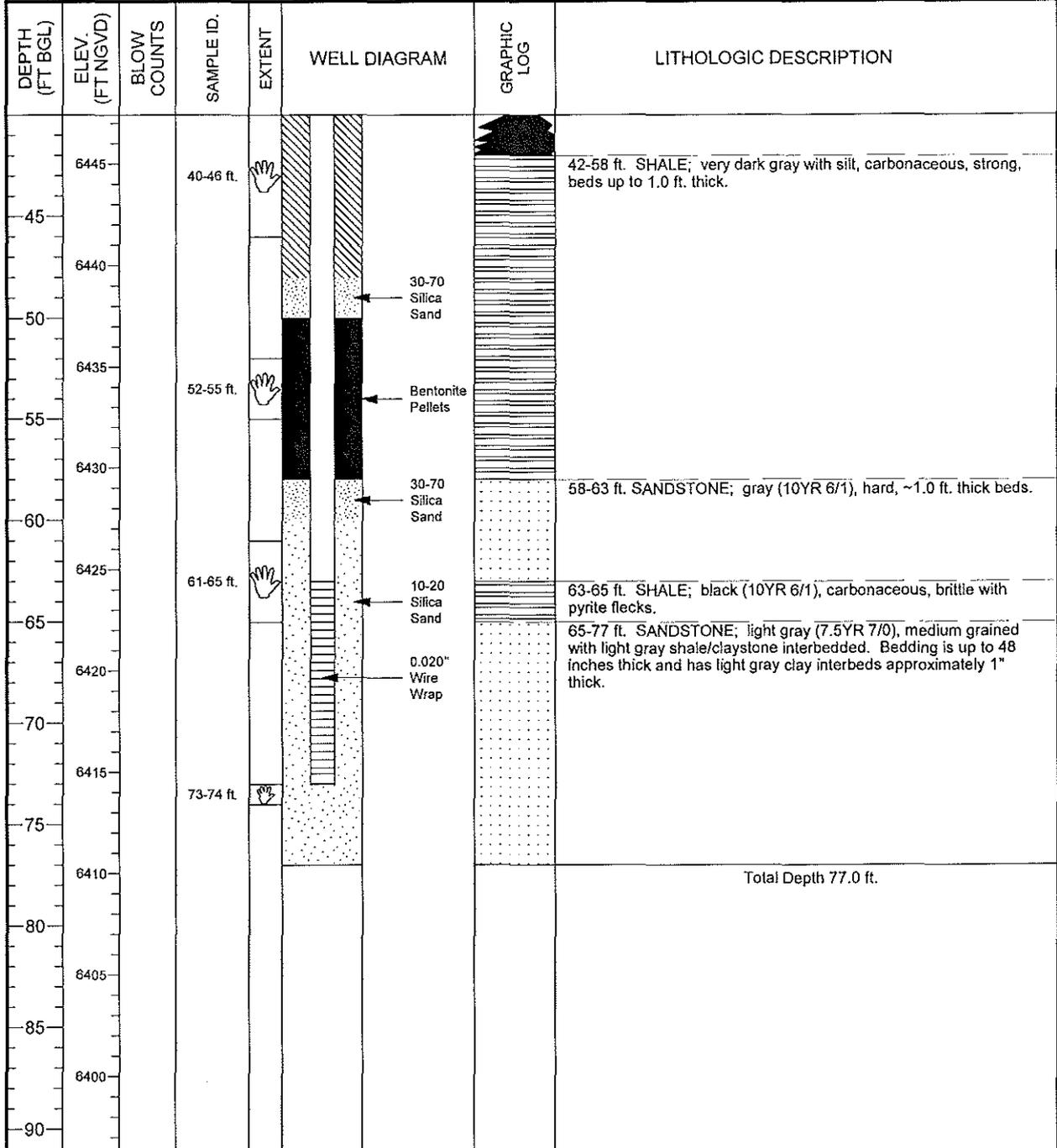
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	0.07 to 63.0	DRILLING METHOD ROTASONIC
WELL SCREEN:	2 in. Vee Wire Wrapped	63.0 to 72.5	SAMPLING METHOD GRAB
SUMP/END CAP:	2 in. PVC Sch 40	72.5 to 73.0	DATE DEVELOPED
SURFACE SEAL:			WATER LEVEL (FT BGS)
GROUT:	Enviroplug	0.0 to 48.0	LOGGED BY Kautsky, M.
SEAL:	Bentonite Pellets	50.0 to 58.0	REMARKS 30-70 sand pack from 48.0 to 50.0 ft.
UPPER PACK:	30-70 Silica Sand	58.0 to 60.0	
LOWER PACK:	10-20 Silica Sand	60.0 to 77.0	



MONITORING WELL COMPLETION LOG DUR02-0890

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0890
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	09/24/2000

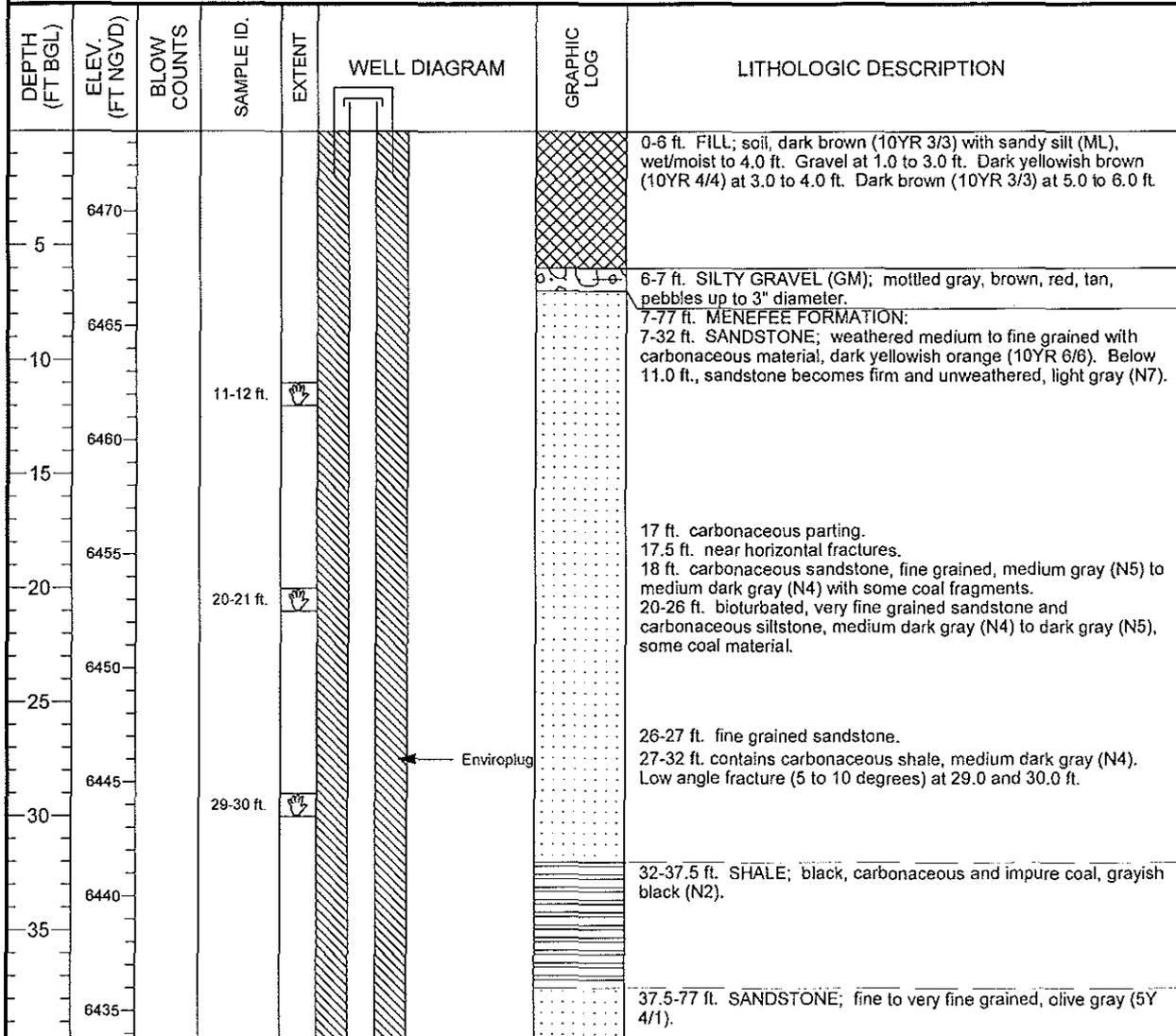
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MONITORING WELL COMPLETION LOG DUR02-0891

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223321.81</u>	DATE DRILLED <u>10/05/2000 to 10/07/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308211.58</u>	SURFACE ELEV. (FT NGVD) <u>6473.49</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	WELL DEPTH (FT) <u>77.00</u>	TOP OF CASING (FT) <u>6473.27</u>
WELL NUMBER <u>0891</u>	WELL DEPTH (FT) <u>75.00</u>	MEAS. PT. ELEV. (FT) <u>6473.27</u>

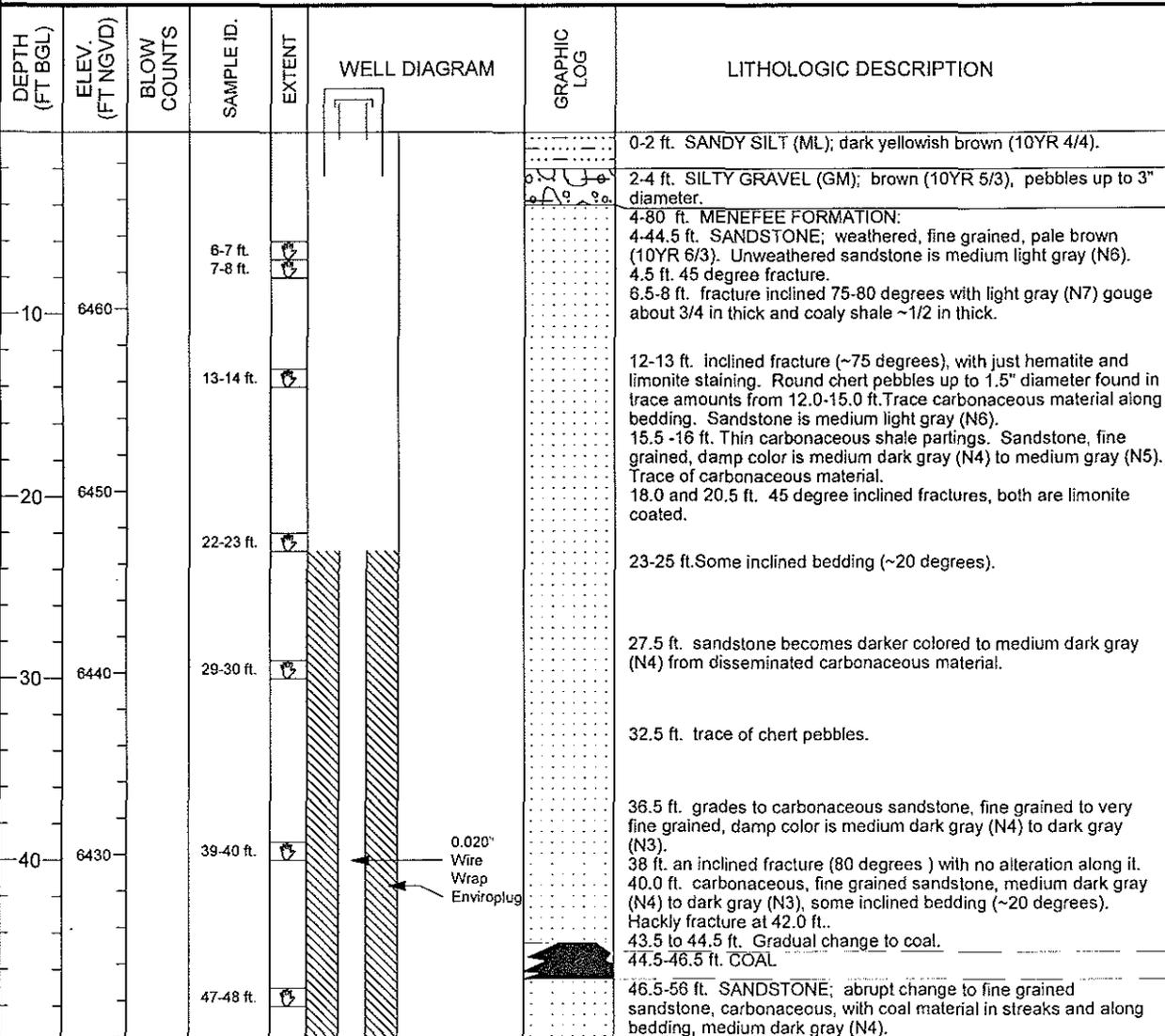
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	0.22 to 64.5	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	64.5 to 74.5	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	74.5 to 75.0	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Goodknight, C.</u>
GROUT:	Enviroplug	0.0 to 55.0	REMARKS <u>Drilled to 67 ft. on 10/5. Completed</u>
SEAL:	Bentonite Pellets	57.0 to 61.0	<u>Drilling to 77 ft on 10/7. Centralizers at top and</u>
UPPER PACK:	30-70 Silica Sand	61.0 to 63.2	<u>bottom of screen.</u>
LOWER PACK:	10-20 Silica Sand	63.2 to 77.0	



MONITORING WELL COMPLETION LOG DUR02-0892

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223878.06</u>	DATE DRILLED <u>10/07/2000 to 10/08/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308170.06</u>	SURFACE ELEV. (FT NGVD) <u>6469.71</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>85.00</u>	TOP OF CASING (FT) <u>6469.49</u>
WELL NUMBER <u>0892</u>	WELL DEPTH (FT) <u>80.00</u>	MEAS. PT. ELEV. (FT) <u>6469.49</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	0.22 to 69.5	BIT SIZE(S) (IN) <u>6.0</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	69.5 to 79.5	DRILLING METHOD <u>ROTASONIC</u>
SUMP/END CAP:	2 in. PVC Sch 40	79.5 to 80.0	SAMPLING METHOD <u>GRAB</u>
SURFACE SEAL:			DATE DEVELOPED _____
GROUT:	Enviroplug	0.0 to 59.8	WATER LEVEL (FT BGS) _____
SEAL:	Bentonite Pellets	61.3 to 66.5	LOGGED BY <u>Goodknight, C.</u>
UPPER PACK:	30-70 Silica Sand	66.5 to 68.0	REMARKS <u>Drilled to: 59 ft on 10/7, set well on</u>
LOWER PACK:	10-20 Silica Sand	68.0 to 85.0	<u>10/8. Screened in Menefee Fm in lower part of Bodo</u>
			<u>fault zone. Centralizers at both ends of screen.</u>



MONITORING WELL COMPLETION LOG DUR02-0892

PROJECT UMTRA GROUND WATER WELL NUMBER 0892
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 10/07/2000 to 10/08/2000

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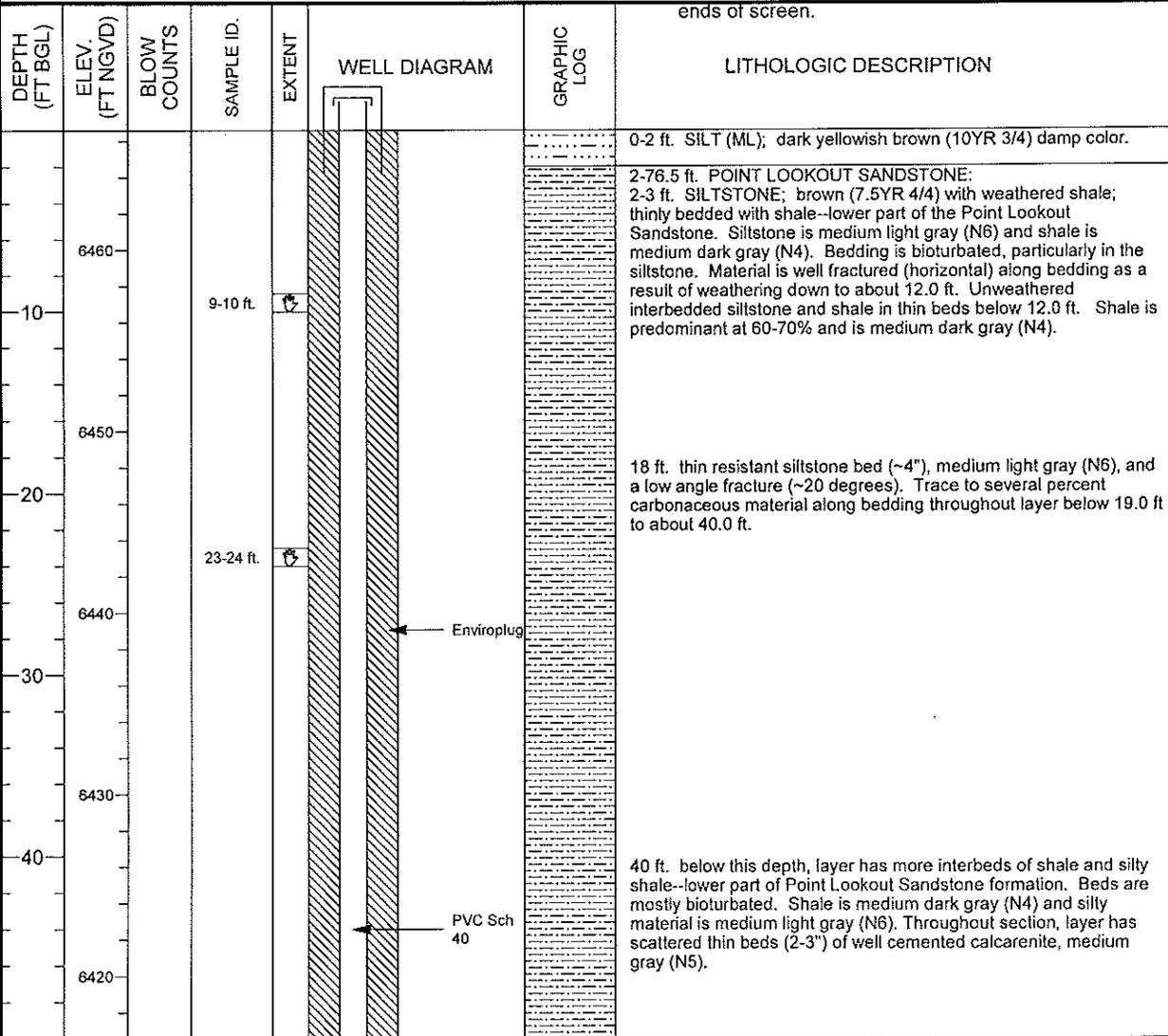
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	
			52-53 ft.				48-56 ft. sandstone becomes less carbonaceous and lighter, medium light gray (N6). Some healed fractures, 45 degree at 48-48.5 ft. At 50 ft., sandstone is darker, medium gray (N5) and appears to be baked. A 45 degree fracture at 52.0 ft. and a 65 degree fracture at 55 ft..	
			56-57 ft.					56-57 ft. IGNEOUS: Diorite porphyry dike.
			57-58 ft.					57-59 ft. SANDSTONE: baked sandstone with 65 degree fracture and some baked shale.
			58-59 ft.					59-60 ft. IGNEOUS: Diorite porphyry dike, very dense, medium gray (N5), some light green propylitic alteration.
			59-60 ft.					59.8-61.3 ft. Centralizer: Filter Pack 30-70 Sand.
60	6410						60-68 ft. SANDSTONE; trace of carbonaceous material, appears dense and baked, medium gray (N5) to medium dark gray (N4). A 60 degree fracture with black, sooty material along it from 61.0 to 61.5 ft., a 65 degree fracture from 63.0 to 64.0 ft., and a 45 degree fracture at 66.5 ft. Some inclined bedding at ~ 20 degrees.	
			68-69 ft.				68-69 ft. IGNEOUS; altered diorite dike, light gray (N7), some light green propylitic alteration.	
70	6400						69-80 ft. SANDSTONE; fine grained of the Menefee Formation, medium gray (N5), appears baked and brittle. Black sooty material adjacent to dike. Fractured from 71.0-72.0 ft. A 45 degree fracture at 73.5 ft. Sandstone generally has inclined bedding at ~20 degrees and trace of carbonaceous material.	
			72-73 ft.					
			78-79 ft.				78.5-80 ft. sandstone layer is medium gray (N5) with 60 degree fracture and more intense fracturing from 79.0 to 80.0 ft.	
80	6390						80-85 ft. POINT LOOKOUT SANDSTONE: SHALE and SILTSTONE; medium gray (N5) to medium light gray (N6). Abrupt lithology change at ~80.0 ft. This is the main Bodo Fault. Intense fracturing from 80.0 to 81.0 ft. Dry from 82.0 to 85.0 ft. This is in the lower part of the Point Lookout Sandstone formation.	
			82-84 ft.					
							Total Depth 85.0 ft.	
90	6380							
100	6370							
110	6360							



MONITORING WELL COMPLETION LOG DUR02-0893

PROJECT	UMTRA GROUND WATER	NORTH COORD. (FT)	1224136.19	DATE DRILLED	10/08/2000 to 10/09/2000
LOCATION	DURANGO, CO	EAST COORD. (FT)	2308046.25	SURFACE ELEV. (FT NGVD)	6466.58
SITE	DURANGO RAFFINATE PONDS	HOLE DEPTH (FT)	76.50	TOP OF CASING (FT)	6466.41
WELL NUMBER	0893	WELL DEPTH (FT)	75.00	MEAS. PT. ELEV. (FT)	6466.41

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			
BLANK CASING:	2 in. PVC Sch 40	0.17 to 64.5	DRILLING METHOD ROTASONIC
WELL SCREEN:	2 in. Vee Wire Wrapped	64.5 to 74.5	SAMPLING METHOD GRAB
SUMP/END CAP:	2 in. PVC Sch 40	74.5 to 75.0	DATE DEVELOPED
SURFACE SEAL:			WATER LEVEL (FT BGS)
GROUT:	Enviroplug	0.0 to 55.0	LOGGED BY Goodknight, C.
SEAL:	Bentonite Pellets	57.0 to 61.0	REMARKS Drilled 47 ft. on 10/8. Set well on 10/9.
UPPER PACK:	30-70 Silica Sand	61.0 to 63.3	Screened in Point Lookout SS Fm. near the transition
LOWER PACK:	10-20 Silica Sand	63.3 to 76.5	to the underlying Mancos Shale. Centralizers at both



MONITORING WELL COMPLETION LOG DUR02-0893

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0893</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	DATES DRILLED <u>10/08/2000 to 10/09/2000</u>

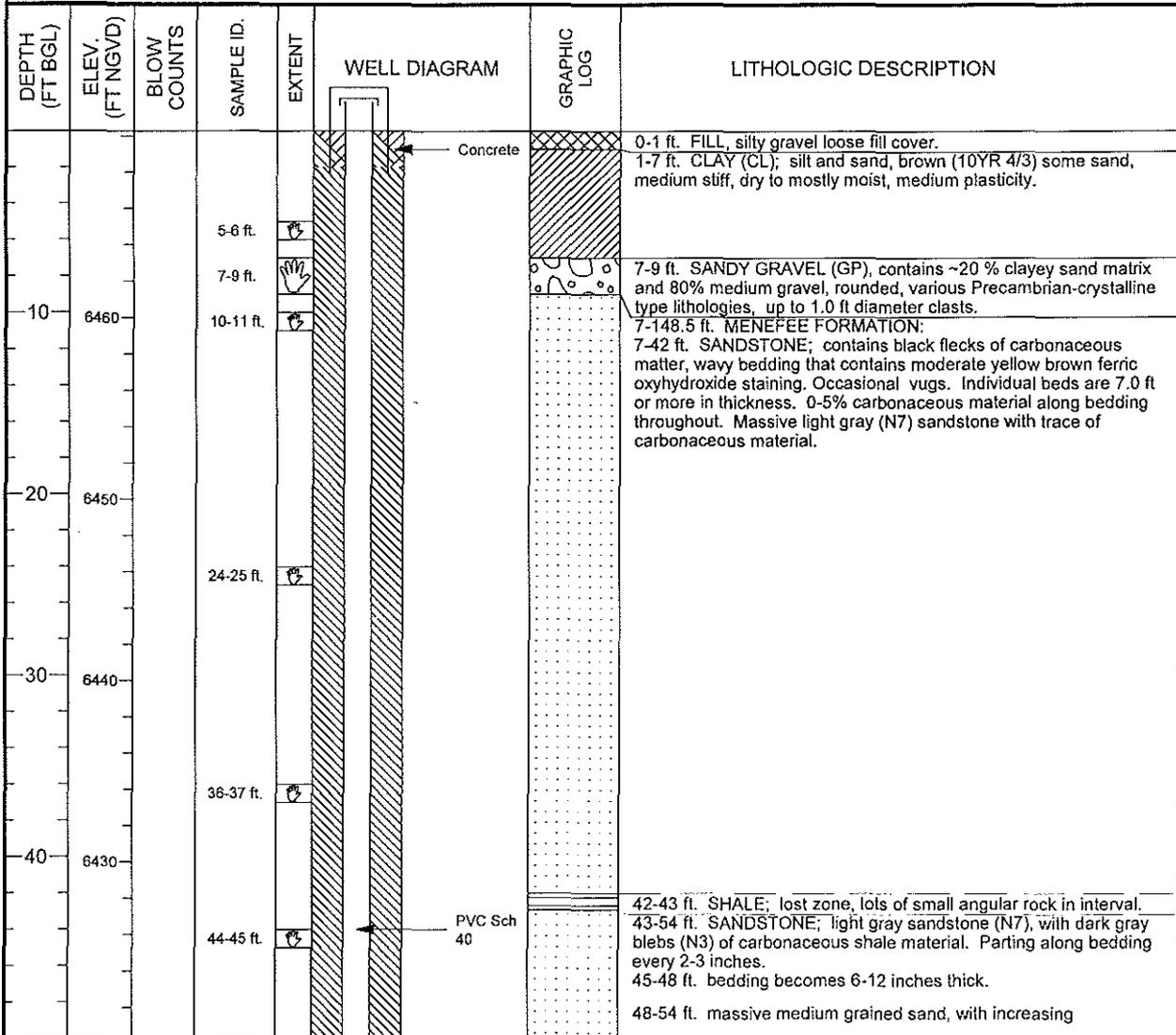
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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
				54-55 ft.	<p style="font-size: small;"> 30-70 Silica Sand Bentonite Pellets 30-70 Silica Sand 10-20 Silica Sand 0.020" Wire Wrap </p>		55-57 ft. Centralizer. Filter Pack 30-70 Sand. 60 ft. below this depth, shale beds become more common. Only a trace of carbonaceous material finely disseminated along bedding. Description of shale and silty shale, as above, with this being in the lower Point Lookout Sandstone formation and near the uppermost Mancos Shale transition zone.
				72-73 ft.			Total Depth 76.5 ft.
6410							
60							
6400							
70							
6390							
80							
6380							
90							
6370							
100							
6360							
110							

MONITORING WELL COMPLETION LOG DUR02-0902

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1223627.50</u>	DATE DRILLED <u>10/18/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308386.50</u>	SURFACE ELEV. (FT NGVD) <u>6470.29</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>148.50</u>	TOP OF CASING (FT) <u>6472.28</u>
WELL NUMBER <u>0902</u>	WELL DEPTH (FT) <u>148.00</u>	MEAS. PT. ELEV. (FT) <u>6472.28</u>

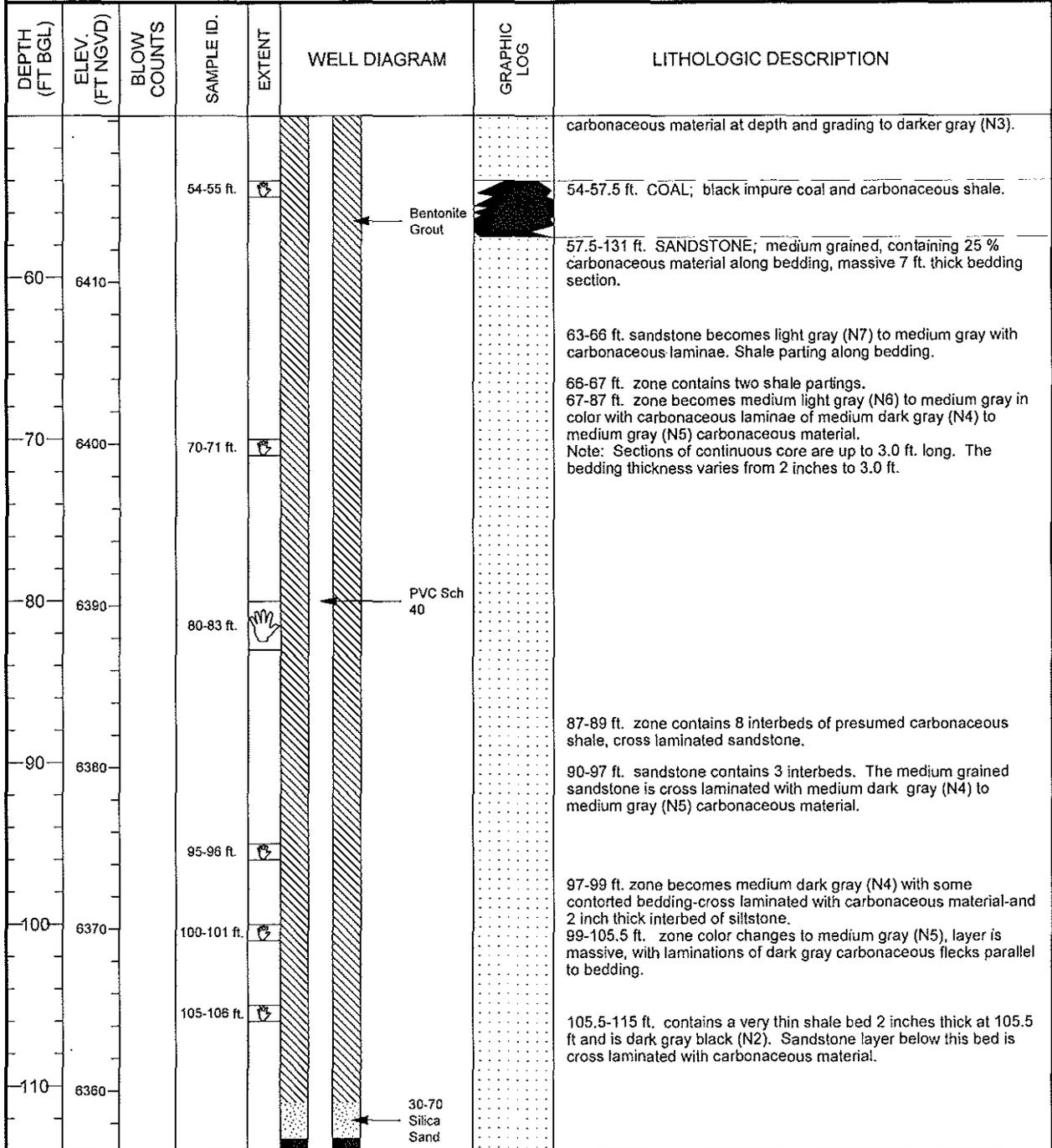
	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	-1.99 to 128.0	BIT SIZE(S) (IN) <u>6.0</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	128.0 to 148.0	DRILLING METHOD <u>ROTASONIC</u>
SUMP/END CAP:	2 in. PVC Sch 40	148.0 to 148.5	SAMPLING METHOD <u>GRAB</u>
SURFACE SEAL:	Concrete	0.0 to 2.0	DATE DEVELOPED
GROUT:	Enviroplug	2.0 to 111.0	WATER LEVEL (FT BGS)
SEAL:	Bentonite Pellets	113.2 to 121.0	LOGGED BY <u>Kautsky, M.</u>
UPPER PACK:	30-70 Silica Sand	121.0 to 122.83	REMARKS <u>30-70 sand pack from 111.0 to 113.2 ft.</u>
LOWER PACK:	10-20 Silica Sand	122.83 to 148.5	



MONITORING WELL COMPLETION LOG DUR02-0902

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0902
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/18/2000

Continued from Previous Page



MONITORING WELL COMPLETION LOG DUR02-0902

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0902
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/18/2000

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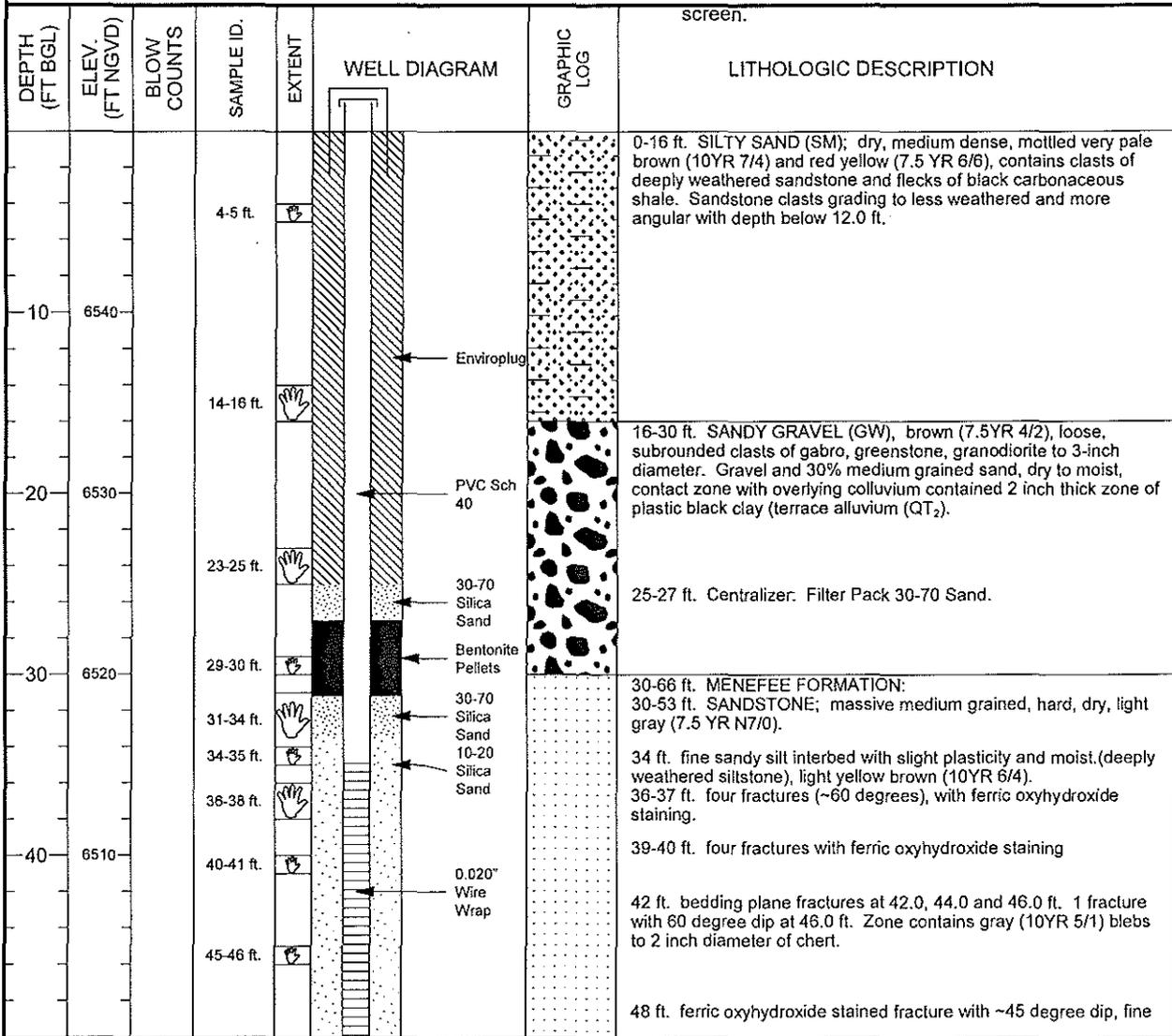
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
120	6350		115-116 ft.	☉	Bentonite Pellets	[Dotted Pattern]	115-118 ft. sandstone becomes medium light to light gray (N6 to N7) with finer sand zones and occasional contorted bedding.
			121-122 ft.	☉	30-70 Silica Sand	[Dotted Pattern]	121-127 ft. zone decreasing in carbonaceous lamination and is massive bedding, very hard and finer grained.
			128-127 ft.	☉	10-20 Silica Sand	[Dotted Pattern]	127-131 ft. Note: Lost most of this interval. Fragments from this zone are calcareous shale with occasional carbonaceous laminae.
130	6340					[Horizontal Lines Pattern]	131-133 ft. SILTSTONE; calcareous.
						[Horizontal Lines Pattern]	133-135 ft. SANDSTONE; medium grained, hard, thick bedded.
			135-136 ft.	☉		[Horizontal Lines Pattern]	135-135.5 ft. SILTSTONE; calcareous.
			137-138 ft.	☉	0.020" Wire Wrap	[Horizontal Lines Pattern]	135.5-137 ft. SANDSTONE; medium grained with ripple bedding and organic material in places, medium gray color (N5). 137-138 ft. SHALE; lost interval but presumed shale.
140	6330					[Horizontal Lines Pattern]	138-148.5 SANDSTONE; mostly light gray (N7), medium grained, hard, massive beds, contains probable shale breaks @ 143.0 to 145.0 ft. and @147.
			144-145 ft.	☉		[Horizontal Lines Pattern]	
150	6320						Total Depth 148.5 ft.
160	6310						
170	6300						

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MONITORING WELL COMPLETION LOG DUR02-0903

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1222414.33</u>	DATE DRILLED <u>09/25/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2307535.29</u>	SURFACE ELEV. (FT NGVD) <u>6549.97</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>66.00</u>	TOP OF CASING (FT) <u>6552.13</u>
WELL NUMBER <u>0903</u>	WELL DEPTH (FT) <u>65.40</u>	MEAS. PT. ELEV. (FT) <u>6552.13</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	2 in. PVC Sch 40	-2.16 to 34.9	SAMPLING METHOD <u>GRAB</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	34.9 to 64.9	DATE DEVELOPED
SUMP/END CAP:	2 in. PVC Sch 40	64.9 to 65.4	WATER LEVEL (FT BGS)
SURFACE SEAL:			LOGGED BY <u>Kautsky, M.</u>
GROUT:	Enviroplug	0.0 to 25.0	REMARKS <u>Well installed on 10/3. Background well for Menefee FM. TD is believed to be in coal near base of Menefee. Centralizers at top and bottom of screen.</u>
SEAL:	Bentonite Pellets	27.0 to 31.2	
UPPER PACK:	30-70 Silica Sand	31.2 to 33.4	
LOWER PACK:	10-20 Silica Sand	33.4 to 66.0	



MONITORING WELL COMPLETION LOG DUR02-0903

PROJECT UMTRA GROUND WATER WELL NUMBER 0903
 SITE DURANGO RAFFINATE PONDS DATES DRILLED 09/25/2000

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
			50-51 ft.	☞			black laminae appear below 48 ft.
			55-56 ft.	☞			53- 55 ft. CLAYSTONE; interbeds very dark gray (10YR 3/1), black coal seam 1 inch thick.
60	6490		60-63 ft.	☞			55-59 ft. SANDSTONE; medium grained, hard, dense, massive, light gray (7YR 7/0). Note: water level @ 11.35 ft.
			64-65 ft.	☞			59-64 ft. SHALE; black, carbonaceous, with coal seam.
			65-66 ft.	☞			64-65 ft. SANDSTONE; medium grained, dark gray (2.5YN 4/0).
							65-66 ft. CLAYSTONE; very dark gray brown (10YR 3/2), very plastic.
			Total Depth 66.0 ft.				
70	6480						
80	6470						
90	6460						
100	6450						
110	6440						

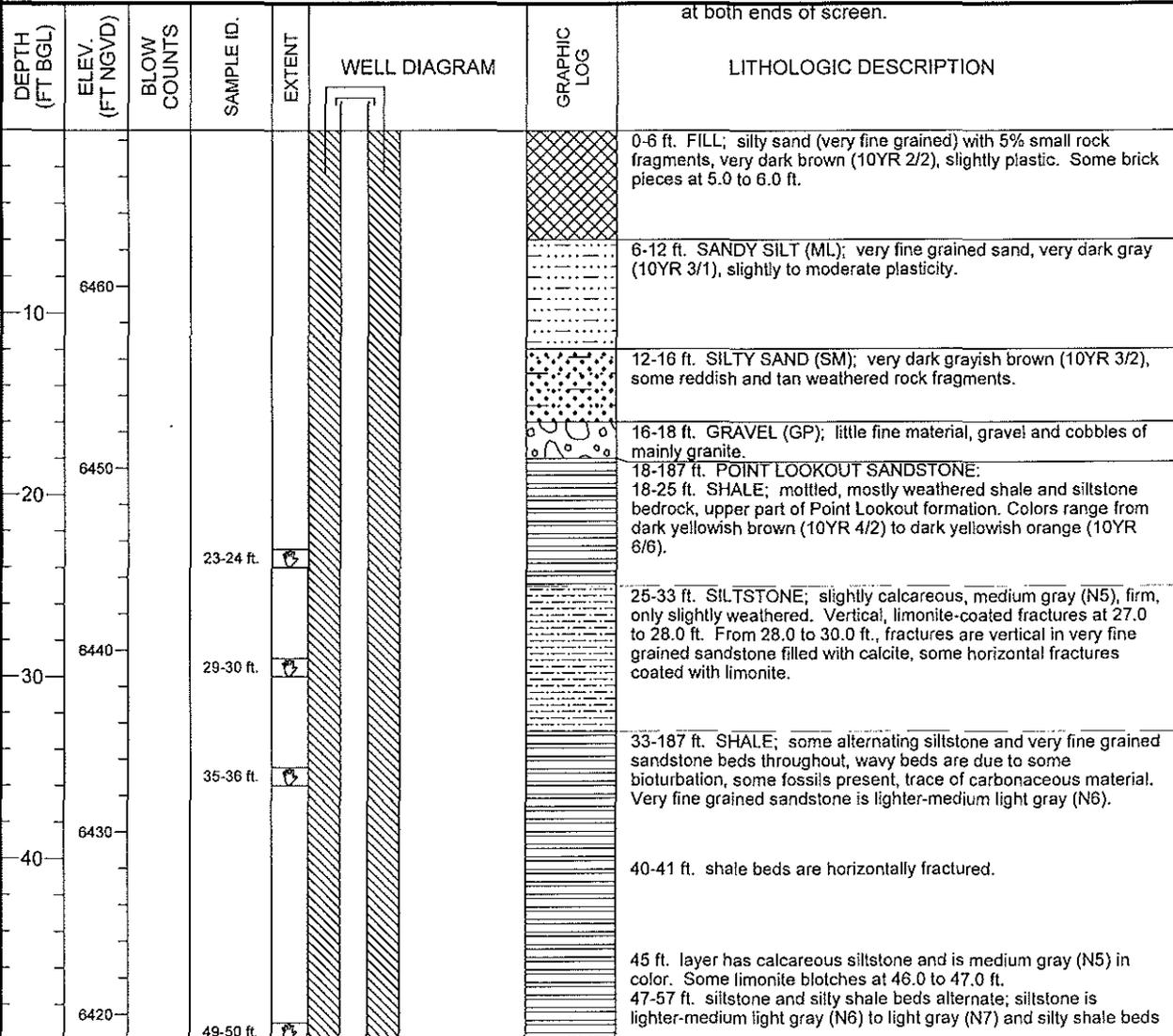


U.S. DEPARTMENT OF ENERGY
 GRAND JUNCTION OFFICE, COLORADO

MONITORING WELL COMPLETION LOG DUR02-0905

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>1224577.46</u>	DATE DRILLED <u>10/25/2000 to 10/31/2000</u>
LOCATION <u>DURANGO, CO</u>	EAST COORD. (FT) <u>2308640.03</u>	SURFACE ELEV. (FT NGVD) <u>6468.55</u>
SITE <u>DURANGO RAFFINATE PONDS</u>	HOLE DEPTH (FT) <u>187.00</u>	TOP OF CASING (FT) <u>6470.57</u>
WELL NUMBER <u>0905</u>	WELL DEPTH (FT) <u>172.00</u>	MEAS. PT. ELEV. (FT) <u>6470.57</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			SLOT SIZE (IN) <u>0.020</u>
BLANK CASING:	2 in. PVC Sch 40	-2.02 to 161.5	BIT SIZE(S) (IN) <u>6.0</u>
WELL SCREEN:	2 in. Vee Wire Wrapped	161.5 to 171.5	DRILLING METHOD <u>ROTASONIC</u>
SUMP/END CAP:	2 in. PVC Sch 40	171.5 to 172.0	SAMPLING METHOD <u>GRAB</u>
SURFACE SEAL:			DATE DEVELOPED _____
GROUT:	Enviroplug	0.0 to 150.0	WATER LEVEL (FT BGS) _____
SEAL:	Bentonite Pellets	152.2 to 156.0	LOGGED BY <u>Goodknight, C.</u>
UPPER PACK:	30-70 Silica Sand	156.0 to 157.9	REMARKS <u>Drilled to: 87 ft on 10/25; 137 ft on</u>
LOWER PACK:	10-20 Silica Sand	157.9 to 187.0	<u>10/26, and completed on 10/13 in lower part of Point</u>



MONITORING WELL COMPLETION LOG DUR02-0905

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0905
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/25/2000 to 10/31/2000

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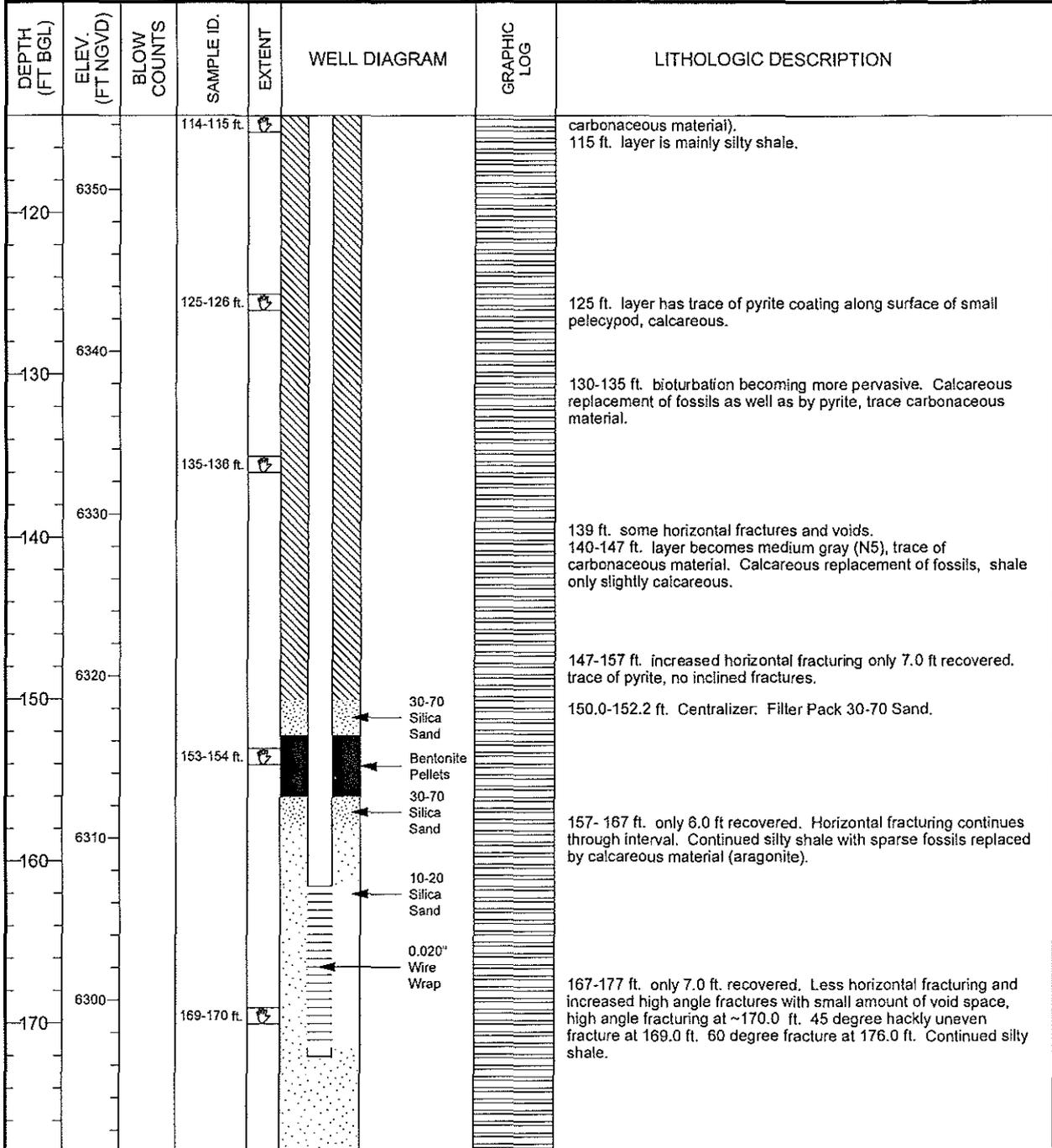
DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							are darker-medium gray (N5). Siltstone layers comprise only ~10-20%. Bedding is uneven and lenticular with some bioturbation, slightly calcareous.
60	6410		60-61 ft.	↕			57-67 ft. Only 6.0 ft. recovered. Loss occurred probably in 63.0 to 67.0 ft. interval in softer drilling. Shale recovered in bit at 67.0 ft. was highly fractured (high angle).
70	6400						67-76 ft. mostly shale or silty shale, medium gray (N5), Fossil burrowing (worms) in places.
			74-75 ft.	↕		← Enviroplug	76-77 ft. layer is disrupted (small fault), bedding is possibly soft sediment deformation. Below 77.0 ft., layer becomes mainly shale or silty shale, medium gray (N5)
80	6390						82-84 ft. layer has flattened fauna (pelecypod fossil)-preservation of pelecypods by calcareous material (aragonite). 84-92 ft. layer is mostly silty shale.
			83-84 ft.	↕			
90	6380						92-93 ft. fracture (70 degrees), healed, no void space. Scattered fossils are present below 93.0 ft..
			96-97 ft.	↕			
100	6370					← PVC Sch 40	100-107 ft. layer becomes more silty, medium gray (N5) in color, few fossils, and slightly calcareous. Trace of fine pyrite.
			105-106 ft.	↕			
110	6360						110-130 ft. horizontal fracturing increases, some thin, lighter colored siltstone layers at ~ 110.0 ft. Fine pyrite becoming more abundant along some bedding planes (as a replacement of trace



MONITORING WELL COMPLETION LOG DUR02-0905

PROJECT	UMTRA GROUND WATER	WELL NUMBER	0905
SITE	DURANGO RAFFINATE PONDS	DATES DRILLED	10/25/2000 to 10/31/2000

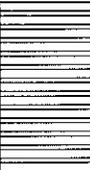
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MONITORING WELL COMPLETION LOG DUR02-0905

PROJECT UMTRA GROUND WATER **WELL NUMBER** 0905
SITE DURANGO RAFFINATE PONDS **DATES DRILLED** 10/25/2000 to 10/31/2000

Continued from Previous Page

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
180	6290		179-180 ft.	☉			177-187 ft. only 8.0 ft. recovered. Less amount of horizontal fracturing, no high angle fractures noted. Continued silty shale. Layer is considered the lower part of the Point Lookout Sandstone formation, near the transition to the upper part of the Mancos Shale.
190	6280						Total Depth 187.0 ft.
200	6270						
210	6260						
220	6250						
230	6240						
240	6230						

