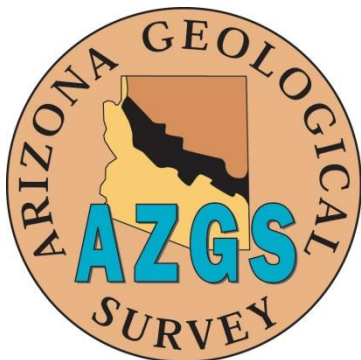




CONTACT INFORMATION

Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

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RONSTADT'S

1301 E. Ft. Lowell
Tucson, Arizona 85719
Phone # (602) 881-6550 1-800-516-7867
Fax # (602) 881-6169

7/18/95

To HARRISON MATSON

FAX 748-2626

from Rudy Valadez

Subject = 1. Pumps, Submersible for Wells 300ft to 400ft deep
Water Level @ 100ft.

2. Column Pipe

3. 4" Well Pipe

1. Prices for Submersible Pumps are as follows on
Page 2. Prices are list. Once Quantity of Pumps
is determined we can then give you a better discount
on Quantity.

2. Column Pipe can be bought at Kelly Pipe

3. 4" plastic will work, Pump size is 2.5hp.
if Well is Not Straight you will have problems
galvanized is Not recommended.
would be better if 5" could be used especially
if Plastic could be used.

Thanks

Rudy

Model 10803-6 (1/2 HP - 6 stages) 1PH 115/230V 520⁰⁰
@ 150ft 6GPM, @ 135ft 8GPM, @ 117ft 10GPM

10510-15 (1 HP - 15 stages) 1PH 230V
@ 300ft 9GPM, @ 335ft 8GPM, @ 360ft 6GPM

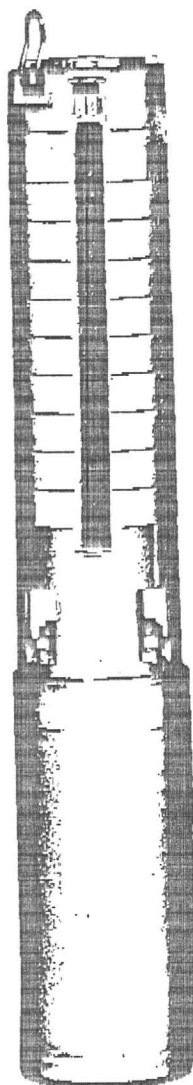
10515-21 (1 1/2 HP - 21 stages) 1PH 230V 1008⁰⁰
@ 310ft 12GPM, @ 350ft 11GPM @ 400ft 10GPM

MODEL
5S

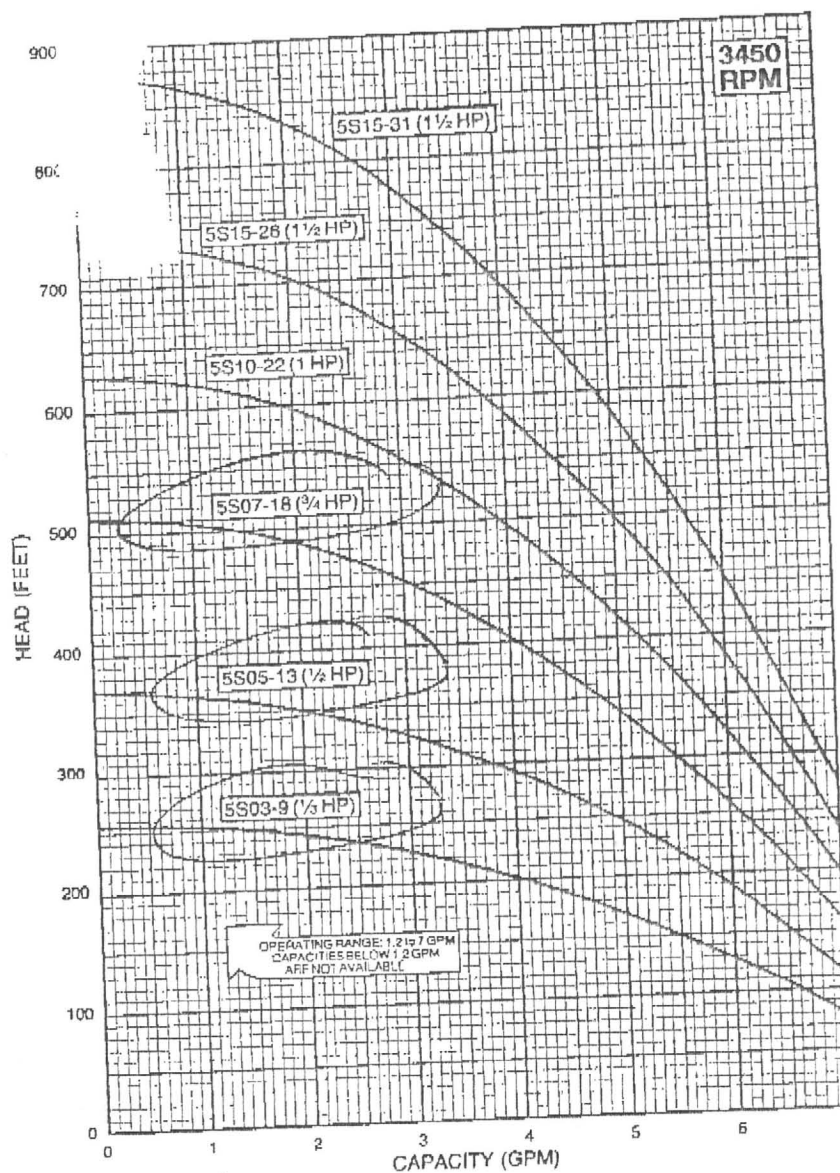
5 GPM

GRUNDFOS

FLOW RANGE
1.2 to 7 GPM
PUMP OUTLET
1" NPT



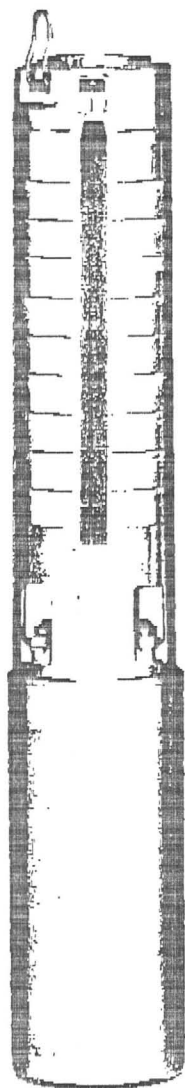
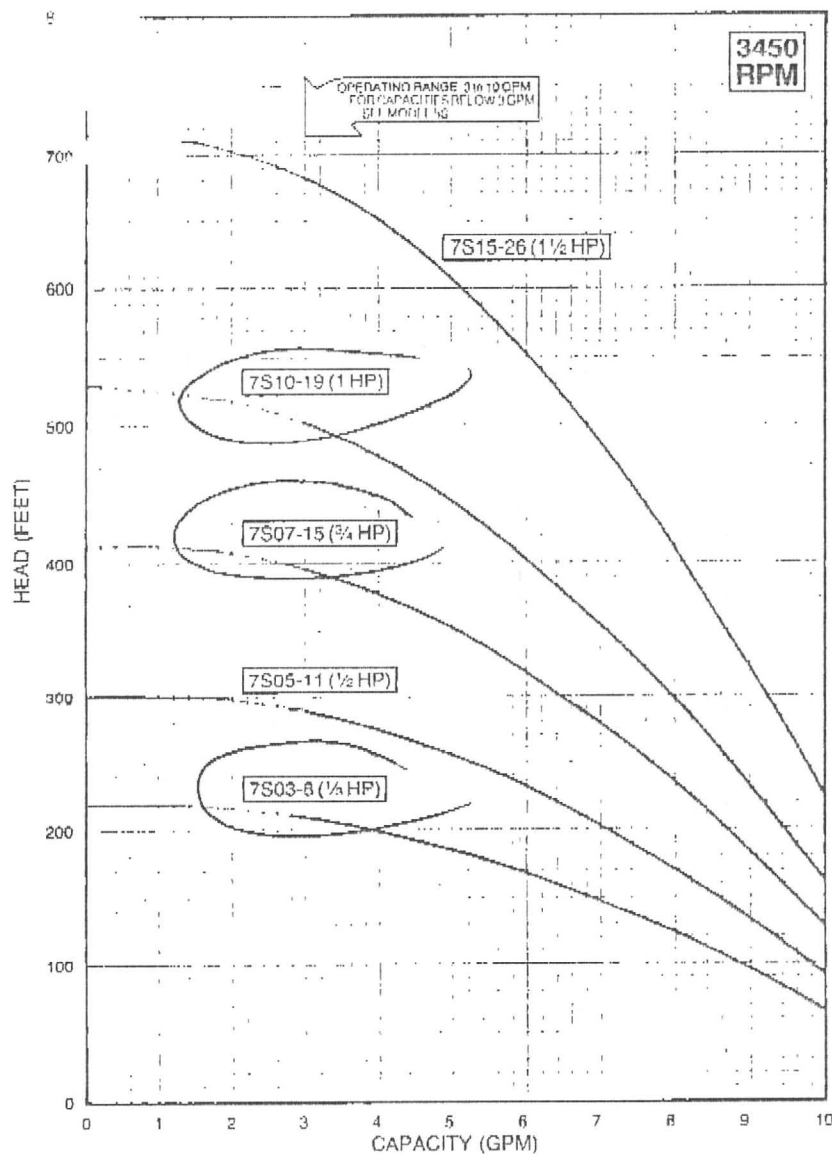
PERFORMANCE CURVES



DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (INCHES)	WIDTH (INCHES)	APPROX. UNIT SHIPPING WT. (LBS)
5S03-9	½	24	3 15/16	27
5S05-13	½	28	3 15/16	31
5S07-18	¾	32 3/8	3 15/16	34
5S10-22	1	36 3/8	3 15/16	42
5S15-26	1 ½	42	3 15/16	48
5S15-31	1 ½	47 7/8	3 15/16	58

Specifications are subject to change without notice.

**MODEL
7S**
7 SPM
GRUNDFOS
**FLOW RANGE
3 to 10 GPM**
**PUMP OUTLET
1" NPT**

PERFC
NCE CURVES

DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (INCHES)	WIDTH (INCHES)	APPROX. UNIT SHIPPING WT. (LB)
7S03-8	1/4	23 1/8	3 15/16	27
7S05-11	1/2	26 3/8	3 15/16	30
7S07-15	3/4	30 1/8	3 15/16	33
7S10-19	1	33 7/8	3 15/16	36
7S15-26	1 1/2	42	3 15/16	46

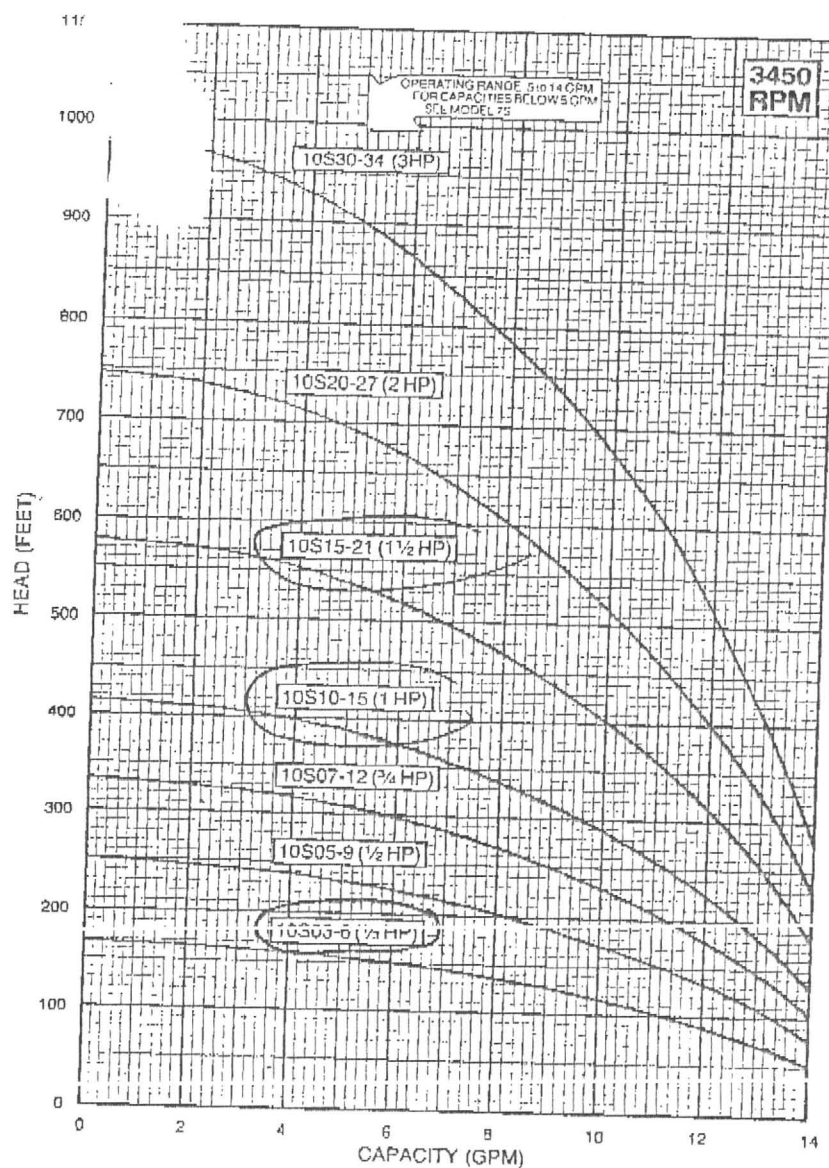
Specifications are subject to change without notice.

MOD 7

10 GPM

GRUNDFOS

PERFORMANCE CURVES



DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (INCHES)	WIDTH (INCHES)	APPROX. UNIT SHIPPING WT. (LBS.)
10S03-6	1/2	21 5/8	3 15/16	26
10S05-9	1/2	24 5/8	3 15/16	29
10S07-12	3/4	27 5/8	3 15/16	32
10S10-15	1	30 1/2	3 15/16	34
10S15-21	1 1/2	37 7/8	3 15/16	44
10S20-27	2	42	3 15/16	49
10S30-34	3	54 7/8	3 15/16	83

Specifications are subject to change without notice.

HARRISON/MATSON 5/10 GPM

350 to 400 - Water Level 100ft

Grundfos Stainless Steel Pump

Prices Are figured for 115/230 or 230V 1Ph. if 3Ph Please Notify.

Model # 5503-9 (1/3HP - 9 stages) 1Ph - 115/230V 636⁰⁰

@ 110ft 6.5 GPM, @ 150ft 5.5 GPM @ 200ft 4 GPM.

5505-13 (1/2HP - 13 stages) 1Ph - 230V.

@ 300ft 3.8 GPM, @ 350ft 2.9 GPM

5507-18 (3/4HP - 18 stage) 1Ph 230V 792⁰⁰

@ 310ft 5.8 GPM, @ 350ft 4.7 GPM @ 400ft 4 GPM

Model. 7503-8 (1/3HP - 8 stages) 1Ph 115/230V 592⁰⁰

@ 110ft 8.5 GPM, @ 150ft 7 GPM, @ 200ft 5 GPM

7507-15 (3/4HP) 1Ph 230V.

@ 300ft 6.5 GPM, @ 350ft 5 GPM, @ 370ft 4 GPM

7510-19 (1HP - 19 stages) 1Ph 230V 864⁰⁰

@ 310ft 7.75 GPM, @ 350ft 7 GPM, @ 400ft 6 GPM

Model. 10503-6 (1/3HP - 6 stages) 1Ph 115/230V 520⁰⁰

@ 150ft 6 GPM, @ 135ft 8 GPM, @ 117ft 10 GPM

10510-15 (1HP - 15 stages) 1Ph 230V.

@ 300ft 9 GPM, @ 335ft 8 GPM, @ 360ft 6 GPM

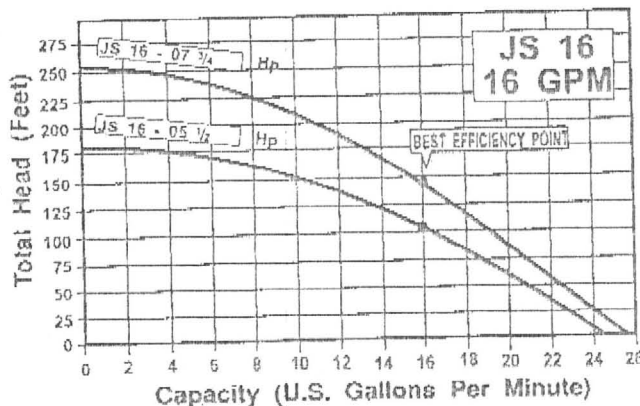
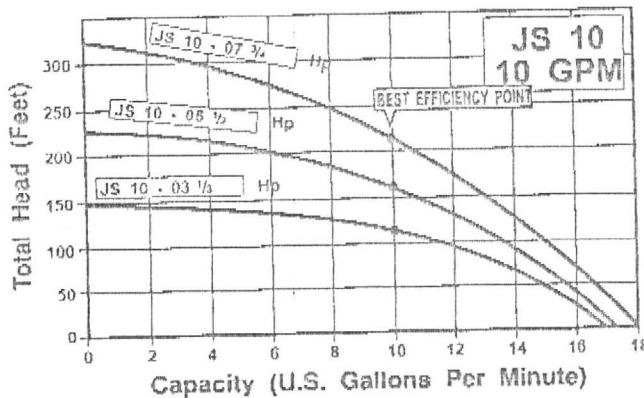
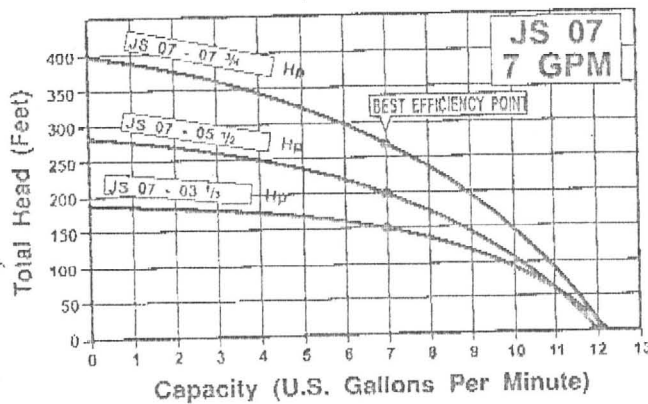
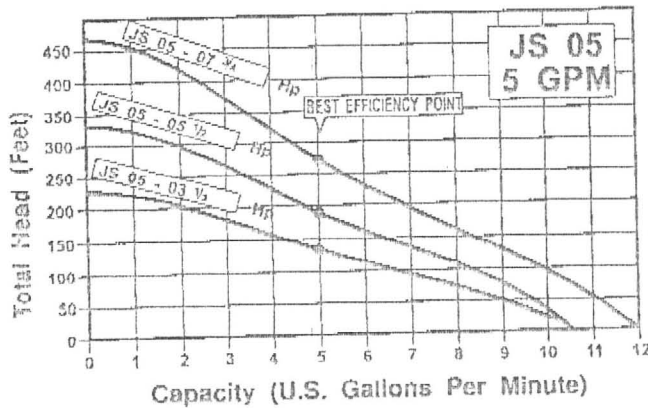
10515-21 (1 1/2 HP - 21 stages) 1Ph 230V 1008⁰⁰

@ 310ft 12 GPM, @ 350ft 11 GPM @ 400ft 10 GPM

Technical Information Sheet

JetSub

Performance Curves



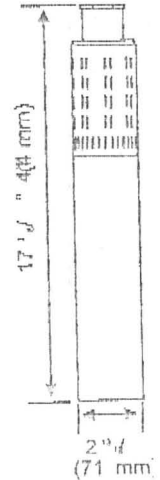
Miscellaneous Data

Supply Voltage: Single-phase, 220-240V $\pm$ 10%
 Max. Installation Depth: 330 ft below static water level
 Min. Installation Depth: Below water level
 Storage Temp.: -4°F to 122°F (-20°C to +50°C)

Electrical Information

	Motor HP	SF	*RMS Amps
JS 05-03	1/3	1.75	7
JS 05-05	1/2	1.6	9
JS 05-07	3/4	1.5	11
JS 07-03	1/3	1.75	7
JS 07-05	1/2	1.6	9
JS 07-07	3/4	1.5	11
JS 10-03	1/3	1.75	7
JS 10-05	1/2	1.6	9
JS 10-07	3/4	1.5	11
JS 16-05	1/2	1.6	9
JS 16-07	3/4	1.5	11

* Measurement taken with RMS instrument



Sectional Drawing

Part	Material
1 Valve Casing	304ss
2a Check Valve	Noryl®
2b Lock Ring	301ss
2c O-Ring	NBR
3 Hook	304ss
4 Pump Sleeve	304ss
5 Plug	NBR
6 Impeller	Noryl®
7 Intermediate Chamber	Noryl®
8 Neck Ring	Thermoplastic rubber
9 Suction Interconnector	Noryl®
10 Support Washer	304ss
11 Sand Shield	NBR
12 Cover Plate	304ss
13 Bellows	NBR
14 Bearing Retainer	304ss
15 Bearing	Ceramic/tungsten carbide
16 Motor Sleeve	304ss
17 Stator	Aluminum
18 Rotor	304ss
19 Rotor Shaft	316ss
20 Rotor Can	Carbon/ceramic
21 Thrust Bearing	Copper
22 Cooling Module	X99 Electronic Unit
23 EndShield	304ss
24 Screw	304ss
25 Cable Relief	PA plastics
26 Motor Cable	

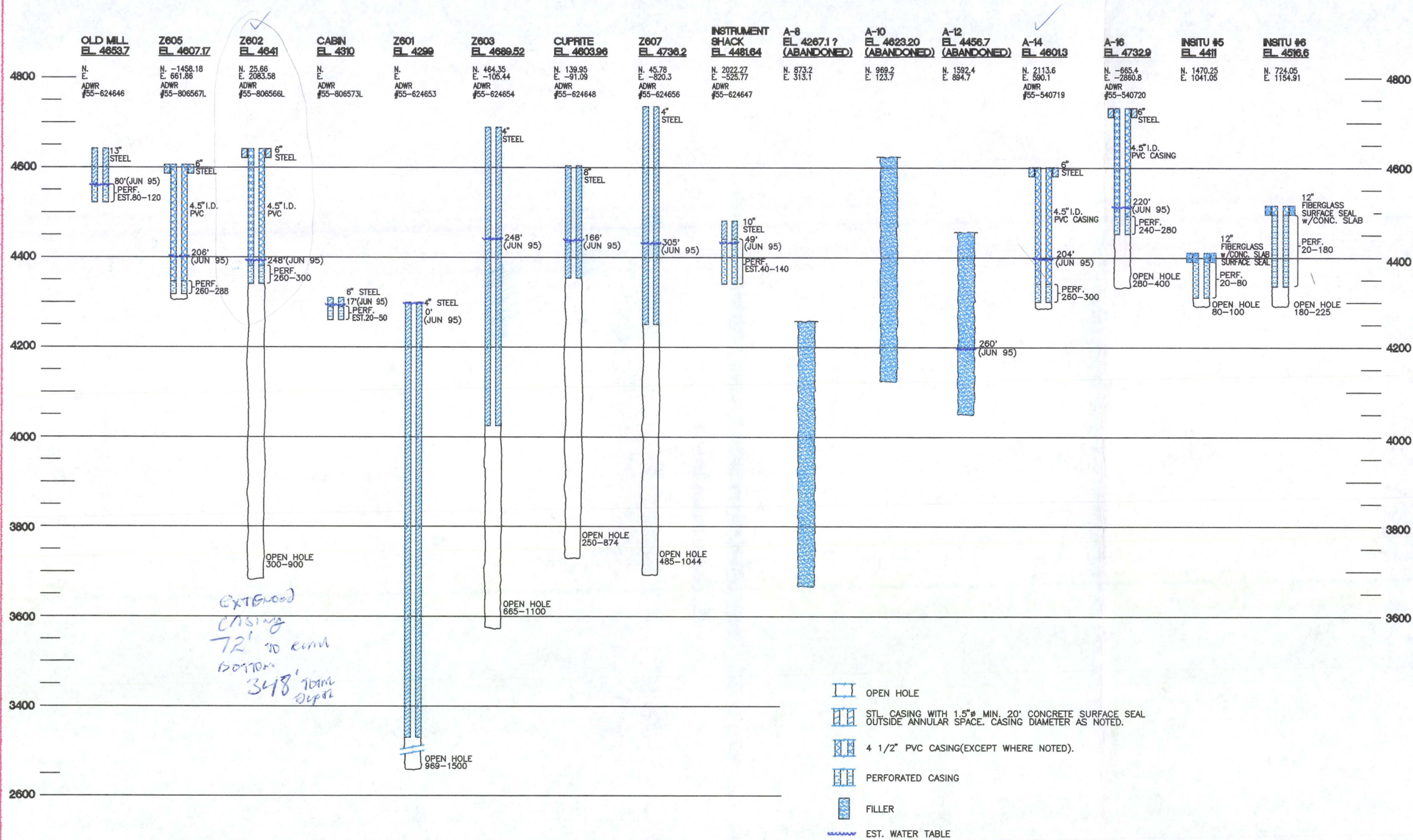
Noryl® is a trademark of General Electric

The JetSub is not intended to be sold to the Environmental ground water monitoring industry. The sale of JetSubs to ground water monitoring customers is strictly forbidden and will void any warranty when the product is used in an Environmental application.

GRUNDFOS

GRUNDFOS Pumps Corporation • 2555 Clovis Avenue • Clovis, CA • 93512
 Sales Support Centers: Allentown, Pa. • Atlanta, GA • Chicago, IL
 In Canada: Mississauga, Ontario

LSP-TL-080 7/93
 PRINTED IN USA



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						INTERNAL		CHECKED BY:	
						VENDOR		JOB COORD.	
						FIELD		DEPT. HD.	
								MGR. ENG.	
								PROJECT	

ZONIA MINE

WELL COMPLETIONS

ARMETCO INC.
335 N. WILMOT RD. STE 400
TUCSON, ARIZONA 85711

MINI: ZONIA	REV: 0
PROJECT: NO SCALE	DATE: 8/10/95

Grand Canyon

Pump & Supply

Fax Cover Letter

TO: ALLEN DATE: 10/10/95

COMPANY NAME: ARIMETCO

FROM: SUSAN

SUBJECT: SPECS. ON RISER PIPE

NOTES: _____

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 2

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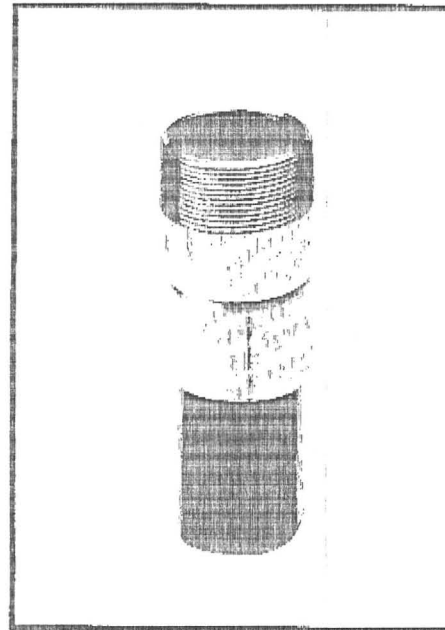
Support Center: 1870 W. Prince Ste. #42 Tucson, Arizona 85705

Fax (602) 292-8012

SUBDUC 600

TECHNICAL SPECIFICATIONS

Inside diameter : 1 1/2" (32mm)
 Thickness : 1/8" (1.5mm)
 Weight empty : 0.13 lbs/Ft (190 g/ml)
 Weight full with water : 0.34 lbs/Ft (510 g/ml)
 Working pressure : 280 Psi (20 bar)
 Burst pressure : 1,280 Psi (90 Bar)
 Maximum service load : 1,540 Lbs (700 kg)
 Maximum occasional load : 2,200 lbs (1,000 kg)
 Breaking load : 7,600 Lbs (3,450 kg)
 Maximum elongation : 2%
 Maximum operating temperature : 120°F (50°C)
 Maximum unit length : 650 Ft (225 m)
 Riser construction : polyurethane/polyester fiber
 Fittings construction :
 - Stainless steel (304) swaged fitting male
 - Threaded end 1 1/2" NPT - (thru 6")
 - 316 stainless steel (available upon request)



HYDRAULIC & VELOCITY DATA

FLOW RATE			VELOCITY		HEAD LOSS	
					WORK. PRESSURE 40 Psi	WORK. PRESSURE 150 Psi
gal/h	l/min	m³/h	m/s	Ft/s	Psi/Ft	Psi/Ft
66	5	0.3	0.10	0.33	0.000	0.000
132	10	0.6	0.21	0.69	0.001	0.000
198	15	0.9	0.31	1.01	0.002	0.001
264	20	1.2	0.41	1.34	0.003	0.002
330	25	1.5	0.52	1.70	0.005	0.003
396	30	1.8	0.62	2.03	0.007	0.004
462	35	2.1	0.73	2.39	0.009	0.005
528	40	2.4	0.83	2.72	0.011	0.006
594	45	2.7	0.93	3.05	0.014	0.008
660	50	3.0	1.04	3.41	0.017	0.010
990	75	4.5	1.55	5.08	0.035	0.020
1320	100	6.0	2.07	8.49	0.058	0.034
1650	125	7.5	2.59	8.49	0.087	0.050
1980	150	9.0	3.11	10.20	0.121	0.070
2310	175	10.5	3.63	11.90	0.159	0.092
2640	200	12.0	4.14	13.58	0.203	0.117
2970	225	13.5	4.66	15.28	0.250	0.145
3300	250	15.0	5.18	16.99	0.303	0.175

2747 West McDowell Road • Phoenix, Arizona 85009

Phone (602) 272-7867 Fax (602) 233-9225

Support Center

1870 West Prince Suite # 42 • Tucson, Arizona 85705

Phone (520) 292-8011 Fax (520) 292-8012

Grand Canyon

Pump & Supply

Fax Cover Letter

TO: ALLEN WELLS DATE: 10/10/95

COMPANY NAME: _____

FROM: SUSAN

SUBJECT: SPECS. ON RISER PIPE

NOTES: _____

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 2

CALL IF ALL PAGES, INCLUDING COVER, WERE NOT RECEIVED

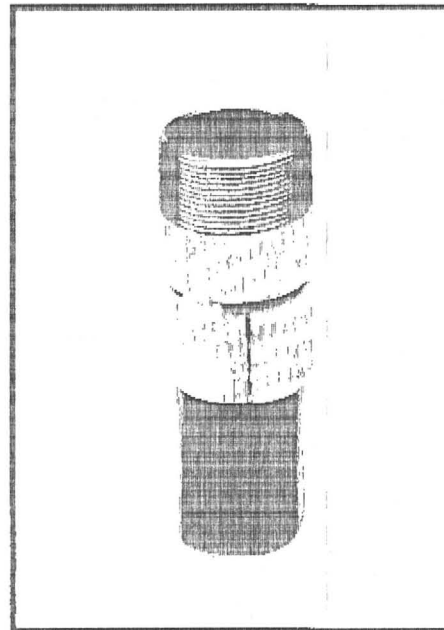
Twenty Seven Forty Seven West McDowell Road Phoenix, Arizona 85009
Phone (602) 272-7867 Fax (602) 233-9225
Support Center: 1870 W. Prince Ste. #42 Tucson, Arizona 85705
Fax (602) 292-8012

SUBDUC 600

TECHNICAL SPECIFICATIONS

Inside diameter:1 1/2" (32mm)
 Thickness:1/8" (1.5mm)
 Weight empty:0.13 lbs/Ft (190 g/ml)
 Weight full with water:0.34 lbs/Ft (510 g/ml)
 Working pressure:280 Psi (20 bar)
 Burst pressure:1,280 Psi (90 Bar)
 Maximum service load:1,540 Lbs (700 kg)
 Maximum occasional load:2,200 lbs (1,000 kg)
 Breaking load:7,600 Lbs (3,450 kg)
 Maximum elongation:2%
 Maximum operating temperature:120°F (50°C)
 Maximum unit length:650 Ft (225 m)
 Riser construction:polyurethane/polyester fiber
 Fittings construction:

- Stainless steel (304) swaged fitting male
- Threaded end 1 1/2" NPT - (Thru 6")
- ✓ - 316 stainless steel (available upon request)



HYDRAULIC & VELOCITY DATA

					HEAD LOSS	
FLOW RATE			VELOCITY		WORK. PRESSURE 40 Psi	WORK. PRESSURE 150 Psi
gal/h	l/min	m ³ /h	m/s	ft/s	Psi/Ft	Psi/Ft
66	5	0.3	0.10	0.33	0.000	0.000
132	10	0.6	0.21	0.69	0.001	0.000
198	15	0.9	0.31	1.01	0.002	0.001
264	20	1.2	0.41	1.34	0.003	0.002
330	25	1.5	0.52	1.70	0.005	0.003
396	30	1.8	0.62	2.03	0.007	0.004
462	35	2.1	0.73	2.39	0.009	0.005
528	40	2.4	0.83	2.72	0.011	0.006
594	45	2.7	0.93	3.05	0.014	0.008
660	50	3.0	1.04	3.41	0.017	0.010
990	75	4.5	1.55	5.08	0.035	0.020
1320	100	6.0	2.07	8.49	0.058	0.034
1650	125	7.5	2.59	8.49	0.087	0.050
1980	150	9.0	3.11	10.20	0.121	0.070
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3300	250	15.0	5.18	16.99	0.303	0.175

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Phone (602) 272-7867 Fax (602) 233-9225

Support Center

1870 West Prince Suite # 42 • Tucson, Arizona 85705

Phone (520) 292-8011 Fax (520) 292-8012

[illegible]

Arimetco, Inc.
Johnson Camp Mine
P. O. Box 384
Dragoon, AZ 85609
(520)586-2241
FAX (520)586-7020

FACIMILE TRANSMISSION

TOTAL # OF PAGES (INCLUDING THIS COVER SHEET) 1DATE 7/24/95TO: Harrison Matson

COMPANY: _____

FAX # _____

FROM: John Plessen

COMMENTS: Small Diameter Pump Source
GRAND CANYON PUMP (Debbie) 1-800-526-7608
2747 W. McDowell Plx 85009
2 13/16" diam. Pump JS 05-07 230V 2 wire + ground
Rated 3gpm shut off depth 460 ft
17 3/8" long, 11 lbs. List \$583 will give 50% discount

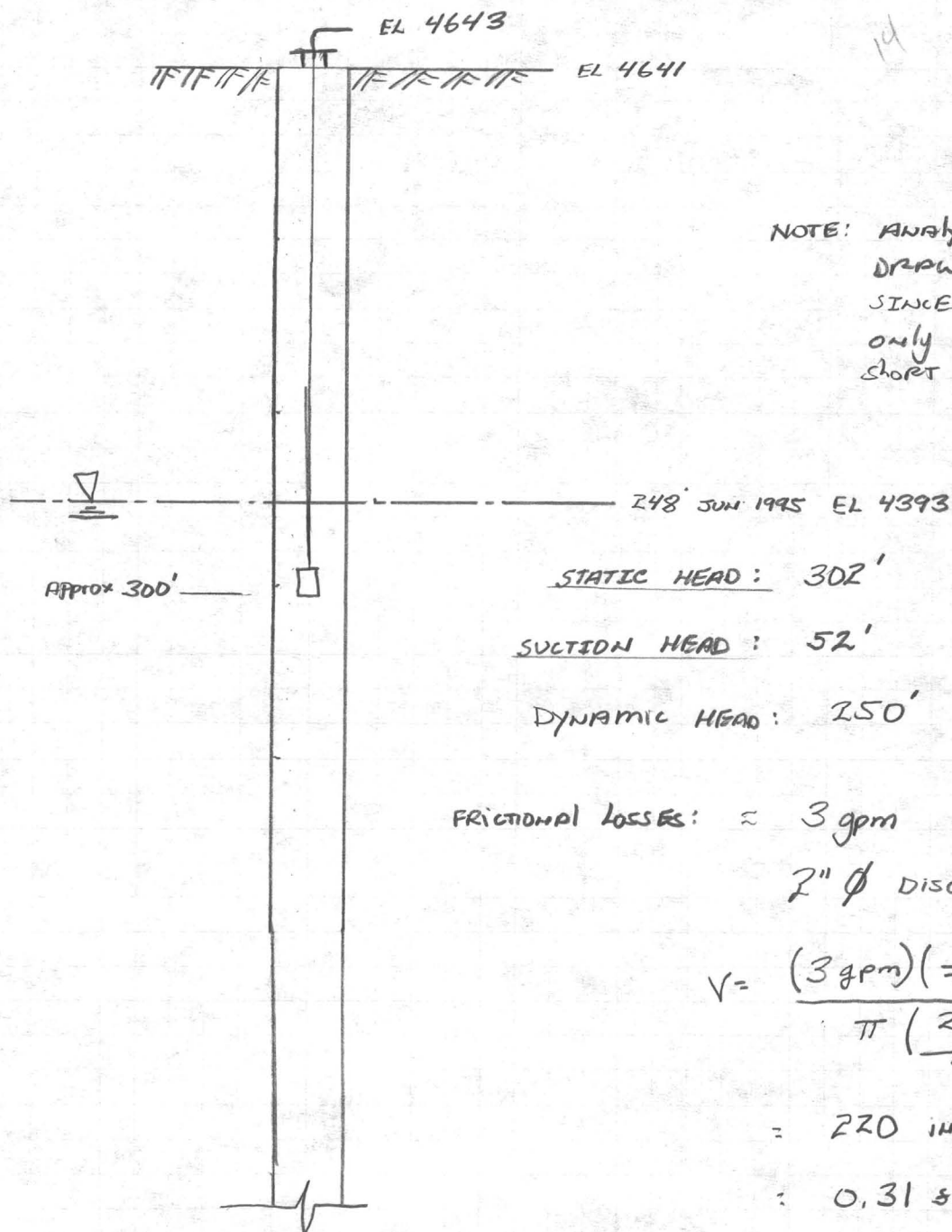
IF YOU SHOULD HAVE ANY PROBLEMS RECIEVING THIS TRANSMISSION
OR HAVE ANY QUESTIONS PLEASE CALL _____ AT ONE OF THE
FOLLOWING PHONE NUMBERS.

(520)586-2241 OR 586-7116

10/9/95 9:50am

SPOKE w/ DEBBIE @ GRAND CANYON PUMP

- 1) DISCHARGE SIZE $1\frac{1}{4}$
- 2) SPEC SHEET ON FLEX. RISER PIPE will FAX it to
ME
- 3) DO THEY HAVE A SMALLER DIAMETER PIPE smallest
 $1\frac{1}{4}$ "
- 4) ? ON GROUND WATER MONITORING ✓ HAS
- 5) WELL HEAD DETAIL ? NO



NOTE: ANALYSIS NEGLECTS
DRAW DOWN EFFECTS
SINCE THE PUMP WILL
ONLY BE RUN DURING
SHORT SPORADIC INTERVALS.

STATIC HEAD: 302'

SUCTION HEAD: 52'

DYNAMIC HEAD: 250'

FRICTIONAL LOSSES: $\approx$ 3 gpm

2" ϕ DISCHARGE

$$V = \frac{(3 \text{ gpm}) \left(\frac{1}{7.48} \right) \left(\frac{1.728}{1} \right)}{\pi \left(\frac{2}{4} \right)^2}$$

$$= 220 \text{ in}^3/\text{min} = 18.4 \text{ gal/min}$$

$$= 0.31 \text{ gal/sec}$$

$$h_L = \frac{fL}{D} \frac{V^2}{2g} = \frac{0.016 (302) \left(\frac{0.31}{64.4} \right)^2}{(2/12)}$$

$$= 0.04 \text{ ft} \approx 0$$