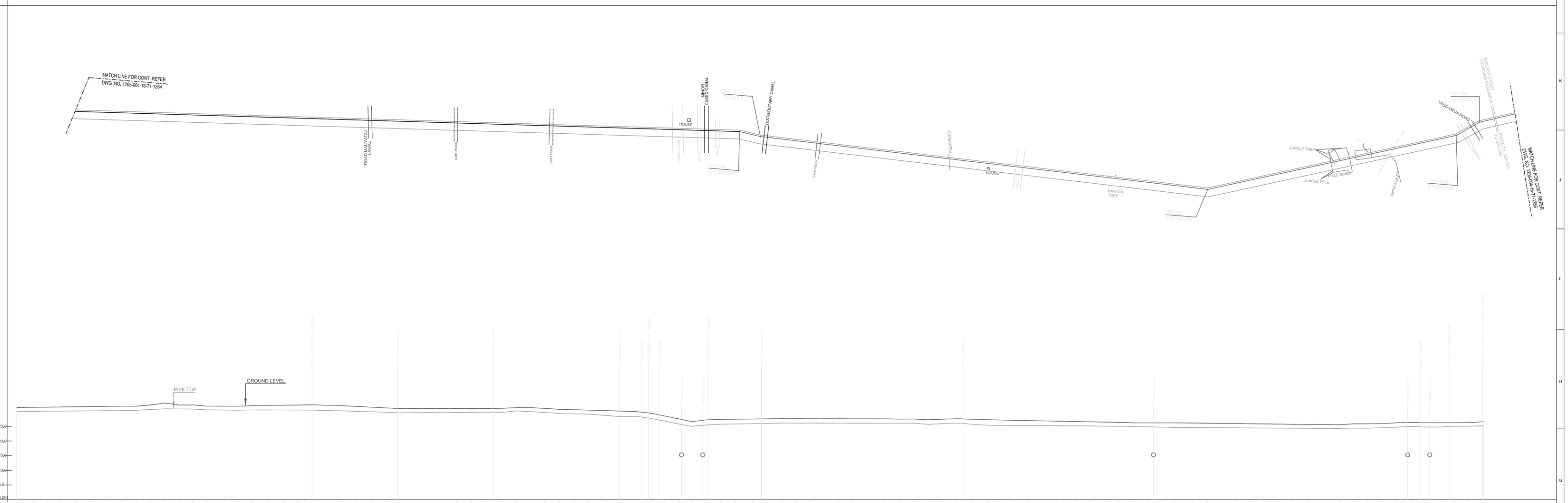
TURNING POINT(TP)	TP-134, TP-134/A, TP-135, TP-135/A, TP-136
DEFLECTION ANGLE (°_' _")	11°30'0"R 6°30'00"L 19°0'00"L 6°15'00"R 17°37'00"R
DISTANCE BETWEEN TP's (m)	2266.060 73.170 1535.530 866.790 91.00 45.092
STATE & DISTRICT	NADIAD 4416.672 73.170 KHEDA 1535.530 GUJARAT 866.790

SURVEY DETAILS

PLANIMETRY

SCALE :-

ALONG LINE 1:5000
ACROSS LINE 1:5000



GROUND PROFILE

SCALE :-

HORIZONTAL 1:5000
VERTICAL 1:500

GROUND LEVELS(m)	31.359, 31.440, 31.510, 31.580, 31.650, 31.720, 31.790, 31.830, 31.840, 32.270, 32.910, 32.230, 32.270, 31.860, 31.845, 31.830, 32.020, 32.100, 32.170, 32.240, 32.320, 32.160, 32.000, 31.750, 31.500, 31.250, 31.040, 31.040, 31.040, 31.040, 31.040, 31.040, 31.040, 31.140, 31.340, 31.330, 31.090, 30.770, 30.670, 30.510, 30.330, 30.170, 30.00, 29.500, 28.500, 27.500, 26.580, 27.190, 27.360, 27.420, 27.480, 27.540, 27.600, 27.580, 27.570, 27.560, 27.550, 27.540, 27.530, 27.520, 27.440, 27.460, 27.230, 27.600, 27.550, 27.385, 27.240, 27.130, 27.030, 26.830, 26.730, 26.630, 26.510, 26.430, 26.330, 26.160, 26.160, 26.160, 26.160, 26.110, 26.050, 25.990, 25.930, 25.870, 25.810, 25.750, 25.690, 25.630, 25.570, 25.510, 25.840, 25.840, 25.910, 26.190, 26.340, 26.190, 26.200, 26.210, 26.210, 26.587
PIPE TOP LEVELS(m)	30.044, 30.090, 30.130, 30.170, 30.210, 30.250, 30.295, 30.340, 30.440, 30.710, 30.960, 30.910, 30.860, 30.590, 30.530, 30.470, 30.580, 30.570, 30.550, 30.530, 30.510, 30.380, 30.250, 30.090, 29.930, 29.780, 29.630, 29.650, 29.670, 29.690, 29.710, 29.730, 29.750, 29.770, 30.240, 29.960, 29.710, 29.390, 29.210, 29.140, 28.700, 28.280, 28.400, 27.720, 26.760, 25.750, 24.970, 25.420, 25.710, 25.770, 25.880, 25.990, 26.100, 26.090, 26.080, 26.070, 26.060, 26.050, 26.040, 26.030, 26.080, 26.040, 25.650, 25.880, 26.090, 25.710, 25.340, 25.300, 25.270, 25.240, 25.180, 25.150, 25.130, 25.030, 24.980, 24.840, 24.710, 24.580, 24.560, 24.530, 24.500, 24.470, 24.440, 24.410, 24.380, 24.350, 24.320, 24.290, 24.260, 24.350, 24.350, 24.510, 24.710, 24.940, 24.730, 25.010, 25.010, 25.198
DISTANCE BETWEEN LEVEL POINTS (IN METRES)	57.0, 46.0, 47.0, 50.0, 48.0, 48.0, 61.0, 50.0, 48.0, 48.0, 48.0, 48.0, 47.0, 59.0, 48.0, 47.0, 59.0, 49.0, 47.0, 48.0, 48.0, 57.0, 50.0, 49.0, 49.0, 47.0, 49.0, 50.0, 48.0, 49.0, 49.0, 49.0, 49.0, 49.0, 49.0, 57.0, 48.0, 49.0, 48.0, 49.0, 50.0, 61.0, 49.0, 53.0, 48.0, 50.0, 49.0, 44.0, 49.0, 49.0, 49.0, 61.0, 49.0, 49.0, 48.0, 49.0, 49.0, 50.0, 48.0, 60.0, 49.0, 49.0, 49.0, 49.0, 49.0, 50.0, 57.0, 40.0, 50.0, 49.0, 49.0, 60.0, 49.0, 49.0, 49.0, 49.0, 48.0, 49.0, 46.0, 61.0, 49.0, 49.0, 47.0, 49.0, 48.0, 49.0, 50.0, 49.0, 49.0, 61.0, 48.0, 49.0, 49.0, 49.0, 49.0, 49.0, 49.0, 50.0, 49.0, 49.0, 50.0
SURFACE /TERRAIN DETAILS	TREE, TREE, TREE, TREE, DISTRIBUTARY, NALLA, NALLA, TREE, TREE, DRAIN, TREE
CLASS/ZONE LOCATION	NOT APPLICABLE
DESIGN FACTOR	0.72
LINE PIPE DETAILS — MATERIAL	API 5L Gr. X-70, HSAW/ LSAW
LINE PIPE DETAILS — O.D.X. WALL THICKNESS (mm x mm)	610, 7.1 610, 7.1 610, 7.9
PIPELINE DETAILS — CUMULATIVE CHAINAGE (KM METRES) (000 + 000)	320.274, 320.331, 320.379, 320.426, 320.476, 320.524, 320.572, 320.633, 320.683, 320.731, 320.779, 320.827, 320.875, 320.922, 320.981, 321.029, 321.076, 321.135, 321.184, 321.231, 321.278, 321.327, 321.384, 321.434, 321.483, 321.532, 321.579, 321.628, 321.678, 321.726, 321.775, 321.824, 321.873, 321.930, 321.978, 322.026, 322.075, 322.123, 322.172, 322.222, 322.283, 322.332, 322.385, 322.433, 322.483, 322.532, 322.576, 322.625, 322.674, 322.723, 322.784, 322.833, 322.881, 322.930, 322.978, 323.027, 323.076, 323.126, 323.174, 323.234, 323.283, 323.332, 323.381, 323.430, 323.479, 323.529, 323.586, 323.627, 323.676, 323.725, 323.774, 323.823, 323.883, 323.932, 323.981, 324.030, 324.079, 324.127, 324.176, 324.222, 324.283, 324.332, 324.381, 324.428, 324.477, 324.525, 324.574, 324.624, 324.673, 324.722, 324.783, 324.831, 324.880, 324.929, 324.978, 325.027, 325.076, 325.126, 325.175, 325.224, 325.274
SPECIAL PROVISIONS	SV-10
PIPE LINE COVER MINIMUM (METRES)	1.0, 1.2, 1.0, 1.2, 1.0, 1.2, 1.0, 1.5, 1.5, 1.5, 1.5, 1.0, 1.5, 1.0, 1.2, 1.0, 1.5, 1.0, 1.2, 1.0, 1.2, 1.0
CROSSINGS	ROAD MALIPATALI LANE, CART TRACK, DISTRIBUTARY CANAL, VASO-DEVA ROAD, RAILWAY CROSS DIVERSION VASO-DEVA, TP-135/A TO 325+249
SPECIAL INSTALLATION FITTING/MARKERS	
COATING SCHEME	LINE PIPE: THREE LAYER POLYETHYLENE COATING (3LPE) (MIN. 2.5 mm THK) AS PER SPEC. No. 6-71-0041 AND FIELD JOINT COATING HEAT SHRINK SLEEVE AS PER SPEC. NO. 6-71-0044
CATHODIC PROTECTION INSTALLATIONS	REFER GENERAL NOTE-6
SUB-SOIL DETAILS — SOIL RESISTIVITY (OHM-M)	1.583, 2.771, 1.810, 2.517, 2.62, 2.706, 2.790, 1.847, 1.866, 1.876, 3.46
SUB-SOIL DETAILS — SOIL STRATIFICATION DEPTH IN (m)	REFER GENERAL NOTE-7

TOPOGRAPHIC SYMBOLS

PROPOSED PIPE LINE
EXISTING PIPE LINE
TURNING POINT
INTERMEDIATE POINT
METALLED ROAD
UNMETALLED ROAD
RAILWAY LINE
STREAM > 5m WIDTH
STREAM <5m WIDTH (DRY)
STREAM (PERENNIAL) > 5 m
CANAL (DESCRIBED)
BRIDGE
POWER LINE
TELEPHONE LINE
FENCES
GROUND PROFILE
DAM (DESCRIBED)
WATER TANK, LAKE OR RESERVOIR
QUARRY
SWAMP OR MARSH
MUD
WELL (DESCRIBED)/TUBEWELL
PLACE OF WORSHIP
MONUMENT
HUTS (TEMPORARY)
HUTS (PERMANENT)
GRAVES
TREE

PIPELINE SYMBOLS

CATHODIC PROTECTION TEST STATION
POTENTIAL GRADIENT CONTROL MAT (PGCM)
TRANSFORMER RECTIFIER
AC INTERFERANCE MITIGATION Zn RIBBON PARALLEL TO PIPE
ANODE GROUND BED
EXISTING CABLE/ PIPELINE CROSSING
HOT BEND (R=6D)
CS CODUIT FOR OFC
OFC PULLING PIT
UNCASED CROSSING
CASED CROSSING
CONTINUOUS CONCERETE WEIGHTING
GEOTEXTILE BAGS
INTERMEDIATE SCRAPER STATION
INSULATING JOINT
SCRAPER TRAP
KM MARKER
PIPE LINE WARNING SIGN
AERIAL MARKER
NAVIGABLE WATER WAY PIPE LINE WARNING SIGN
DIRECTION MARKER
HDPE DUCT FOR OFC
SECTIONALISING VALVES
ZINC GROUNDING CELL
SLOPE BREAKER

SOIL SYMBOLS

MORGANIC CLAY WITH MEDIUM PLASTICITY
MORGANIC CLAY WITH MEDIUM PLASTICITY
CLAYEY SAND
SILTY SAND POORLY GRADED SAND IN MIXTURES
MORGANIC CLAY WITH LOW PLASTICITY
MORGANIC SILTY CLAY WITH MEDIUM ELASTICITY
WELL GRADED SAND
MORGANIC CLAY WITH LOW PLASTICITY
ROCK
WELL GRADED GRAVELS
SOFT ROCK WITH MINERES
WHITE LIME WITH KANKARS
POORLY GRADED SAND
CLAY WITH KANKAR BASALT
POORLY GRADED GRAVELS
SILTY GRAVELS,POORLY GRADED
CLAYEY GRAVELS,POORLY GRADED
CLAY WITH KANKAR
WEATHERED BASALT
CLAY
SILTY CLAY
SILTY SAND
SANDY CLAY WITH KANKAR
MOORUM WITH BOULDERS
WEATHERED ROCK
MOORUM
RED CLAY WITH KANKARS
SANDY MOORUM
RED ROCK
HARD ROCK
MOORUM WITH GRAVELS
EXPOSED ROCK
DIRETIEN CLAY
BLACK COTTON SOIL
EXPOSED WEATHERED BASALT
SILTY CLAY WITH MOORUM
CLAY WITH MOORUM
BLACK COTTON SOIL WITH KANKAR
SANDY GRAVEL
BLACK COTTON SOIL WITH KANKARS
SILTY CLAY WITH SAND
SANDY CLAY
RED ROCK
CLAYEY SILT
SILTY CLAY WITH KANKARS
SOIL WITH KANKARS
SILTY SAND WITH KANKARS
CLAYEY SILT WITH KANKARS
BLACK SILTY CLAY
SANDY SILT
SWD
EXPOSED WEATHERED ROCK
CLAY WITH GRAVELS

GENERAL NOTES :-

1. LOCATION OF MARKERS ARE EXACT AS PER FIELD SURVEY.
2. FOR ALL CROSSINGS, THE THICKNESS OF CASING PIPES PROVIDED AS PER SPECIFIC REQUIREMENTS & THE SAME IS INDICATED IN B.O.M. ALL THE CROSSINGS EXECUTED AS PER RELEVANT OB STANDARD/DRAWINGS.
3. LOCATION OF SLOPE BREAKERS ARE PROVIDED AS PER STANDARD & AS PER INSTRUCTIONS OF ENGINEER-IN-CHARGE.
4. INSTALLATION OF CATHODIC PROTECTION FACILITIES PROVIDED AS PER DRAWINGS/ DOCUMENTS SUBMITTED BY CONTRACTOR AND APPROVED BY COMPANY.
5. FOR DETAILS REGARDING SOIL STRATIFICATION AND SOIL RESISTIVITY ALONG THE ROUTE, REFER M/S PETRO IT'S SOIL INVESTIGATION & RESISTIVITY REPORT.
6. ANTI BUOYANCY CONTROL (CONCRETE WEIGHT COATING) AND GEOTEXTILE BAGS, IF REQUIRE, SHALL BE DECIDED AT SITE (BESIDE THE LOCATION AS SHOWN IN ALIGNMENT SHEET) CASE TO CASE BASIS AND AS PER INSTRUCTION OF ENGINEER-IN-CHARGE.

NOTES :-

1. ALL LEVELS ARE IN "METERS" AND CORRESPOND TO MEAN SEA LEVEL (MSL).
2. G.D. CHAINAGE CORRESPONDS TO INSULATING JOINT AT VADINAR.
3. ANTI BUOYANCY MEASURES, IF REQUIRED, SHALL BE DECIDED AT SITE IN CONSULTATION WITH ENGINEER-IN-CHARGE.
4. THE EXTENT OF CASED CROSSING PROVIDED AS PER INSTRUCTION OF ENGINEER-IN-CHARGE.

BILL OF MATERIAL FOR THIS DRAWING

610	7.1	SLPE	998.265	K.M. POST	3
610	7.9	SLPE	1.735	DIRECTION MARKER	
			5000	AERIAL MARKER	1
				INSULATING JOINTS	
				HOT BENDS	
				NAVIGABLE WATERWAY	
762	10.3		61	WARNING MARKER	12
168.3	6.4		61	OFC JOINT PIT	2
				CP TEST STATION	9

REFERENCE DRAWINGS

TITLE	NUMBER	
CROSSING	CHAINAGE(m)	
ROAD	321281	
CART TRACK	321573	
CART TRACK	321898	
DRAIN	322330	
NALLA	322403	
CANAL	322427	VBPL/CC/AB/SP II/22
NALLA	322464	
CANAL	322631	
CART TRACK	322813	
NALLA	323500	
DRAIN	325058	
ROAD	325156	
RAILWAY	325271	VBPL/CC/AB/SP II/23

AS BUILT DRAWING

DESCRIPTION	ECIL	EIL	BORL

AS BUILT DRAWING

इंजीनियर्स इंडिया लिमिटेड
ENGINEERS INDIA LIMITE
(A Govt. of India Undertaking)

BHARAT OMAN REFINERIES LIMITED

ESSAR ESSAR CONSTRUCTIONS (INDIA) LIMITED

बीना रिफायनरी परियोजना (वाडीनार बीना पाइपलाइन) — BINA REFINERY PROJECT (VADINAR-BINA PIPELINE)

एलाइनमेन्ट शीट वाडीनार से बीना — ALIGNMENT SHEET VADINAR TO BINA

चेनेज 320.274 से 325.274 कि.मी. — CHAINAGE 320.274 KM TO 325.274 KM

SCALE	JOB NO.	UNIT	DEPT.	SECT.	DWG. NO.	REV.
AS SHOWN	1205	004	16	71	1265	0