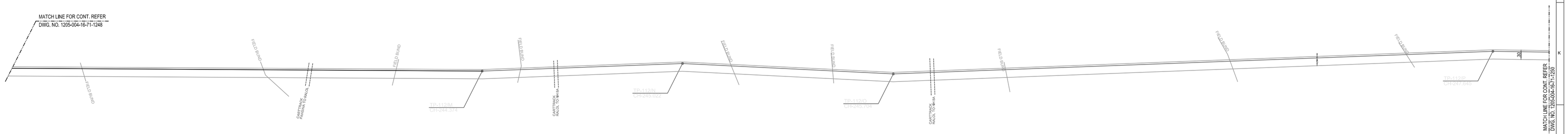
TURNING POINT (TP)	TP-112/M	TP-112/N	TP-112/O	TP-112/P	
DEFLECTION ANGLE ("_" _ "_")	2°30'00"L	5°00'00"R	5°00'00"L	3°00'00"R	
DISTANCE BETWEEN IP's (m)	1520.778	647.900	682.555	1940.440	208.327
STATE & DISTRICT	GUJARAT			SURENDRANAGAR	

SURVEY DETAILS



PLANIMETRY

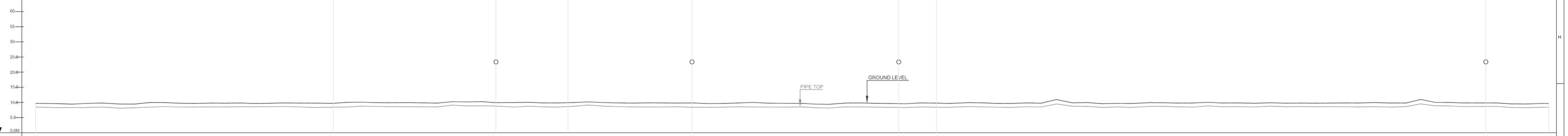
SCALE :-

ALONG LINE 1:5000
ACROSS LINE 1:5000

GROUND PROFILE

SCALE :-

HORIZONTAL 1:5000
VERTICAL 1:500



REFERENCE DATUM

GROUND LEVELS(m)

PIPE TOP LEVELS(m)

DISTANCE BETWEEN LEVEL POINTS (IN METRES)

SURFACE /TERRAIN DETAILS

CLASS/ZONE LOCATION: NOT APPLICABLE

DESIGN FACTOR: 0.72

LINE PIPE DETAILS

MATERIAL: API 5L Gr. X-70, HSAW

O.D.X. WALL THICKNESS (mm x mm): 610, 7.1

PIPELINE DETAILS

CUMULATIVE CHAINAGE (KM METRES) (000 + 000)

SPECIAL PROVISIONS

PIPE LINE COVER MINIMUM (METRES): 1.0 | 1.2 | 1.0 | 1.2 | 1.0

CROSSINGS

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-4

SUB-SOIL DETAILS

SOIL RESISTIVITY (OHM-M): 1.42, 9.72, 10.67, 10.32, 11.60, 1.07, 1.09, 1.09, 1.18

SOIL STRATIFICATION DEPTH IN (m): 1.99, 3.0; 13.66, 0.50, 2.50; 15.96, 3.0; 13.28, 3.0; REFER GENERAL NOTE-5, 12.33, 3.0; 0.91, 3.0; 0.86, 3.0; 0.89, 3.0; 0.71, 3.0; 3.0

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 (RHB)
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

INORGANIC CLAY WITH HIGH PLASTICITY
INORGANIC CLAY WITH MEDIUM PLASTICITY
CLAYEY SAND
SILTY SAND FROM I-1/PIAZZO SAND IN VISTURES
INORGANIC CLAY WITH LOW PLASTICITY
INORGANIC SILTY CLAY WITH MEDIUM ELASTICITY
WELL GRADED SAND
INORGANIC CLAY WITH LOW PLASTICITY
ROCK
WELL GRADED GRAVELS
SHOT ROCK WITH KANKRES
WHITE LIME WITH KANKARS
POORLY GRADED SAND
CLAY WITH KANKAR BAGALT
POORLY GRADED GRAVELS
SILTY GRAVELS,POORLY GRADED
CLAYEY GRAVELS,POORLY GRADED
CLAY WITH KANKAR
WEATHERED BASALT
SILTY CLAY
SILTY SAND
SANDY CLAY WITH KANKAR
MODPLAN WITH BOULDERS
WEATHERED ROCK
MODPLAN
RED CLAY WITH KANKARS
SANDY MODPLAN
BED ROCK
HARD ROCK
MODPLAN WITH GRAVELS
EXPOSED ROCK
GREYISH CLAY
BLACK COTTON SOIL
EXPOSED WEATHERED BASALT
SILTY CLAY WITH MODPLAN
CLAY WITH MODPLAN
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
SILTY CLAY WITH KANKARS
SILTY SAND WITH KANKARS
CLAYEY SILT WITH KANKARS
BLACK SILTY CLAY
SANDY SILT
EXPOSED WEATHERED ROCK
CLAY WITH GRAVELS

GENERAL NOTES :-

1. ALL DIMENSIONS ARE APPROXIMATE, EXACT AS PER FIELD SURVEY.
2. FOR ALL CROSSINGS, THE THICKNESS OF CASING PIPES PROVIDED AS PER SPECIFIC REQUIREMENTS & THE SAME IS INSULATED IN B.O.M. ALL THE CROSSINGS EXECUTED AS PER RELEVANT OIL STANDARD/DRAWINGS.
3. LOCATION OF SLOPE BREAKERS ARE PROVIDED AS PER STANDARD & AS PER INSTRUCTIONS OF ENGINEER-IN-CHARGE.
4. INSTALLATION OF CATHODIC PROTECTION FACILITES 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. 0.00 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	3LPE	5000	K.M. POST	4
				DIRECTION MARKER	
				AERIAL MARKER	1
				INSULATING JOINTS	
			5000	HOT BENDS	
				NAVIGABLE WATERWAY WARNING MARKER	3
				CPG-PIT	2
				CP TEST STATION	3

REFERENCE DRAWINGS

TITLE	NUMBER
CROSSING	CHAINAGE(m)
CART TRACK	243837
CART TRACK	244612
CART TRACK	245830

DESCRIPTION	ECIL	EIL	BORL
AS BUILT DRAWING			

AS BUILT DRAWING

ENGINEERS INDIA LIMITED (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 चेनेज 242.853 से 247.853 कि.मी. | ALIGNMENT SHEET VADINAR TO BINA CHAINAGE 242.853 KM TO 247.853 KM

SCALE	JOB NO.	UNIT	DEPT.	SECT.	DWG. NO.	REV.
AS SHOWN	1205	004	16	71	1249	0